Acá y allá [Here and there]: Intersecting perspectives of young children's 'how-being' in Achuar communities of the mid Corrientes River, Peruvian Amazon

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I, Ruth Natasha Willis, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This thesis aims to explore 'how children are' in a case study of Achuar communities of the mid Corrientes River region, in the Peruvian Amazon. An interdisciplinary approach, drawing on anthropological, epidemiological and sociological methodologies, is used to build a multi-dimensional analysis of relations between the physical and social context of the Corrientes River basin and young children's 'how-being'. Grounded in a focus on everyday practice in communities and health posts, this analysis highlights intersections and tensions in knowledge about and among inhabitants, interrogating tacit understandings of what it means for children to be 'healthy'. Inter-related themes of place, food and work are explored using complementary theoretical tools from Said (strategic location and strategic formation), Bourdieu (relational analysis) and Amazonian anthropological theory of conviviality and perspectivism. A concept of 'how-being', developed to avoid the assumptions inherent in 'health' and 'well-being' is introduced and discussed.

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0.2 List of Abbreviations

AIDESEP	*Asociación Interétnica de Desarrollo de la Selva Peruana* [Inter-ethnic Association for the Development of the Peruvian Jungle]
Cáritas	*Cáritas del Peru*
CCNN	*Comunidad Nativa* [Native Community]
CONAP	*Confederación de Nacionalidades Amazónicas del Perú* [Confederation of Amazonian Nationalities of Peru]
C.S.	*Centro de Salud* [Health Centre]
CSDH	Commission on Social Determinants of Health (WHO)
DHS	Demographic and Health Survey
DIRESA	*Dirección Regional de Salud* [Regional Ministry of Health]
ESNI	*Estrategia Nacional de Inmunización* [National Immunisation Strategy]
ESRC	Economic and Social Research Council (UK)
FECONACO	*Federación de Comunidades Nativas del Río Corrientes* [Federation of Native Communities of the Corrientes River]
FEPIBAC	*Federación de Pueblos Indígenas del Bajo y Alto Corrientes* [Federation of Indigenous People of the Lower and Upper Corrientes]
FORTENIA	Formación de Técnicos en Enfermería Intercultural Amazónica [Training of Amazonian Intercultural Health Technicians]
GOREL	*Gobierno Regional de Loreto* [Loreto Regional Government]
ILV	*Instituto Lingüístico de Verano* [Summer Institute of Linguistics] (see SIL)
INEI	*Instituto Nacional de Estadística e Informática* [National Institute of Statistics and Information Technology]
LSHTM	London School of Hygiene and Tropical Medicine
MINSA	*Ministerio de Salud* [Ministry of Health]
MRC	Medical Research Council (UK)
(n)	number in category (mathematical)
NGO	Non-Governmental Organisation
PEPISCO	*Proyecto Especial Plan Integral de Salud del Corrientes* [Special Project for the Corrientes River Comprehensive Health Plan]
Pluspetrol	*Pluspetrol Norte S.A*
PRONAA	*Programa Nacional de Asistencia Alimentaria* [National Program of Food Assistance]
Racimos	*Racimos de Ungurahui* Working Group (NGO)
s.d.	standard deviation (mathematical)
SDOH	Social Determinants of Health
SPSS	Statistical Package for the Social Sciences (software)
STATA	statistical analysis software package
WHO	World Health Organisation
SES	Socio-economic status
SIL	Summer Institute of Linguistics (see ILV)
SIS	*Seguro Integral de Salud* [National Comprehensive Health Insurance Scheme]
UN	United Nations
YL	Young Lives Study (in Peru *Niños del Milenio*)

0.3 Use of English, Spanish and Achuar

This thesis discusses material produced in English, Spanish and Achuar. Here I describe the approach taken to using terms and names in Spanish/Achuar/English, and how translation is signalled in the text. Language and translation are discussed further in 3.4 and 3.10.4.

Original Spanish/Achuar terms are marked in *italics*, with English translation following in [square brackets].

Where an unambiguous and widely used equivalent term exists in English this is used, without including the original. For example, 'nurse' for *enfermera:*

Each community Health Post is staffed by a nurse.

Where an uproblematic equivalent term or phrase does not exist, for example if translation is grammatically awkward in English, an English term has a broader/narrower meaning than the original, or there is no equivalent term, this is indicated as follows:

1) English term in 'quotation marks', with footnote or square bracketed explanation of the original. For example:

   ....x% reported 'having a religion' [appropriate term in Spanish *tener*, to have, rather than to be religious].

2) Original term used in italics, with bracketed or footnote explanation for first use, repeated in the Glossary (0.4) if term is used more than once. For example:

   ...working in the *chacra* [cleared area in forest used for cultivation]. Manioc, grown in the *chacra*, is harvested....

In Chapters 4-10 a mixture of written sources published in English and Spanish are referred to; here direct quotations or titles which I have translated from Spanish are signalled by [S].

In Chapters 5-10, I have translated all participants' quotations from Spanish (some of which were first translated by an interpreter from Achuar) and this is not additionally marked.

The Glossary of frequently used terms (0.4) lists translated terms with explanations.

0.4 Glossary of frequently used terms

Achuar	Term used by the majority of community members to describe themselves to outsiders. The term is used externally to refer to both ethnic group and spoken language.
Acta de Dorissa	Act of Dorissa (2006)
agua de florida	Commercially produced citrus based scented liquid, originally produced as 'Florida Water' by New York based company Murray & Lanman, later produced by Lanman & Kemp in the US and Peru (Lanman & Kemp 2001) .
AIDESEP	[0.2] National organisation representing Peruvian Amazonian indigenous peoples.
ampollo	[ampule] injectable medicine.
Apu	Formal community head and external representative.
asamblea	'assembly' of communities attended by leaders of each community (*Apu/vice-Apu*, *Madre Indigenas*) every 6-12 months (2008-10) hosted by different communities in turn and in 2009 coordinated largely by the indigenous federation FECONACO. Forum for discussion of community and FECONACO matters and election of FECONACO *dirigentes.*
bicho	small insect, parasite
bienestar	well-being
botiquín	first aid cabinet
brigada	'brigade', mobile health outreach team of a doctor, nurse and health technician travelling from the Health Centre to visit communities
brujo	[literal translation witch/sorcerer] see explanation in 9.6.1
(al) campo	'outside' or 'countryside', term used in communities to refer to semi-open areas between the main clearing of the community/chacra and uncleared forest
castellano	Term used in Peru to refer to Spanish language.
Cáritas	*Cáritas del Peru.* Peruvian branch of international Catholic development NGO. In the Corrientes region contracted by *Pluspetrol* for the 'Healthy Families' project.
chacra	Cleared area in forest used for cultivation of useful plants including food and medicinal crops, and plants used in house construction, handicrafts, and hunting. Described in English as 'home gardens' Perrault-Archambault and Coomes (2008) or 'gardens' Descola (1994); different contemporary local meaning to *huertas* 'kitchen gardens' which were small cleared areas in the main community used to grow vegetables such as tomatoes and squash, recently initiated in some communities by *Cáritas* staff.
chonta	Palm *(Bactris ciliata)* which produces hard timber used to make implements and has a soft edible centre ('palm heart'), sometimes inhabited by *suri*

0.4. Glossary of frequently used terms

Comunidad Nativa (CCNN)	'Native Community'. Formal title used to refer to ethnically defined communities resident in the rural *selva* region, whose land title is formally registered with and recognised by the state (1.2). Also used regionally as a descriptive term to include communities which may not have formal state 'CCNN' recognition.
cutipa	Unwanted effect of powerful being, often manifesting as a physical or behavioural similarity to its cause, see 8.5.4.
dieta	[diet] altered pattern of food consumption and behaviour, including a restricted food diet (excluding fat and salt amongst others) and avoidance of sexual relations, see 9.7.3.
dirigente	'leader', term used to refer to individuals elected at *asambleas* for a fixed period to form the leadership of FECONACO. *Dirigentes* held specific individual responsibilities within the organisation e.g for health, education, women.
doctor/a	Term used to address or refer to educated individuals, not necessarily medical doctors.
empresa	'company', term used in reference to *Pluspetrol*, other petrol companies with interests in the region, and subcontractors.
guayusa	Infusion made from a bitter tasting Guayusa plant *[Ilex guayusa*], drunk as a purgative, see 9.7.2.
how-being	Term developed in this thesis, see explanations in Introduction to Part III and 10.5
huerta	Kitchen garden (see *chacra*)
lancha	Medium or large riverboat carrying a number of passengers, frequently on long distance journeys.
lote	'lot' or block of land demarcated by central government for petrol exploration/production.
malaire	[bad air] unwellness caused by the spirit of a dead or almost dead person
Madre Indígenas	Female member of community leadership, literal translation 'indigenous mother'
manioc	[cassava], *yuca;* tuber *(Manihot esculenta*). Staple food; cooked and used to form the basis of *masato*, also cooked and eaten directly.
masato	Fermented manioc drink
masato fuerte	'*strong masato*' fermented for longer than usual, producing stronger flavoured more alcoholic *masato*.
médico	Used in different contexts to refer to i) medical staff from health posts ii) powerful individuals who cause or get rid of harm/sickness, see 9.6.2.
mestizo	Term used to describe someone of mixed ethnic descent, see 5.4.1
minga	Communal work e.g. to make a house roof or clear an area of forest, see 9.4.1.
(al) monte	(in the) forest – term used to describe both the place, and to making trips away from the community into the forest hunting/gathering/fishing.

0.4. Glossary of frequently used terms

(el) Pastor	Evangelical Christian pastor, associated with SIL
pishtaco/ pelacaras	[‘face-peelers’] white people who kidnap natives, peel off their skin and extract their body fat to sell overseas, see discussion in 3.7
patarashca	Type of food preparation where main ingredients (e.g. meat, fish, mushroom) are wrapped in leaves and cooked slowly
plantain	*(Musa sp)* non sweet, green bananas eaten cooked as staple savoury food (different species to sweet bananas eaten raw).
peque-peque	Petrol fuelled outboard motor used to power canoes and small boats. The term is also used to refer to a boat with the motor attached. The word reflects the sound made by the motor during operation.
pisigranja	‘fish farm’, term widely used to refer to a water body (large pond/small lake) constructed/adapted to breed fish for domestic or commercial use
Pluspetrol	*Pluspetrol Norte S.A*. Petroleum company operating extraction activities in Lot 8A (overlapped by three communities in the case study site) and 1AB (upstream of the case study site) of the Corrientes region.
Promotor	Lay health promoter, a community member with basic health training responsible for administering *botiquín* supplies and communication with PEPISCO *,* see 5.5.5.
Quechua	Also *‘kichwa’*, term used to refer to language spoken and/or ethnic group
ribereño	Regional term used to refer to people living in rural areas along rivers, associated with subsistence fishing/cultivation
salud	health
Sanicho	Term used locally to describe a health worker, also used as a personal pronoun i.e. ‘Good morning Sanicho!’ Related to Spanish *salud* [health]; s*ano* [healthy].
selva	‘forest’ or ‘ jungle’. Used in Peru to describe the Amazon forest region of the country
el Señor	The Lord in Christian teaching
SIL	(ILV) Summer Institute of Linguistics. North American based evangelical Christian organization founded in 1934, associated with sister organization Wycliffe Bible Translators. Members undertake missionary work including teaching, linguistic analysis and bible translation.
sol(es)	*Nuevo Sol*, (S/) Peruvian national currency.
suri	Insect grub (*Rhynchopjorus palmarum)* collected from palm trunks
Timolina	Commercially produced alkaline antiseptic mouthwash

Chapter One: Unhealthy Categories

1.1 Starting Point

In this thesis I aim to explore 'how children are', in relation to the phenomena referred to in the field of international public health as 'health' or 'wellbeing', in a cluster of Achuar communities in the Corrientes River region of the Peruvian Amazon. The thesis reflects an ongoing conversation between disciplines; my background is in epidemiology, in which theory and methodology is derived from and supports a biomedical understanding of health. Here I endeavour to step away from this position to be open to other ways of understanding which may more closely reflect the concerns of people living and working in the Corrientes region, drawing on approaches from medical sociology and social anthropology.

This section gives an overview of the process which led to this project, to outline how this context informed my approach. I then briefly discuss terminology (1.2) and introduce the main groups of people and organisations in the Corrientes River region (1.3). Fieldwork visits which this project is based on are described (1.4) and in conclusion a summary of the thesis is given (1.5).

This project stemmed from my involvement in work at the London School of Hygiene and Tropical Medicine (LSHTM) on an international conference and series of review articles about '*Indigenous Peoples' Right to Health*', marking the end of the first United Nations International Decade of Indigenous Peoples (Stephens and Nettleton 2004, Stephens, Nettleton et al. 2005a, Ohenjo, Willis et al. 2006, Stephens, Porter et al. 2006, República del Perú 2008). This was framed in terms of drawing attention to the poor health situation of indigenous peoples in comparison to national populations around the world, and the need for new health policy to recognise and promote indigenous peoples' rights. British anthropologist Adam Kuper wrote to the medical journal which commissioned the series critiquing the use of the term indigenous as an '*unhealthy category'*, suggesting that given the problematic nature of the category it was *'unwise'* for the journal *'to devote a series of papers to their supposedly special health problems*' (Kuper 2005). Kuper argued that the term was a modern euphemism for 'primitive', and that its connotations ignored both the history and contemporary reality of peoples such as the Canadian Inuit, risking '*a drift to racism'* through boundary criteria set around cultural practice and descent which may not align.

This questioning of the category 'indigenous' was one of many questions raised while producing the series about groupings, perspectives and whose categories and definitions it was appropriate to use in what context and for what purpose. Central to these was the concept of 'health'. We were working within the context of biomedical discourse, in which the primacy of scientific approaches and knowledge are rarely questioned. Health has a holistic dimension in the World Health Organisation definition of *'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'* (WHO 1948), but it firmly exists as an undisputed, whole concept, with physical aspects and disease commanding the majority of attention. In this context, other approaches are positioned in relation to medical understandings of health, as alternative and secondary. This positioning is widely recognised and critiqued in medical anthropology and medical sociology e.g. (Kleinman 1980, Helman 1984, Hahn 1995).

Reviewing published research about indigenous peoples' health, two broad themes recurred which were consistently interwoven with discussion of biomedical health. These were the role and importance of engagement with a specific landscape, and the difference in status, opportunity and power between indigenous people and national populations. These were discussed by colleagues and other researchers in relation to a conceptual framework of 'social determinants of health' (Mowbray 2007, Nettleton, Napolitano et al. 2007): a framework being explored at the time by a WHO Commission, which explicitly relates the structure of the society in which people live and work to population health in terms of wellbeing, morbidity and mortality (Brunner and Marmot 1999, Marmot 2005).

At this point I was working at LSHTM as a research assistant and looking for an opportunity to pursue a PhD related to indigenous health. A medical anthropologist colleague who had worked with indigenous communities in Peru introduced me to an indigenous federation who were looking for health researchers to explore health concerns of the communities they represented in the Corrientes river basin (La Torre López and Napolitano 2007). Based on my understanding of the federation's concerns and contemporary research about indigenous health, I prepared a doctoral research proposal to develop a small participatory research project with the indigenous federation to describe determinants of health in the Corrientes River communities. This was developed in response to an interdisciplinary funding call from the UK Medical Research Council and the Economic and Social Research Council. It was funded to begin in late 2007.

1.2 Terminology

The question of 'unhealthy categories', and how to examine and fruitfully think across them, is a recurrent theme through this thesis. An early challenge of this process is the use of terminology. In questioning a category its status changes: indigenous peoples' health becomes 'indigenous peoples' health', or even 'indigenous' peoples' 'health'. This complicates description of contexts and literature in which terms are used by others with no intention to critique categories, or situations where the category is not the main point of interest, but some descriptive term needs to be used as part of communicating other information.

In these situations in this thesis, terms are used without quotation marks. Where the analytical focus is on the category, quotation marks are used. Use of the term 'indigenous' in earlier sections of the thesis reflects its widespread use in cited international literature. Alternative terms proposed regionally are discussed in the Introduction to Part III. Additionally, the term 'native', formalised in Peru in the 1974 Law of Native Communities which enabled indigenous settlements to obtain legal title over demarcated lands (Gray 1997:77), is widely used locally. Under the same government which introduced the Law of Native Communities, the term '*indígenas*' had been formally abolished and replaced with '*campesinos*'[1], on the basis that the former had pejorative associations (Figueroa and Barrón 2005:17, Green 2006:334)[2]. Today, organisations (described below) formally representing Corrientes River residents use 'Native Communities' (FECONACO); 'indigenous people' (AIDESEP, FEPIBAC), and ethnic groupings 'Achuar', 'Urarina' and 'Kichwa' (FECONACO) in their formal titles and organisation descriptions. My use of these terms here does not seek to signal alignment with a particular position, but to reflect the ways they are used in practice.

1.3 People and Organisations

This section gives a brief descriptive introduction to the residents and other stakeholders active within the Corrientes River basin, who are referred to in Part I of this thesis. This is

[1] Particularly used in relation to Andean communities.

[2] This reflects a particular local history, including the social rupture of colonisation (Figueroa, Altamirano et al. 1996), deeply embedded racial hierarchy (Macisaac 1994, Thorp and Paredes 2010), and processes of integration (Davies 1973) and '*mestizaje*' (De La Cadena 2005, Paredes 2008).

intended to orient the reader; external representations of the place and people are considered analytically in Chapters 4 - 6 and the Introduction to Part III.

The Corrientes River basin is in the western upper Amazon, approximately 200 km west of Iquitos, the capital of Loreto Region. Flowing south-east into Peru from its source in Ecuador, the Corrientes River joins the Tigre River, which flows into the Marañon, a major tributary of the Amazon River. In the Corrientes River basin there are 36 formally recognised Native Communities (CCNN) and one town, Villa Trompeteros, which is situated in the downriver area of the basin. The town, with a recorded population in 2008 of 2554 people (INEI 2008a), has a port, small shops and a daily market selling local produce, a health centre, a primary and a secondary school, a regional administration authority office and a basic hotel. On the opposite side of the river is a petrol installation owned by Pluspetrol Norte with office and accommodation buildings, petrol processing facilities, a port and an airstrip.

In 2007, 5567 inhabitants of the Native Communities were recorded in settlements ranging in size from 29-503 people (PEPISCO 2007a). Within the category of 'Native Communities' the majority of communities are described using the ethnic category 'Achuar'[3] and a smaller number 'Kichwa'[4] and 'Urarina'. Each community has a formal leadership structure of an *Apu*, community leader, *Vice-Apu*, *Madre Indigenas*, women's leader, and *Teniente Gobernador* [Lieutenant Governor], local representative of the state responsible for administrative issues[5] (República del Perú 2008). During the fieldwork period communities were represented in Iquitos by two Indigenous Federations: the Federation of Native Communities of the Corrientes River (FECONACO), founded in 1991, which mainly represented mid and upriver communities; and FEPIBAC (Federation of Indigenous People of the Lower and Upper Corrientes River), founded in 2003, mainly representing downriver communities. Communities select affiliation to one of these Federations, and community leaders travel to annual Assemblies to elect '*dirigentes'* [leaders], who form the Federation leadership. FECONACO is affiliated with the national level organisation Inter-ethnic Association for the Development of the Peruvian Jungle (AIDESEP) and FEPIBAC with the Confederation of Amazonian Nationalities of Peru (CONAP). These national organisations are seen to take different positions, with CONAP described as 'more conciliatory' towards 'state-led development and modernisation' (Scurrah and Bebbington 2013:176). At the

[3] The category 'Achuar' is discussed further in 5.3.1 and in the Introduction to Part III.
[4] Also spelt Quichua/Quechua.
[5] Including interaction with the *Defensa Civil.*

time of fieldwork FECONACO was supported financially by international NGOs including the World Wildlife Foundation and the Rainforest Foundation. FEPIBAC was not affiliated with NGOs.

This summary describes the theoretical structure; in practice during fieldwork one case study community had no *Madre Indigenas*, and another community outside the case study area had two *Apus*, one affiliated to FECONACO and one to FEPIBAC.

Additionally, several layers of health service organisations are present in the region. There is an unusual system of provision, with the Loreto Regional Health Directorate (DIRESA Loreto) responsible for regional provisional of national Ministry of Health (MINSA) services via the Trompeteros Health Network, and also involved in managing and delivering a 'Special Project for the Corrientes River Comprehensive Health Plan' (PEPISCO), funded by Pluspetrol Norte and managed in collaboration with FECONACO (see 5.4), via the PEPISCO Directorate based at the Loreto Regional Hospital in Iquitos. The Trompeteros Health Network consisted of a Health Centre in Villa Trompeteros and four community based Health Posts. Seriously ill patients who could not be diagnosed or treated at the Health Centre were transferred by boat or Pluspetrol flight to hospital in Iquitos.

1.4 Fieldwork Visits

Fieldwork for this study was carried out between 2008-2010 over several trips, beginning with a pilot visit to Iquitos (2 weeks) and 4 downriver communities (10 days) in February-March 2008. From December 2008–September 2009 I was based in Iquitos at the FECONACO office, and travelled to the Corrientes region five times between March and September for trips of 10 - 25 days. In these periods I visited the Villa Trompeteros Health Centre, Pluspetrol base and three down-river communities; conducted household survey data collection in five mid-river communities; attended a FECONACO *Assemblea* in an up-river community; and conducted interviews in two mid-river communities, a community health post and Villa Trompeteros Health Centre. In Iquitos I attended FECONACO and PEPISCO meetings and events, and met patients and their families from the Corrientes region receiving treatment or diagnostic services in Iquitos. In 2010 I returned to Iquitos for two months from mid-October and was again based in the FECONACO office, and also spend time visiting an intercultural health training programme, FORTENIA [*Formación de Técnicos en Enfermería Intercultural Amazónica],* linked to FECONACO in Nauta, south-west of Iquitos.

1.5 Overview of Thesis

The thesis consists of four Parts (I-IV).

Part I. Introduction begins with **Chapter 1: Unhealthy Categories**, which introduces the context in which this project was developed. I discuss an initial question of 'unhealthy categories' raised in relation to 'indigenous peoples' health', prompting critical engagement throughout the thesis with the nature of categories and their boundaries. The chapter includes a brief introduction to the people and organisations discussed in the thesis and description of fieldwork visits.

Chapter 2: Theoretical Framework introduces and explains the framework of social theory which underpins the thesis. I examine the initial situating of the project in the field of public health, and describe tensions which arose between this field's ontological foundations and the nature of the phenomena I was interested in understanding. I discuss aspects of Bourdieu's relational analysis, which are used in the thesis as 'thinking tools' to investigate these tensions, followed by theories of perspectivism and conviviality developed in contemporary Amazonian anthropology, and explore how these bodies of theory relate to each other.

Chapter 3: Research Aim and Methods outlines the aim of the thesis, and explains how this will be investigated through five inter-related research questions. To address these questions I draw on a range of research methods informed by an overarching methodological orientation of 'facet methodology'. Each method is described, and discussed with critical reflection on its use in the context of this project. Issues of language and research ethics are also discussed here. In conclusion, I consider the practical ways in which methods derived from and premised upon different epistemological traditions can be used together to generate new understanding.

Part II: The Field and Public Health explores external perspectives of the Corrientes River region as a social and physical context for 'how young children are'. **Chapter 4: Surveying the field: representations of the Corrientes** provides an overview and analysis of the ways in which the Corrientes region and its inhabitants are presented to regional, national and international audiences in different fields. This analysis identifies a tension between representations of the region as a site of physical resources that can be used to contribute to national development, and as a habitat and home for residents of Native Communities.

Chapter 5: The local context for young children's health: public health perspectives describes the social and physical environment for young children's health in the case study communities, as understood in public health terms. I first describe the conceptual models which inform public health professionals' understanding of child health and its relations to the environment, and the methods used to identify and measure these relations. I then apply these methods to a case study of mid-river Corrientes River communities, through presentation and discussion of quantitative 'indicators' directly representing various domains of the physical and social environment. The regional health system, a further aspect of the local context for children's health, is also described.

Part III: Young Children's 'how-being' explores both external and internal perspectives of 'how young children are' in the case study area. It begins with an introduction to concepts of *acá* [here] and *allá* [there], and 'how-being'. **Chapter 6: Child health status: public health measures of 'how children are'** continues the external, public health perspective of Chapter 5. I consider both maternal and child indicators of child health, identifying five key factors to inform a public health characterisation of child health status.

Chapter 7: Lack and the need to improve: outsiders' accounts of how young children are presents analysis of accounts of 'how young children are' given by people employed to provide a service to communities which related in some way to children. 'Lack' is identified as a constant theme, associated with the potential for improvement through outsiders' provision of guidance to facilitate 'development' and improvement.

Chapter 8: *Vivimos así* [We live like this]: Community members' accounts of 'how children are' moves from a focus on outsiders' reported perspectives to examine 'how young children are' in the case study area according to community members' accounts. Children are generally characterised as normal, not suffering from illness. Strategies to 'maintain' children are discussed, together with threats from two 'clusters' of serious illness, and the negative influence of powerful others.

Part IV: Intersections moves from the focus in Part III on understandings and characterisations of 'how young children are', to examine where and how these approaches intersect. **Chapter 9: Intersections and crossovers** first examines the themes of food and work as points of intersection, where sometimes dissonant trajectories in understanding overlap at specific objects and practices. I then discuss how people

negotiate 'crossover' positions in the centre of the *acá-allá* continuum in relation to treatment of illness or 'ill-being'.

Chapter 10: Ways of knowing concludes the thesis with discussion of three related themes which wind through the thesis: problematising categories, 'boundary-work', and the interface and interchange of knowledge. These shed light on the ways in which knowledge about 'how young children are' is produced and understood. In conclusion, I briefly discuss the possibility of a wider application of a concept of 'how-being', developed in this thesis, to talk and think about 'how children are' at the interface of different ways of knowing.

Chapter 2: Theoretical Framework

2.1 Introduction

This chapter introduces and explains the framework of social theory which informs and underpins this research. Section 2.2 examines the initial situating of this project in the field of public health, and describes the tensions which arose between the field's ontological foundations and the nature of the phenomena I was interested in understanding. Section 2.3 discusses aspects of Bourdieu's relational analysis used as 'thinking tools' to investigate these tensions. Section 2.4 introduces theory of perspectivism and conviviality developed in contemporary Amazonian anthropology. The final section explores how these bodies of theory relate to each other.

2.2 Objectifying categories: from social determinants of health to situated perspectives

As explained in Chapter 1, the conceptual approach initially taken to this project was informed by health policy oriented research about indigenous peoples' health internationally, and contemporary public health research interest in 'social determinants of health' (SDOH). Here I describe the theoretical basis of SDOH and its application in the field of public health, and explain how and why this informed my initial approach. I then describe the limits I found it brought, specifically to thinking about what constitutes health and where the boundaries of health lie.

2.2.1 Social determinants of health

The concept of SDOH explicitly relates the structure of the society in which people live and work to population health, which is discussed in terms of wellbeing, morbidity and mortality (Brunner and Marmot 1999, Marmot 2005):

> 'In both rich and poor countries, people's health largely depends on the social conditions in which they live and work – the social determinants of health' (WHO 2006:22)

Inequity in the distribution of health and well-being among the population is a key element of the concept, which is outlined in the framework below (Figure 2a) produced by the WHO.

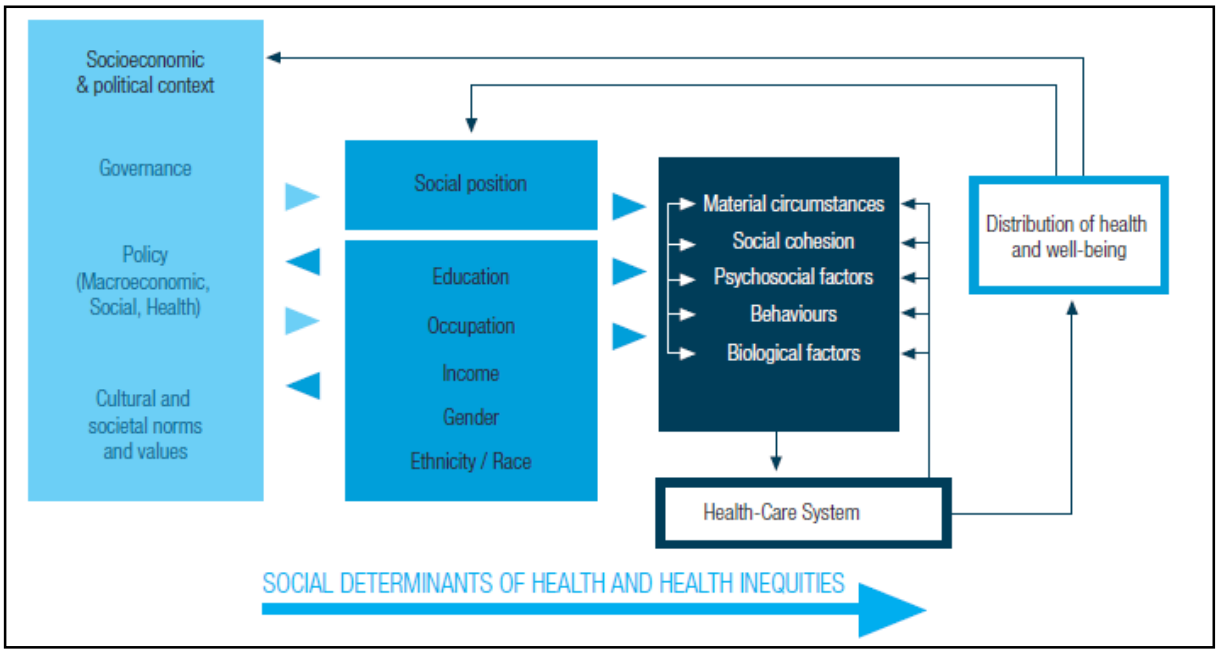

Figure 2a Commission on Social Determinants of Health Conceptual Framework (CSDH 2008:43)[6], amended from (Solar and Irwin 2007).

The SDOH approach was developed by researchers in a domain of epidemiology described as 'social epidemiology', which draws together research about social inequalities in health from a range of disciplines including epidemiology, psychology, medicine and genetics (Marmot 2006). The early roots of social epidemiology lie in Western social and political commentary from the seventeenth century onwards, which documented and explained observations of social gradients in health status in Europe (Berkman and Kawachi 2000, Raphael 2006). Founding sources often cited are authors such as Graunt (1662), Engels (1848) and Virchow (1848) who collated and analysed empirical data to identify poverty, social class and working conditions as important determinants of disease and mortality.[7] This interest in the interaction between social conditions and health developed into the 'Social Medicine' movement in the early to mid twentieth century (Porter 2006), which fostered the emergence of social epidemiology.

[6] Image reproduced with permission (WHO Press 2015)

[7] Graunt's (1662) analysis of London's Bills of Mortality, Engels' (1848) description of *The Condition of the Working Class in England in 1844* and Virchow's (1848) medical report on a typhus outbreak in Silesia (Virchow 1848 (2006), Waitzkin 2006).

Graham (2004), reviewing the concept of SDOH, situates its origin in '*a series of influential critiques published in the 1970s and early 1980s, which highlighted the limitations of perspectives and interventions targeted at individuals at risk of disease*', led by epidemiologist Geoffrey Rose's discussion of the determinants of individuals' cases and the determinants of population incidence rates, the 'causes of causes' (Rose 1985). A series of conceptual frameworks describing relationships between social factors and individual or population health were developed from the early 1990s (Evans and Stoddart 1990, Dahlgren and Whitehead 1991, Brunner and Marmot 1999, Diderichsen, Evans et al. 2001) and in 2005 the WHO launched a 'Commission on Social Determinants of Health' (CSDH) (Marmot 2005) with an aim of 'making practical recommendations about how to improve health by acting on its social determinants' (Jong-wook 2005).

Although the empirical context from which the concept of SDOH emerged was based in high income settings, the CSDH positioned their work in a global context (Marmot 2005), seeking to draw attention to 'pragmatic ways of creating better social conditions for health, especially for the world's most vulnerable people' (WHO 2006:5). In research about indigenous peoples' health, a SDOH perspective was adopted to analyse health inequalities between indigenous and non-indigenous groups in Australia (Carson, Dunbar et al. 2007), and in 2007 the CSDH held an *International Symposium on the Social Determinants of Indigenous Health*. Research about indigenous populations in Australia, Canada, New Zealand and North America predominated[8] (CSDH 2007), despite indigenous groups in high-income countries forming only a small proportion of indigenous peoples internationally (Stephens, Nettleton et al. 2005b). The appropriateness of using the SDOH conceptual framework and associated social epidemiological methods, developed to study SDOH among non-indigenous people in post-industrial high-income settings, to think about health in indigenous communities, was questioned by some (Anderson 2007, Nettleton, Napolitano et al. 2007). Critiques focused on which factors were considered as determinants, for example the questionable relevance of 'work' (Anderson 2007:26) and the need to consider additional factors such as colonization, racism, globalisation, and implementation of international agreements to secure self determination for indigenous peoples (Mowbray 2007, Nettleton, Napolitano et al. 2007). To address this, researchers developed indicators to represent factors such as participation in traditional activities (Wilson and Rosenberg 2002), experience of racism (Harris, Tobias et al. 2006a, Harris,

[8] The 2007 CSDH Symposium had 66 delegates from high-income countries, the majority from Australia and Canada, and 9 from low or middle-income countries (CSDH 2007)

Tobias et al. 2006b, Paradies and Cunningham 2008) and conceptualisation of ethnicity (Callister, Didham et al. 2007), for use in research about SDOH in indigenous populations.

From this contemporary research, I concluded that the SDOH approach would be a useful starting point for research about Achuar people's health in the Corrientes region of Peru, but that I would need to construct a picture of what influenced people's health that was informed by factors identified locally, rather than a priori classifications such as education and income conventionally used in the UK. An advantage of using the SDOH framework was that it gave a useful basis for me to consider social and environmental factors whilst structuring my work separately from an epidemiological exposure/ health outcome study. As explained in Chapter 3 (3.6), a simultaneous study of this kind was undertaken by epidemiologists from Umea University in Sweden, using biological sampling methods, and was part of a history of polarised, often hostile relations between indigenous communities and oil companies operating in the area (4.7). I was keen to develop research which could be used constructively by communities but which aimed to describe and understand the current situation, rather than assess evidence of specific harms to health.

2.2.2 Unhealthy 'health'

As described in 1.1, the concept of 'health' used in medical discourse did not overlap fully with the ways in which it was discussed in research about indigenous health. The SDOH approach initially appeared to resolve this, because factors such as engagement with a specific place could be considered as part of the model of determinants of health, and the SDOH approach is premised on exploration and consideration of inequity, which resonates with issues of difference between indigenous and national populations.

As explained further in Chapter 3 (3.10), I took care to structure and undertake qualitative data collection with openness to the possibility of varying understandings of health. I was mindful at this point both of epidemiological studies which incorporated novel indicators into assessment of indigenous peoples' health, with the aim of better reflecting indigenous concepts of health and well being (Durie 2003, Durie, Fitzgerald et al. 2003, Durie 2004, Durie 2006, Kowal, Gunthorpe et al. 2007, Panelli and Tipa 2007), and of a rich body of anthropological work about concepts of health and well-being in the Peruvian Amazon. From the latter, I was aware of the reported importance of a network of relationships between humans, animals, plants and spirits, which inform the ways in which health is conceptualised and individuals respond to episodes of illness. In this context, health may be

seen as a reflection of one's relationships with other beings, and negotiated through one's behaviour toward them (Descola 1993, Pollock 1996, Taylor 1996b, Gray 1997, Shepard 2002). Izquierdo (2005:767) reports that for the Matsigenka of the Peruvian Amazon:

> 'notions of health and well-being are linked fundamentally to ideals about happiness, productivity and goodness, *in addition to* biomedical health' [emphasis in original].

From outside the field, these ways of thinking about health appeared compatible with a SDOH driven framework informed by locally specific factors, in which for example ideals about productivity would inform aspects of the framework such as 'Cultural and societal norms and values', 'Material circumstances' and 'Social cohesion' (points in Figure 2a above).

As I became familiar with the setting, however, and began to appreciate the complexity of relations between communities, two competing Indigenous Federations, DIRESA Loreto, NGOs, oil companies, researchers engaged in projects about oil company activities and by oil companies, the notion of 'health' (in Spanish *salud)* began to appear more culturally specific, politicised and contested. As explored in Chapter 4, contamination of the physical environment and human bodies emerged as a significant external representation of the Corrientes region (4.6), associated with conflict over processes and resources (4.7). Although a contemporary publication by the National Ministry of Health about Achuar health discussed Achuar *'notions of health and illness'*[9] (MINSA 2006), and *'intercultural'* health programs were mentioned[10], I found little recognition of these terms in early discussions with biomedically focused DIRESA and local health system staff. In my own interactions with Indigenous Federation staff, as a foreign visitor interested in health I was expected to want to discuss contamination and hospital services. I became concerned that however open I was trying to be to different understandings of health, any discussion of *'salud'* in relation to the Corrientes was inherently bounded by parameters firmly formed and reinforced by historical and ongoing processes, particularly assumed associations between the concepts and language used by different groups of people such as health workers, foreign visitors and Indigenous Federation representatives. During early pilot visits to downriver communities these concepts did not seem to fit with the daily practice and

[9] '*enfermedad'* translated as 'illness' (see discussion of translation of '*enfermedad'* in 3.10.4)

[10] For example related to an AIDESEP project in San Lorenzo (Loreto region, Datem del Marañón province) with involvement of a nurse who also worked periodically for FECONACO.

apparent concerns voiced initially by community members. In turn, if the terminology and categorisation of 'health' was unhelpful, this jeopardised the usefulness of a concept of social determinants of health.

Although this was problematic for my work in progress, the tensions it touched on reflected the presence of real discussions, policies, and programs being implemented in the region, and highlighted the importance of relations between different groups. Instead of thinking of one organising framework of distal and proximal determinants of health, I began to focus on the perspectives offered on 'how children are', avoiding specific mention of the term '*salud',* and the context in which these perspectives arose.

2.2.3 Position taking

This focus on perspectives and relations was some epistemological distance from both my training in epidemiology and the SDOH framework which had initially structured my work. Although I had longstanding interest in the social context of public health, it was a significant shift to make this the object of study and think constructively to avoid, as one advisor put it, *'disappearing down a relativist black hole'*. Observation and discussion of daily practice, what people do in communities and health posts and how this is talked about, emerged as an anchor between dissonant explanations of how children are and why they are like that. This led me to two main bodies of social theory which inform subsequent analysis and discussion. The iterative process through which these were identified is described in 3.10.5. The first, Pierre Bourdieu's relational analysis, specifically the concept of 'objectification' and constructs of *field* and *habitus*, provided a congruent way of thinking to explore the data which underlies this thesis. The second, overlapping anthropological theory of 'conviviality' and 'perspectivism', developed to understand Amazonian social life, informs my analysis of relations between local actors in relation to health and well-being. Both sets of theory were seen as 'good to think with' (Jenkins 2002:x), in the context of a multi-dimensional analysis (3.11), rather than prescriptive approaches to replicate.

Here I outline both sets of theoretical approaches, describe their main features, consider their relationship to each other and explain how I use them to inform subsequent work.

2.3 Bourdieu's 'relational analysis'

2.3.1 Introduction

French sociologist Pierre Bourdieu's work spans sociology and anthropology, drawing on diverse material ranging from contemporary literature to large scale social surveys to examine human social life. From the large scope and volume of his published work[11] in the human sciences addressing education, culture, social stratification, language and in later years direct engagement with the 'doxa' of neoliberalism (Bourdieu 1996 [2010]-b, Sapiro 2010), I draw on a cluster of underlying theoretical concerns and approaches, together described as 'relational thinking' (Bourdieu 1983:312, Wacquant 1989:39) or 'relational analysis' (Bourdieu 1998:3, Calhoun, Gerteis et al. 2007:261), to inform my work.

2.2.3 Outline of 'relational analysis'

Bourdieu's approach to analysing social life draws closely on daily practice and is characterised by a resistance to pervading 'fundamental' and 'ruinous' (Bourdieu 1990:25) oppositions in social theory: subjectivity and objectivity, structure and agency. The main legacy of his work has been described[12] as 'to rethink the subject-object dichotomies of classical and current social theory' (Collins 1993:115). Bourdieu argues that both perspectives in these dualities are useful and that we need to focus on the fruitful area of interplay between apparently opposing stances. To do this he proposes a 'relational analysis' (ibid.), described as 'oriented by three central concepts of positions, position-taking ("practices") and dispositions ("habitus")' (Calhoun, Gerteis et al. 2007:261).

In this analysis, positions are the basic relational unit; individuals occupy positions in relation to each other in a social space. The way in which they do so, through position-taking or practices, gives signals to others about their position, and is the daily source of empirical data for social scientists. Habitus, the 'site of interplay between structure and practice' (Calhoun, Gerteis et al. 2007:261) is the least tangible and to me the most creative and useful part of this thinking. Bourdieu describes habitus[13] as 'systems of durable, transposable dispositions' (Bourdieu 1990, p. 53):

> 'principles that generate or organise practices and representations, that can be objectively adapted to their outcomes without presupposing a conscious aiming at

[11] Bourdieu's original texts were written in French; I work from English translations and commentaries, hence quotations from Bourdieu given here are translations.

[12] Before the last decade of his career.

[13] Bourdieu's use of the term 'habitus' draws on concepts developed from Aristotle's 'hexis', discussed by social theorists Elias and Mauss among others (Wacquant 1989:43, Postone, LiPuma et al. 1993:4, Calhoun 2013:41).

> ends or an express mastery of the operations necessary in order to attain them' (ibid.).

The habitus is constantly formed through ongoing, happening processes, and the nature of its formation as part of these processes is unconscious: 'embodied history, internalised as a second nature and so forgotten as history' (Bourdieu 1990:56). Cicourel comments on the 'cumulative' nature of habitus, in that 'the structuring determinations or experiences which it produces early in life influence later acquisitions of habitus' (1993:90), echoing Bourdieu's description of the habitus as 'not only a structuring structure...[..], but also a structured structure' (Bourdieu 1984:166).

Embedded in the physical and social conditions of existence, relating place and practice, 'the habitus is necessity internalised and converted into a disposition that generates meaningful practices and meaning-giving perceptions' (Bourdieu 1984:166). Hence, as Bennett explains in his introduction to *Distinction*, Bourdieu's analysis of taste in 1970's France:

> 'those who have particular kinds of taste for art will have similar kinds of taste not just for food but for all kinds of cultural or symbolic goods and practices...The habitus, for Bourdieu, consists in the set of unifying principles which underlie such tastes and give them a particular social logic which derives from, while also organizing and articulating, the position which a particular group occupies in social space. But this, of course, is always a position that is relative to the positions occupied by other social groups' (Bennett 1984:xix).

An important aspect of habitus, which particularly resonates with my work, is the physical notion of embodiment. The systems of dispositions which form habitus have a practical, bodily aspect, as 'unformulated, embodied understanding', an 'inarticulate sense which is encoded in the body' (Taylor 1993:59) through bodily comportment. In *The Logic of Practice*, Bourdieu discusses 'practical belief' as 'a state of the body' (Bourdieu 1990:68), noting that 'the relation to the body is a fundamental dimension of the *habitus* that is inseparable from a relation to language and to time' (ibid.:72) and 'what is 'learned by body' is not something that one has, like knowledge that can be brandished, but something that one is. This is particularly clear in non-literate societies, where inherited knowledge can only survive in the incorporated state' (ibid:73).

Closely related to the concept of habitus is that of the 'field', which Bourdieu 'forged to describe the functioning of social spaces that have their own rules and within which agents compete around specific issues' (Sapiro 2010:xi)[14]. Bourdieu draws an analogy with sports players in his description of fields in *The Logic of Practice*, discussing a shared field in terms of a shared understanding of 'the rules of the game', engendered through previous experience to produce a 'feel for the game' which extends beyond formal written rules to a normative understanding of how to behave, in which appropriate behaviour is endorsed and inappropriate behaviour sanctioned (Bourdieu 1990:66-7). He notes that the earlier a player enters a game, or a social field, the less he is aware of his own learning and 'the greater is his ignorance of all that is tacitly granted through his investment in the field' (ibid.:66). Bourdieu describes the relation between the concepts of habitus and field as 'incorporated history and objectified history' (ibid.), explaining in conversation with Loic Wacquant:

> 'Social reality exists, so to speak, twice, in things and in minds, in fields and in habitus, outside and inside of agents. And when habitus encounters a social world of which it is the product, it finds itself "as fish in water," it does not feel the weight of the water and takes the world about itself for granted': Bourdieu in (Wacquant 1989:43).

Competition between those within a social field over capital is an important aspect of the concept, hence Jenkins describes Bourdieu's field as 'a social arena within which struggles or manoeuvres take place over specific resources or stakes and access to them' (Jenkins 2002:84). Three main forms of capital are identified by Bourdieu: economic, cultural and social (Bourdieu 1986). Relative positions within a social field are constantly adjusted, and struggle also characterises the boundaries of a field. Bourdieu used the concept of social fields in discussion of the academic field, scientific field, political field, artistic and literary field(s), among others, in his examination of French society.

2.3.4 Two lines of critique

These descriptions of the concepts of habitus and field in the context of relational analysis draw on only on a small amount of the body of work Bourdieu produced, and an even smaller amount of that produced in response, to critique, adopt and extend his

[14] Lahire (2014) situates Bourdieu's 'social field' in the historical context of the 'field' in social theory.

approaches[15]. Here I outline the two main lines of critique which are relevant to the ways in which I apply his relational thinking to questions of Achuar health in the Corrientes river basin.

The first is a well established question of whether Bourdieu's approach allows for and theorises social change, or assumes a static, self-reproducing social space[16]. On first reading this was my first question – if habitus and field are seen as continuities of history, both structured and structuring, how do established patterns change? This was an uncomfortable question as it seemed to go against the grain of Bourdieu's detailed empirical work, rooted in early fieldwork experiences in Algeria and rural France in which he grappled with issues of change. It also contradicted the sense I had that the concept of habitus could be a useful tool in examining processes related to the meeting of different social fields in the Corrientes region (2.2.2). Calhoun suggests that a 'crucial feature' of the concept of habitus is in fact that 'it allows for a process of continual correction and adjustment' (Calhoun 1993:78). Describing the concept of habitus, Bourdieu characterised it in terms of both reproduction and change:

> 'The habitus is a set of dispositions, reflexes and forms of behaviour people acquire through acting in society...[..].. It is part of how society reproduces itself. But there is also change. Conflict is built into society. People can find that their expectations and ways of living are suddenly out of step with the new social position they find themselves in.' (Bourdieu 2000)

Discussing social fields, Hilgers and Mangez (2014b:11) similarly note the importance of continual change as 'fields are marked by struggles that constantly modify their internal power balances'. Calhoun proposes that:

> 'the issue is not, as critics have sometimes charged, whether Bourdieu neglects change or struggle; he does not, but rather pays attention to both. The issue is how to describe a change so basic that is calls for different categories of analysis' (Calhoun 1993:66).

[15] Some authors examine Bourdieu's work closely to question the relationship between explanations of concepts published during different periods of his career and identify inconsistencies. I find the concepts outlined above helpful to prompt my own examination of (the context of my research), rather than as a blueprint to follow or hypothesis to prove/disprove, so do not take this approach.

[16] Critiques reviewed by for example Adams (2006: 515 and 525) and Jenkins (2002:118)

This suggests a shift in categories or planes of thinking which can be difficult to describe in the precise terminology favoured by those who may see theory as something to provide answers, rather than an orientation to one's own thinking[17], and may therefore be ignored or not seen. Another instance of not seeing has recently been described by Gorsky, discussing the labelling of Bourdieu in Anglophone social sciences as a 'reproduction theorist', relating this (mis)understanding to the timing and volume of translation of his work into English:

> 'Given the bulk of the midcareer work, one could argue that Bourdieu was foremost a theorist of social reproduction. But a closer examination of his early and late work suggests that one could just as easily argue that Bourdieu was first and last a theorist of social transformation and, indeed, that the concern with historical change is a red thread, sometimes thicker, sometimes thinner, that traverses his entire life's work' (Gorski 2013:2).

Together these points suggest that a 'social reproductionist' interpretation of Bourdieu's approach may easily be made if one does not engage with the depth and breadth of his work. Related to this discussion of the history and scope of Bourdieu's work is a second line of critique which questions unproblematised assumptions about the nature of difference between societies. There are two aspects of this discussion. The first draws on post-colonial perspectives of Bourdieu's description of 'less differentiated' and 'differentiated' or 'complex' societies, particularly in relation to discussion of social fields:

> 'At the heart of Pierre Bourdieu's theory of fields is an element that is never questioned, either by Bourdieu or by most of the authors who are concerned to take nothing for granted and who have developed a fruitful critical dialogue with his work: the distinction between differentiated and non-differentiated societies' (Hilgers and Mangez 2014a:258).

Bourdieu does clearly draw this distinction; Calhoun notes that during a conference discussion: 'Bourdieu accepted and reiterated the importance of proliferation of fields for describing "complex" societies, by contrast with societies in which the division into fields is minimal' (Calhoun 1993:86). I understand this separation as primarily arising from analysis of society envisaged in terms of social class, in which 'a relatively undifferentiated' society

[17] It is also difficult to describe if you don't yet know the nature of the different categories required, an issue which resonated with my own questions described above (1.1, 2.2.2) in consideration of the categories of 'indigenous' and 'health'.

is described as one in which 'access to the means of appropriating the cultural heritage is very equally distributed' (Bourdieu 1986). Hilgers and Mangez align this separation with an implication of progression from simple to modern, evoking Kuper's description of a 'theory of primitive society' (Kuper 1998), and warning of 'prejudice latent in the distinction', proposing at the least a notion of continuum between more and less differentiation, and consideration of the ways in which differentiation is conceptualised (Hilgers and Mangez 2014a:262). Others argue for a nuanced reading of Bourdieu in the context of his own experiences and influences (Puwar 2009), suggesting for example that his early work in Algeria can be seen as theorising colonialism as a system and expressing a nascent habitus concept (Go 2013).

The second aspect of this discussion is about the usefulness of Bourdieu's concepts of field and habitus in different contexts: less or more differentiated. Although Bourdieu applied his conceptual tools in his own work most widely to study French society, he describes their genesis in a context akin to the Peruvian Amazon:

> 'I think that many of the problems that I have been led to address, such as that of the logic of practice, and the very concepts I had to develop to resolve them sprang from my effort to understand men and women who found themselves thrown into an alien economic cosmos imported by colonization, with mental schemes and dispositions, especially economic ones, acquired in a precapitalist universe' (Bourdieu 2000 [2010]:266).

As mentioned above, capital – economic, social, and cultural - is an important aspect of Bourdieu's work. I do not draw directly on this to inform my work, but can see that it may be problematic in discussions of differentiation and complexity. Calhoun, not problematising the distinction between contexts, proposes that some of Bourdieu's conceptual tools 'may readily fit all social settings', suggesting 'I would think that no one could be without a habitus' (Calhoun 1993:67), an approach I agree with, although I would expect some adjustments may be necessary. Meinart, for example, who explored the use of Bourdieu's habitus and capital to analyse understandings of health in Uganda, found that while the concepts were helpful, the appropriate unit of analysis was different; habitus and capital were anchored in the family rather than the individual (Meinert 2004).

This discussion of critiques does not conclude with a firm 'yes' or 'no' about the validity of concepts or arguments about or against them, as I do not see an evaluation of Bourdieu's

'conceptual tools' as being established by a correctness, which seems to be what some critics search for, but rather determined by their usefulness as 'orienting tools for research' (Swartz 2013:20) in helping me to explore understandings of health in the Corrientes River. Others' critiques therefore inform my use of these concepts, alerting me to points to be aware of.

2.3.5 Objectification of the object

In addition to the concepts of habitus and field, a third aspect of Bourdieu's thinking which informs my approach is his explanation of 'objectification of the object' of study. This is introduced here; section 3.11 and 10.5 describe its application in this study.

As discussed above (1.1, 2.2.2), questions arose from the earliest stages of this research about categories and perspectives in the construction and bounding of the phenomena of interest. An important characteristic of Bourdieu's work, pertinent to these types of questions, has been described as emphasising 'the need to reconstitute the definition of objects of analysis as a crucial part of each research effort, rather than uncritically accept the common usage of either academic discourse or other constructions of social reality' (Postone, LiPuma et al. 1993:11).

Underlying Bourdieu's methodological approach is an awareness that it is important to recognise and acknowledge the position of the observer and how it came to be so, drawing on the concept of habitus, and how this informs understanding and construction of the phenomenon of interest. Bourdieu proposes doing this through a process of 'objectification'. This involves breaking down into stages the relationship between the social phenomena or 'object' of interest, the observer, and the observer's relation to the object (Bourdieu 1977:3). Jenkins describes this process as taking two steps back from the situation in question – the first from the object, and the second from the 'act of observation itself' (2002:47). It originates from Bourdieu's own experience of being an observer in Algeria, and then taking these observation methods back to his home context, initially an ''epistemological experiment' in which he 'set out to apply to my most familiar universe' (his home village in south-western France) the methods he had used previously to investigate marriage practices of Algerian peasants' (Wacquant 1989:33). In discussion with Wacquant Bourdieu described his intention to:

> 'overturn the natural relation of the observer to his universe of study, to make the mundane exotic and the exotic mundane, in order to render explicit what, in both cases, is taken for granted' (ibid.).

By applying a sociological gaze to routine and therefore unobserved phenomena, social analysis is broadened and deepened. In later work Bourdieu argues that 'those who have the monopoly on discourse about the social world think differently when they are thinking about themselves and about others' (Bourdieu 1990:80). He suggests that this duality - of thinking approaches - affects or limits the conclusions social theorists draw about the social lives they study. Giving the example of anthropologists considering the practice of exchange, he suggests that overcoming this duality may have discouraged emphasis on mechanical models of behaviour and encouraged consideration of those of thought and discourse:

> 'if, when considering exchange, they had thought not only of *potlatch* or *kula*, but also of the games they themselves play in social life, which are expressed in the language of tact, skill, dexterity, delicacy or *savoir-faire'* (ibid.).

I draw on his two stage process in two ways: firstly in mapping out my understanding of perspectives in this study (see Introduction to Part III), and secondly during analysis as part of a set of questions to ask of the data, the conditions in which it was generated, and my understanding of it at repeated stages of analysis (see 3.11).

2.4 Perspectivism and conviviality in Amazonian social life

2.4.1 Introduction

The second main body of social theory informing this thesis consists of overlapping theoretical approaches of 'perspectivism' and 'conviviality', developed by anthropologists investigating Amazonian social life[18]. This informs analysis on two levels. Firstly, in exploring daily practice, what people in the Corrientes do and how they relate to each other; and secondly - continuing the theme introduced above of problematic categories (1.1, 2.2.2) - informing my understanding of the nature of knowledge which underlies concepts of health and the body.

[18] Although the term 'Amazonian' encompasses a large geographical area and diverse population it is generally used in this literature in reference to native/indigenous/rural communities.

This section describes the main features of these contemporary theoretical understandings of Amazonian social life, highlighting their areas of similarity and difference and explaining how they are used in this thesis. As noted above (2.2.3) and explained below (3.10), I came to this anthropological literature through an iterative process exploring themes which arose during data analysis, rather than using the literature to initially frame my understanding. This section therefore presents a specific subset of contemporary anthropological theory related to Amazonia which I have identified as relevant to my work, briefly set here in historical context, rather than an overview of the entire field.

Subsequently, section 2.5 discusses the differences and complementary areas between these approaches and Bourdieu's relational analysis.

2.4.2 Background

Reviewing the history of Amazonian anthropology, Rival and Whitehead noted that 'it has always...been a highly contested intellectual field'(2001:1). They describe two competing anthropological approaches to the region in the mid-twentieth century: American cultural ecology; and the French structuralist tradition led by Levi-Strauss (ibid.). Over the next two decades, they explain, a new generation of anthropologists carried out detailed, long-term ethnographic studies observing and participating in daily life in rural communities. From this work new theoretical fields were developed exploring Amazonian society, including Amazonian kinship and sociality (Overing 1975, Rivière 1984) and the relationship between nature and human society (Descola 1994) (ibid.).

Viveiros de Castro, reviewing Amazonian indigenous anthropology in 1996, identified a similar polarised background. Where Rival and Whitehead described two emerging theoretical fields, he separated the approaches of Rivière and Overing to distinguish what he called three emerging 'analytical styles' or 'theoretical emphases' in regional social anthropology (Viveiros de Castro 1996:188). He described these as 'the political economy of control', associated with Rivière and Turner; 'the moral economy of intimacy', associated with Overing and colleagues; and 'the symbolic economy of alterity', associated with Descola and colleagues including himself (ibid.:188-191)[19].

Here I focus on theory of 'conviviality' and 'perspectivism' developed in the latter two of these groupings. The groupings are henceforth referred to using Viveiros de Castro's term

[19] These are not complete divisions; he noted that 'various ethnologists...combine more than one' (ibid.).

'theoretical emphases'. These theoretical emphases are not the only permutations of Amazonian anthropological thought, but two of the major and currently most frequently discussed, developed concurrently by followers of British and French anthropological schools. Crucially, both rely on a radically different approach to conceptualising the social world to that tacitly implied in normative Western discourses of health and well-being. Humans, plants, animals and spirits are linked in a network of exchange relationships. Humans represent one among various forms of animate beings, and they are part of a network rather than a hierarchy. Santos-Granero put this aptly: 'although not all beings are human, all of them are persons' (2009:211). The two concepts described below are both premised on this thinking.

2.4.3 Amerindian perspectivism

Amerindian 'perspectivism', described as such by Vivieros de Castro (1998), arises in dialogue with the theoretical emphasis associated with Descola of the relation between nature and human society[20]. This concept focuses on the nature of relations between different beings in the network described above, and how they see each other within it:

> 'I use "perspectivism" as a label for a set of ideas and practices found throughout indigenous America and to which I shall refer, for simplicity's sake, as though it were a cosmology. This cosmology imagines a universe peopled by different types of subjective agencies, human as well as nonhuman, each endowed with the same generic type of soul, that is, the same set of cognitive and volitional capacities. The possession of a similar soul implies the possession of similar concepts, which determine that all subjects see things in the same way. In particular, individuals of the same species see each other (and each other only) as humans see themselves, that is, as beings endowed with human figure and habits, seeing their bodily and behavioral aspects in the form of human culture' (Viveiros de Castro 2004:3-4).

How different social entities or species see each other and their environment determines their behaviour. While the underlying nature of relations between them does not change, the way reference objects are seen by different species does change. For example, Viveiros de Castro explains that a jaguar sees human blood as humans see *masato* (manioc beer) (2012:47;73-4). For jaguars and humans the consumption of blood/*masato* is a parallel

[20] The development of Descola, Viveiros de Castro and colleagues' work influenced by Levi-Strauss is reviewed by Turner (2009:8-9)

process, providing the consumer with a socially appropriate, enjoyable source of energy/spirit/power. The corporeal body is not fixed, and transformation is a constant possibility (Rival 2005, Vilaça 2005). Luhrmann summarised the 'basic ethnographic claim' in perspectivism as 'bodies are chronically unstable, and shift when perceived from different points of view' (2013:172). Viveiros de Castro compares the relation between body and spirit, nature and culture in Western and Amazonian reasoning, concluding that:

> 'where our modern, anthropological multiculturalist ontology is founded on the mutual implication of the unity of nature and the plurality of cultures, the Amerindian conception would suppose a spiritual unity and a corporeal diversity—or, in other words, one "culture," multiple "natures."' (2004:4).

While this approach has been admired and adopted, revisions have been proposed and objections emerged. Santos-Granero (2006:72) raised the role of the different senses, i.e. other than sight, and 'consciousness about ...different sensorial capacities of embodied and disembodied souls'. Turner questioned Viveiros de Castro's reinterpretation of myth in the formulation of perspectivism, suggesting a crucial misunderstanding of the process of differentiation of animals and humans (Turner 2009:59-60). Wide adoption of the approach has been criticised as dangerously reifying peoples and modes of knowledge (Ramos 2012), unintentionally recreating 'colonialist overtones' through juxtaposition with 'modern ontology' (Bessire and Bond 2014:442-3). Interpretation and application of perspectivism are discussed further below (2.4.5).

2.4.4 Conviviality

A related approach developed by Joanna Overing and colleagues is oriented toward understanding the daily production of 'conviviality'[21] (Overing and Passes 2000a). Overing emphasises interpersonal relations, emotions, and daily productive practice as the basis of what we must seek to observe and explain in order to develop an understanding of Amazonian social life. She suggests that social life is constructed through careful, harmonious and sociable practice, with emphasis on 'the artful skills for living together in convivial *intimacy*'[22] (Overing and Passes 2000b:7). This includes the control of anger, sharing of humour, and appropriate and respectful relations between social beings (Alès

[21] A term which I will use to refer to this approach.

[22] (emphasis in original).

2000, Passes 2000, Belaunde 2001). For example, describing the Airo-Pai̱, Belaunde explains:

> 'The Airo-Pai̱ convivial self is socially produced through childhood and enacted every day in practices of self-control through which the character of adults is traced back to their upbringing' (Belaunde 2000:218).

The production of conviviality is a constant process, informed by the social history of each individual and maintained through their daily actions (Santos-Granero 2000). Bodies are produced through these processes, as McCallum for example describes:

> 'The Cashinahua body... is the place in which social and supernatural processes coalesce and is made by others in a constant flow involving nutrition, abstentation, the application of medicines, body painting, baptismal rituals and formal training' (McCallum 1996:352).

As well as underlying the careful production of bodies, these social processes are also involved in illness and death (Pollock 1996, Shepard 2002, Lenaerts 2006, Izquierdo and Johnson 2007).

2.4.5 Interpretation for this work

I find theory of both perspectivism and conviviality helpful in orienting my interpretation of accounts of daily practice and relations between people in the Corrientes region. As discussed in Chapters 8-10, a focus on social processes and conviviality resonates most strongly with accounts from the region, but awareness of the theory of perspectivism is also helpful, perhaps seen as an extreme stance at the end of a continuum.

As noted by Viveiros de Castro (1996), differences in theoretical emphases in work associated with perspectivism and conviviality do not imply complete separation. Discussing Amerindian perspectivism in relation to Ashéninka people, for example, Lenaerts draws on 'perception', 'sociability' and 'points of view', spanning both theoretical emphases, to outline the concept in contrast with Western science:

> 'According to this indigenous view, what human people share with all other living beings is not the bodily physical substance, as it is always stressed in Western science (see e.g. phylogeny and ontogenesis, or living cells and biochemistry). What is universally shared is rather a very human-like perception and sociability.

> Obviously, there are gaps between the different living species, but these gaps are just a matter of specific points of view.' (Lenaerts 2006:59)

In this explanation, the main area of difference to be comprehended is that between Western and indigenous ontology. Lenearts' highlighting of the nature of the difference between the 'indigenous' view he describes and Western science may seem obvious within the field of anthropology, but as discussed above (1.1) is not always noted or acknowledged in Western science. This is particularly important in relation to discussion of the body, health and illness, as Conklin notes:

> 'In diverse native South American cultures, bodies are viewed as fundamentally social products, and illness and healing are explicitly social processes' (Conklin 1996:373).

Drawing on discussion of the body, Rosengren, examining what he describes as 'two main tendencies' in the ethnography of Amazonian peoples (which echo the theoretical emphases of perspectivism and conviviality), suggests that the main difference between them stems from how the relationship between 'physical body' and 'consciousness' is understood and articulated (Rosengren 2006:81). My interpretation of Rosengren's argument[23] is that perspectivism focuses on the corporeal body and the nature of relations between different corporeal bodies, which are understood to have physically different forms but share a way of being or knowing, an 'epistemic uniformity' (ibid.:82). In contrast, Overing and colleagues focus on social processes, which are seen to create both knowledge and physical bodies as a product of a specific set of influences. Ways of being and knowing here are not, then, seen as something uniform, but situationally specific. Rosengren himself favours Overing's approach in his own discussion of consciousness and identity among Matsigenka people, concluding that:

> 'the self is highly personal and, as such, individual diversity is the standard. While the identity of subjectivity is given by corporeal form, the identity of the soul is formed in the inbetweenness of social interaction' (Rosengren 2006:97).

[23] His argument is developed in a rich ethnographic context of Matsigenka people in the Urubamba and Manu river regions and does not readily lend itself to reproduction separately from this context.

As noted above, I share Rosengren's orientation toward Overing's theoretical emphasis, but see both approaches as helpful for different contexts. This resonates with Santos-Granero's proposal that their separation is an 'artefact of placing the focus on different levels of social interaction: the local sphere of human relations versus the outside sphere of interspecific communication' (Santos-Granero 2012:204). He suggests viewing 'these two approaches to beinghood' as 'coexisting aspects of native Amazonian cosmologies and ontologies, which manifest themselves under different conditions' (ibid.:203).

2.5 Relational analysis, Amerindian perspectivism and conviviality

The bodies of theory discussed here are used in complementary ways to inform this work. I see Bourdieu's relational analysis as a set of concepts to think with throughout the thesis, while perspectivism and conviviality are drawn on more specifically in considering relations between local actors in relation to health and wellbeing in Part III onwards. This section outlines areas of overlap and divergence in these bodies of social theory, which I have found helpful in consideration of their application to my work.

Each of these bodies of theory takes, as its object of study, the nature of relations between social beings. In Bourdieu's case this focuses on human beings; perspectivism and conviviality also consider non-human forms of social beings. Brubaker, discussing habitus, highlights 'the quintessentially structuralist disposition to think in relational rather than substantialist terms' (1993:223). To varying extents[24], each of these bodies of theory was developed in dialogue with French structuralism, particularly that of Lévi-Strauss, and its influence can be seen in both this relational mode of thinking, and in the categories of interest (whether these follow or reject structuralist themes such as kinship and nature).

In contrast however to structuralism's orientation to developing overarching social theory, both Bourdieu and Overing reject the concept of 'grand theory' (Overing and Passes 2000b, Jenkins 2002:66-7). Overing situates this in her argument against 'a universally valid notion of rationality' (Mentore and Santos-Granero 2006), and describes her approach as 'working toward the *de*centring of the construct of society as envisioned within grand narrative texts' (Overing and Passes 2000b:25). Perspectivism is presented more in the tradition of grand theory, as a way of thinking that draws on and reinterprets a tapestry of ethnographic work with an intention of presenting a coherent arrangement of concepts.

[24] Varying both between and within approaches, as Bourdieu's engagement with structuralism changed over time.

Practice, the daily detail of what people do and how they do it, is a central focus in both relational analysis and conviviality. The body is seen as produced and producing, representative of social and physical history and experience. This description of Rosengren's analysis (2006), for example, would not be out of place in discussion of habitus:

> 'individual identity and self-awareness among the Matsigenka are not functions of corporeal shape but of social interaction, insofar as they are fashioned by the very particular historical conditions and personal trajectories that influence the development of each individual's soul. Consciousness has little to do with physiology but is rather the product of social interaction' (Mentore and Santos-Granero 2006:5)

Being aware of these areas of overlap and divergence helps me to both recognise possible complementary approaches applicable at different levels of analysis, and to be conscious of potential crossover of critiques (and the ways in which they are addressed), for example the question of how historical change is dealt with in Bourdieu's work, considered in relation to conviviality and perspectivism.

Chapter 3: Research aim and methodological approaches

3.1 Introduction

This chapter first outlines the aim of this thesis, and explains how it will be investigated through five inter-related research questions. To address these questions I draw on a range of research methods, informed by an overarching methodological orientation of 'facet methodology' (Mason 2011). Each method is introduced and explained in turn; I describe its application and critically reflect on its use in this context. Issues of language and research ethics, which are not in themselves research 'methods', but have methodological implications, are also discussed here. In conclusion, I discuss the practical ways in which methods derived from and premised upon different epistemological traditions are used together to generate new understanding.

3.2 Research aim and questions

As outlined in 'Unhealthy Categories' (1.1), I approached this project with an interest in indigenous peoples' health, informed by public health research concerned with questions of inequality and social determinants of health. After becoming more familiar with the local context I found the concept of 'health' problematic, as discussed in 'Unhealthy 'health'' (2.2.2), and widened my focus to explore 'how children are'. This phrase is presented in quotation marks to avoid grammatical ambiguity. It is not an established concept to think with and sounds somewhat clumsy; while this does not facilitate smooth reading it is an appropriate description of the phenomenon of interest, and the awkwardness of phrasing aptly reflects the unnaturalness of thinking in terms of this loose, open concept.

This thesis aims to explore 'how children are' in a cluster of communities in the mid Corrientes River basin. To do this, five research questions were developed. These were formed during the research process, in response to finding that my initial orientation from outside the field took for granted an externally derived object of analysis, 'children's health', which did not reflect knowledge and practice in the Corrientes region.

The five research questions move progressively from an external, public health perspective to a focus on community members' explanations, then consider interactions between the two:

1) How is the Corrientes region, the place and its inhabitants, described by outsiders?

2) What is the social and physical environment for children's health, as understood in public health terms?
3) How are young children according to:
    i) public health measures?
    ii) understandings of people living and working in the region?
4) How do people accommodate and manage these understandings in daily practice?
5) How can 'how children are' be discussed in a way which speaks to and informs concepts of 'health' and 'well-being', but does not restrict discussion only to factors associated with these concepts' ontological foundations?

These research questions inform distinct sections of this thesis: Questions 1 and 2 are explored in Part II; Question 3 in Part III; and Questions 4 - 5 in Part IV.

3.3 Facet Methodology

The questions explored in this thesis span different ways of thinking about 'how children are'. In order to address them, I use methods associated with public health, medical sociology and social anthropology. These methods explore and create knowledge which stems from, and is considered valid within, different ontological traditions. As an overarching methodological orientation, I draw on an evolving approach of 'facet methodology', developed by researchers at the Morgan Centre for Research into Everyday Lives at the University of Manchester[25].

Facet methodology is described by Mason (2011) as a 'research approach or orientation', in which a visual metaphor of a cut gemstone is used to encapsulate the research object of interest:

> 'In facet methodology, the facets in the gemstone are conceived as different methodological–substantive planes and surfaces, which are designed to be capable of casting and refracting light in a variety of ways that help to define the overall object of concern. They will involve different lines of enquiry, and different ways of seeing.' (ibid.:77)

The aim of this approach is 'to create a strategically illuminating set of facets in relation to specific research concerns and questions' (ibid.). The researcher is responsible for creating or 'carving' these facets so that they 'catch the light in the best possible way' (ibid.). This approach resonates with a number of aspects and concerns of my work. The 'lived world' is seen as multidimensional and involving a plethora of 'things, surroundings and environments' (ibid.:79). The facet methodologist takes a relational approach to these, with a 'primary interest...in understanding how they are connected and entwined' (ibid.:79). They are also interested in finding 'new ways of seeing' that 'can 'trouble' existing categories, and...shift prior assumptions' (ibid:82). This is consistent with combining methods associated with different epistemologies, and through recognising each as valid and useful within their own field (rather than disputing which is correct), gaining insights which facilitate the disruption of categories such as 'health'.

[25] As this is a recently developed approach there is limited published literature describing it. This section draws substantially on one published methodological paper (Mason 2011) and webpage description (Mason 2013).

Methodologically, facet methodology is described as requiring 'a pluralist disposition in relation to method: a willingness to cross conventional boundaries and to bring together alternative ways of generating knowledge' (ibid:83). This is explicitly not positioned as a 'mixed methods' approach, as the focus is always both epistemological and substantive, rather than methods driven (ibid.:84). Whilst this crossing of boundaries is seen to generate new knowledge, rigour within each method is emphasised: 'knowledge claims need to be true to the epistemologies from which they are derived' (ibid.:82).

Facet methodology is described as an orientation, rather than a set of techniques or methodological rules (Mason 2013). It has not been widely applied in published literature beyond the projects in which it was developed (Davies and Heaphy 2011), although there are similarities between facet methodology and interpretive 'bricolage' approaches (Denzin and Lincoln 2005:5) which also draw on the 'central imaginary' of a crystal (Richardson and St. Pierre 2005:963). I am following this orientation as it resonates with the epistemological and theoretical approach and concerns developed through this thesis, offering a 'useful metaphor to think with' (Mason 2013) in exploring 'how children are'. There is some risk in taking an approach which is not well established, particularly when it expressly calls for 'inventiveness, creativity, insight and imagination' (Mason 2011:75). I take confidence however from the circumstances in which it was developed, in response to discomfort with 'mixed methods' research which could not address underlying epistemological matters; the solid reputation of the research group who developed it; their thoughtfully presented argument; and the match between their concerns and mine in this thesis.

The specific methods used in this project are described in sections 3.5-10 below. Each method is described in the appropriate terms for the discipline in which it was developed. Additionally, issues of language (3.4) and research ethics (3.7), which while not research 'methods' have methodological implications, are discussed. Section 3.11 explains how knowledge derived through separate methods is used together in complementary 'methodological–substantive planes' in response to the research questions.

3.4 Language and translation

A key point to discuss at this stage is language and translation. Language and translation refer to both literal consideration of words and linguistic languages spoken, and to the overarching concept of communication of meaning between social groups. The official language of Peru is Spanish, and most members of the communities where I conducted fieldwork in the mid Corrientes region speak Achuar or Achuar and Spanish (see 5.3.1). This thesis therefore discusses knowledge generated in and between three languages: Spanish, Achuar and English.

When I began this project in October 2007 I spoke only English[26], and I started to study Spanish in London. I was awarded a three month extension to the PhD award[27] for language training, and undertook an intensive Spanish course in Lima in early 2008. I returned to this language school for short periods in late 2008 and early 2009, and arranged language exchange practice in London and Iquitos with Spanish speakers who were learning English. By March 2009 my level of spoken Spanish was sufficient to conduct daily life reasonably comfortably, but I was constantly alert to potential misunderstandings. I did not learn to speak Achuar beyond basic civilities, however during time spent with Achuar speakers I became familiar with the patterns and use of language and some vocabulary to begin to follow discussions about children and eating. In order to collect and interpret data for this study, I used a range of strategies to communicate between Spanish, Achuar and English.

The role of translation in cross-language research is approached differently in different disciplines. Discussing translation in the context of health research, Temple identifies two approaches stemming from different epistemological stances, each with methodological implications (Temple 2002:845). In the first, more common approach, researchers are neutral 'gatherers of facts' and translation is a matter of accurate transmission of messages (ibid.). When this approach is taken, translations are either right or wrong and methodological discussion focuses on ensuring correctness, with translators providing 'invisible assistance'[28] (Shimpuku and Norr 2012). In the second approach, researchers and translators are 'active producers of research', and their position and perspectives in

[26] I therefore learnt about the processes of speaking another language, as well as learning to speak Spanish.

[27] Time period based on ESRC classification of Spanish for language training purposes.

[28] A term described in a review of health researchers' work with interpreters in Tanzania.

relation to research subjects are considered as part of the production of knowledge (Temple ibid.).

One of the underlying issues which winds through this thesis is the concept of 'health' and how it is bounded, understood, and seen to be transferable or not between cultural contexts. Language is an intrinsic part of this. If 'health' is seen as a universal concept, or a universally valid concept - albeit one which some people may not understand or recognise, but still exists - then the underlying message should be translatable by selecting an appropriate constellation of terms to describe it. If it is seen as a culturally specific concept, we would not necessarily expect to find a matching term or group of terms to represent the same meaning across social groups. My position in this thesis is to be open to the possibility of the latter, and I approach issues of language and translation accordingly. However, where I draw on methods which stem from a positivist stance, such as a demographic and health survey, I then use the translation methods associated with this stance, following Mason's emphasis on rigour *within* each method. Language and translation is therefore discussed further within the descriptions of each method below (see particularly 3.10.4).

3.5 Critical review of (re)presentation of the Corrientes Region

The first methodological strand in this thesis was a critical review of material about the Corrientes region, undertaken to develop an understanding of how the region was seen and represented (Chapter 4). This stemmed from the compilation of a personal archive of material, initially undertaken to familiarise myself with the social environment I was working in. During fieldwork I noted similarities between the approaches taken within this material toward the Corrientes region, and themes arising in interviews, and decided to continue to collect and review material beyond the introductory months of fieldwork. This process is explained in detail in the following sections (3.5.1-4).

3.5.1 Nature of the archive

The compilation and analysis of a personal archive is a different approach to that conventionally taken in public health research studies, where a systematic review of a specific type of published literature would be gathered in order to answer a specific empirical research question. A personal archive is more commonly associated with ethnographic research, where the research aim is to understand particular social or cultural phenomena, and the material of interest is derived from a wider range of sources. These

may include both formal literature and everyday cultural material such as media reports, art work and popular literature. In formal literature reviews the content of material is of interest to the researcher as a statement of information or fact, whereas in ethnographic research materials are understood 'in terms of their social production rather than their truth' (Walsh 1998:228). Both approaches necessarily involve active searching and filtering of material by the compiler. In a systematic review the search strategy is established in advance by the research team. The sources it is applied to are bounded by prior inclusion in existing indexes, and within these boundaries reviewers seek to search comprehensively (Green and Thorogood 2009). The boundaries of a personal archive are less fixed, and more contingent on the specific circumstances of the individual compiling it, drawing flexibly on a wide scope of material which may not be formally compiled elsewhere, and which the researcher may not be aware of at the outset. Explicit, careful consideration of compilation methods and discussion of which sources were and were not included, and the implications of this process, are explained below.

3.5.2 Awareness of material

The primary inclusion criterion for the archive was any material referring to the Corrientes region, with a secondary interest in the much broader category of Amazonian indigenous peoples. As an outsider to local society my awareness of potential types and sources of material was limited, and to broaden this scope I sought advice from local colleagues and friends in Iquitos and Lima, as well as consulting organisation archives (Appendix A1.3). I did not initially expect the Corrientes zone to be familiar to Iquitos residents but found that many had heard of the area and of FECONACO, the indigenous federation representing mid and upriver Corrientes communities. They frequently cited regional newspaper reports of protests held by community members against *Pluspetrol*, the principal multinational hydrocarbon company operating on the region, as the source of their information. This prompted me to consider the influence of local media reporting in how outsiders discussed the Corrientes communities, and to search regional newspapers for material.

3.5.3 Setting boundaries: the scope of the archive

I took a systematic approach to collecting and reviewing material, considering the source, when it was produced, who by, for what purpose, and to whom it was available (see Appendix A1.4). Where I identified a gap in the range of material included I addressed it if possible, and recorded gaps that I felt were beyond the practical scope of my work. For

example while collecting regional news articles I checked whether Corrientes issues were reported in national press, and finding they were mentioned occasionally expanded the archive to include two national newspapers which were readily available in Iquitos. While checking reporting of specific events in selected newspapers was feasible, it was less feasible to include some ubiquitous sources such as radio programmes due to the volume and form of the material. Reviewing the archive material later I realised that I had not considered including local television sources. These would have presented similar feasibility challenges to radio material. In this case my personal circumstances, living in a house without a television, and academic focus on written material had influenced my awareness of it as a potential source. Both included and excluded sources are listed in Appendix A1.1 and A1.2.

3.5.4 Analysis

When I later considered how to interrogate and present this material in a systematic way, I found the analytical devices adopted by Said in his analysis of *Orientalism* (1978) provided helpful guidance. In this project, Said reviews broad swathes of literary material with the aim of identifying the relationship between specific texts or their authors and the 'complex collective formation' to which their work contributes (Said 1978:24). He is interested in the formation and perpetuation of 'orientalism', and through his comparative textual analysis argues that it was constructed and maintained by and for the West. My work bears no comparison to the volume of material nor range of philosophical approaches he draws on in analysis, but the core 'methodological devices' he uses to study 'authority', 'the historical authority in and the personal authorities of Orientalism' (Said 1978:20), provide the basis for my approach. He describes these devices as 'strategic location', describing the author's position in relation to the material they write about, and 'strategic formation', analysing what happens to the texts which authors create and how they relate to each other (ibid.). This approach echoes discussion of 'positioning' in Bourdieu's relational analysis, and, in common with the three bodies of social theory introduced in Chapter 2, takes the nature of relations between groups as an object of study.

My interpretation of Said's 'methodological devices' in the context of this thesis is outlined in Figure 3a below. In addition to strategic location and formation I add a preliminary consideration of the 'strategic content' of material. These devices were used to generate a set of questions to ask about archive material, also presented in Figure 3a. I then

developed tables based on these questions to facilitate a systematic process of reviewing and analysing the material. Appendix A1.4 gives examples of this for three sources.

Said's 'principal methodological devices' ➡	Methodological device for this material ➡	Questions asked about material in this analysis
(not described by Said)	**Strategic content** Describing the subject of the material.	What is the content or subject?
Strategic location 'describing the author's position in a text with regard to the oriental material he writes about'	**Strategic location** Describing the author's position in the material in relation to the Corrientes community they describe/draw/photograph/ film.	What is the author's position of authority which gives them cause to produce this material? Where are they situated – physically, communicatively (language spoken, professional field), occupationally – in relation to the subject? How is the content or subject reported?
Strategic formation 'analyzing the relationship between texts, and the way in which groups of texts, types of texts, even textual genres, acquire mass, density and referential power among themselves and thereafter in the culture at large'	**Strategic formation** Analysing the relationships between materials, and the way in which groups of materials and their genres form independent referential points in the culture at large.	Which other materials or groups of materials do authors refer to?

Figure 3a Use of Said's 'methodological devices' (Described in (Said 1978:20))

3.6 Participatory beginnings

As described in the thesis introduction, I was introduced to work in this setting through a colleague's involvement with an indigenous federation representing communities in the Corrientes River basin. Initially influenced by 'participatory' or 'popular' epidemiology (Brown 1993, Wing 1994, Leung, Yen et al. 2004), and discussion of this in relation to research ethics (below), I framed my initial approach in these terms. Closely related to participatory approaches in development projects, popular epidemiology is based on 'commitment to the sharing of power with the people with and for whom researchers work' (San Sebastián and Hurtig 2005). This fitted with calls in health research for 'greater respect for the views of indigenous peoples' (Stephens, Porter et al. 2006), and a 'focus on the needs, opinions and involvement of indigenous communities' in designing, planning and implementing projects and policy (Stephens and Nettleton 2004, Eversole, Ridgeway et al. 2005). It was also compatible with WHO guidelines for research about indigenous peoples' health (WHO 2008), which promote a 'participatory' or 'collaborative' approach (ibid.:1.2) and suggest that research only be undertaken 'if the proposed research topic and process are compatible with the health priorities and needs of the IP [Indigenous Peoples]' (ibid.:2.3).

Following this approach, the WHO advise that a joint research proposal is prepared:

> 'Health research proposals should be prepared jointly, on the basis of prior consultations between the parties. If an RI *[Research Institution]* presents a research idea or proposal before such consultations, the IP should have the opportunity to request modifications in accordance with their needs, insofar as changes do not bias the research' (ibid.:2.3).

Based on this guidance and contact with other researchers conducting health related research with indigenous communities in the Peruvian and Brazilian Amazon region, I undertook to prepare a joint research agreement with FECONACO before applying for local or institutional ethical approval (Roche, Creed-Kanashiro et al. 2008, WHO 2008). During this process I became aware of a number of different priorities within the organisation, and also reflected myself on issues which had been raised by community members during a pilot visit to downriver communities. During the period when the study was being planned, a larger environmental epidemiology project (Anticona, Bergdahl et al. 2011, Anticona, Bergdahl et al. 2012) was also being carried out to investigate potential relations between

oil activity and elevated levels of lead and cadmium previously identified in blood samples from community members in the river basin (CENSOPAS 2007, Orta Martinez, Napolitano et al. 2007).

I was invited to work from the FECONACO offices in Iquitos and assigned working space next to a staff member responsible for managing practical issues of liason between FECONACO, Corrientes community members needing health care in Iquitos, and health services. I explained that I was happy to support the organisation where possible using my training in epidemiology and familiarity with public health issues, and was frequently invited to attend meetings and comment on negotiations between FECONACO and health services as a 'technical advisor'. This followed a pattern established by previous visitors from universities and NGOs interested in environmental monitoring issues. While members of the organisation seemed happy to have me there and supportive of the general idea of me doing research about health, I did not make progress in seeking their opinions about what this should address. Over several months, as I got to know people and my Spanish improved, I tried various strategies – individual meetings, informal discussions, a group meeting with a mapping activity – to seek FECONACO members' suggestions about health priorities and needs of the communities. Every time we concluded with discussion either of contamination and the epidemiology project, or of conflicts between organisations. Eventually after 'Ruth's health study' was listed again for discussion at a general FECONACO meeting, and I again explained (to silence) that I was keen to design a study that explored something of relevance to the communities, one of the younger *dirigentes* took me to one side. They explained that I did not need to worry about whether I was welcome there, FECONACO were pleased to support my work and hear about whatever I wanted to do - but that I was the expert in health, coming from my university, and they could not tell me what to investigate. They explained that the senior people in the organisation were puzzled about why I kept asking for their input and did not present a plan like other visitors had done. They suggested I should use my knowledge to plan a study and they would tell me whether they thought the logistics looked practical and the communities would be happy with it.

Although this wasn't the kind of participatory planning that I had anticipated, I followed their advice, drawing on a focus on young children's health which had arisen during a pilot visit to communities, influenced by SDOH approaches, and my understanding of the kind of data which may be useful for FECONACO to draw on in their negotiations with different

organisations. I also visited Villa Trompeteros Health Centre to speak to the head of the health centre and staff involved in child health programmes. I then prepared an outline project plan, which included interviews with health post staff and others working in the region as well as data collection in four communities, and discussed it with several FECONACO committee members individually. They advised firmly that FECONACO was only interested in planned work in the communities, and that while interviews with health post staff and others might be interesting and helpful for me it was not appropriate to discuss this with FECONACO because the organisation's responsibility was to represent the Achuar people of the Corrientes River Communities. I followed their advice, gave a presentation at the next general meeting, focusing on data collection in four communities, and was told my plan looked feasible and was approved. I then drafted a written research proposal in Spanish and English[29] (Appendix A2), referring to WHO guidelines (WHO 2008) for points to cover. I explained that it was a draft that could be discussed and changed, but the head of the organisation signed it without amendment and said I could begin.

3.6.1 Reflection on participatory approaches in this context

At the time I attributed what I saw as my failure to adequately facilitate a truly 'participatory' approach to two main factors: firstly my own lack of experience, both in working in this setting and in undertaking participatory research, and secondly the organisation's prior experiences of facilitating other studies which were planned independently and then presented to them for approval/logistic support. I was also aware of different priorities and influences within the organisation, and concerned about how these related to what I had gathered from brief discussions in communities and the issues raised by health sector staff I met in Iquitos and Villa Trompeteros.

This concern led me later during fieldwork to reflect on the practicality and validity of applying the concept of participatory research in this setting. As I got to know the context better, I learnt more about the nature of interactions between community members, representative organisations, external advisors, funders and campaigners, and the regional government. The elected members of representative organisations changed frequently, as did staff in the regional government. Different communities, and sometimes different members of the same community, had different relationships with different petrol

[29] I proposed this being translated into Achuar, and was told by *dirigentes* that FECONACO usually worked with written documents in Spanish, it would be difficult to find someone who could write it in Achuar, and there was no need to do so.

companies or their sub-contractors at different points in time. Influences of two inter-related but competing powerful extended families in the Corrientes region emerged repeatedly at community and organisational level. Social anthropologist Seymour-Smith (1984) described 'multiple power sources' in the region in the early 1980s, and these had since proliferated and complexified. In this social landscape it is hard to see which would be an appropriate group or level to work with[30]. A 'community', defined by physical residence, would be unlikely to hold uniform opinions, and if they did these would not be shared unproblematically by representative organisations. The 'Native Communities' discussed here are defined as such in Peruvian law (see 1.2), described as 'a one-size-fits all model for the country's entire indigenous population' (Walker 2013:133), which Walker, discussing Urarina Native Communities on the Chambira River[31] warns 'can easily give a misleading impression of a united community' (ibid.134).

There is also an inherent expectation in such a politicised environment when working closely 'with' research subjects to produce results which reflect their concerns and support a particular advocacy agenda. The environmental epidemiology studies undertaken while I was working on this project were designed according to participatory principles, and the lead researcher eventually encountered very difficult situations when presenting unexpected results to sceptical audiences who were expecting her to provide scientific evidence of harm caused directly by oil company activities[32] (Anticona, Coe et al. 2013).

These concerns are reflected in critiques of 'participatory development' methodology, to which 'participatory epidemiology' is closely related. The premise of participatory approaches is that it is a good thing to share power with local people, but this is complicated by closer consideration of a 'local' context. Cleaver, drawing on work about water resource management in Zimbabwe, described 'myths of community', noting that:

> 'participatory approaches stress solidarity within communities; processes of conflict, and negotiation, inclusion and exclusion are occasionally acknowledged but little investigated' (Cleaver 2001:44).

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[30] Particularly in relation to health research given the politicised nature of discussion of contamination of the environment and human bodies in the Corrientes region (4.6).

[31] To the south-west of the Corrientes, between the Corrientes and Pastaza Rivers.

[32] Instead the studies found that 'manipulating and chewing lead scraps to construct fishing sinkers were the most important risk factors for lead exposure in children' (Anticona, Coe et al. 2013:4).

Cooke and Kothari suggest that advocates of participatory development approaches have 'generally been naive about the complexities of power and power relations' (2001:14). Processes of power and conflict inform what is presented as 'local knowledge'. Mosse, discussing a participatory farming systems development project in western India, argues that ''local knowledge' reflects local power', being 'highly differentiated in terms of who produces it and in terms of different ways of knowing', and that participatory approaches can conceal these crucial differences (2001:19). By not seeing this differentiation, participatory projects can unintentionally further local powerful interests (Mohan 2001:60). Mosse also notes that development projects and outside agencies 'clearly influence the way in which people discuss their 'needs' (ibid:20); not necessarily in a deceitful way but through a process of incorporation; in the Indian farming example as farmers 'acquire and learn to manipulate new forms of 'planning knowledge'' (ibid:32) through pre-existing relationships with development institutions. In a health research context, a parallel process for example may involve discussions of 'community health' concerns, in which issues previously raised by visiting health workers in health promotion workshops are put forward by local residents. This is not to imply that this incorporated knowledge would not be real or valid, but it would be naive to assume that it was generated in isolation from processes extending beyond what is understood by the researcher to be the 'community'.

These concerns with power relations and the nature of knowledge and its sources reappear in different forms throughout this thesis, rooted in a relational approach introduced in the previous chapter which helps to problematise concepts which are taken for granted in different contexts, and question how they are understood from different perspectives.

3.7 Research Ethics

Issues of power relations and the nature of knowledge also underlie consideration of research ethics. Among published literature and guidelines to ethics of research about indigenous people, these themes consistently emerge and re-emerge, considered explicitly as informing or driving the development of research processes, or indirectly in discussion of these processes.

Historical and contemporary power relationships frame the research context. In the Peruvian Amazon, researchers often share cultural and physical markers such as skin colour and language with historical colonists, who in living memory enslaved local people to provide labour and domestic service for the rubber industry (Santos-Granero and Barclay 1998). Rumours of '*pishtacos'* or '*pela caras*' ['face peelers']; white people who kidnap natives, peel off their skin and extract their body fat to sell overseas, reflect a history of exploitative relations (Uriarte 2007:223, de Pribyl 2010, Hildebrandt 2010). In 2009 a police investigator gave a *pishtaco* inspired explanation for the disappearances of 60 people in Huanuco region, claiming to have arrested gang members selling human fat to European cosmetics producers (BBC Online 2009a, BBC Online 2009b). Modern forms of resource extraction have also involved exploitation or expropriation of land with limited benefits for indigenous populations (Davis 1977, Griffiths 2004).

The need to avoid exploitation is seen as particularly important in research about indigenous people because their frequent social and geographical distance from mainstream populations means they may have limited awareness of their rights (as understood by national and international frameworks), and of the responsibilities of researchers to adhere to commonly accepted codes of human rights and ethical research (Hill and Hurtado 2004). This issue has been increasingly recognised by the international research community following controversy over anthropologist James Neel's research with the Yanomamo of Brazil[33], (Tierney 2000, Hurtado and Salzano 2004, Lindee 2004); debate about indigenous peoples' participation in the Human Genome Diversity Project (Tauli-Corpuz 1994, King 1996, Salzano 2004); and concern about exploitative appropriation of indigenous peoples' knowledge without due compensation (Posey 1990, Ramos 2006).

[33] In 2000 two journalists published *Darkness in El Dorado*, accusing James Neel and colleagues of a range of unethical behaviour during research carried out in 1968. Their accusations were refuted by the University of Michigan.

Recommendations and guidelines about the relevance of research to participants aim to avoid exploitation and redistribute power toward participants. A range of strategies, from varying levels of consultation to joint planning and/or carrying out of research, are recommended in order to ensure that research addresses the priorities and needs of participants (AIATSIS 2002, Stephens and Nettleton 2004, Eversole, Ridgeway et al. 2005, HRC 2008, WHO 2008). The 'participatory beginnings' to this project sought to respond to these concerns, but as discussed I did not find that participatory methods unproblematically facilitated redistribution of power in this context.

Interwoven with concerns of power relations in research ethics is the nature of knowledge and whose knowledge frames and informs research. As highlighted throughout this thesis, in the context of health research understanding and knowledge of what constitutes 'health' may not be consistently shared by all parties. In reference to research in Alaska, Canada, the United States and Australia, Cochran and colleagues point out that a challenge in doing good and useful research about indigenous people is how to work in the context of 'different ways of knowing' (Cochran, Marshall et al. 2008). If research should address the 'priorities and needs' of participants (WHO 2008), how is this best approached if there are different views about what these priorities and needs are? As discussed above a 'community' may not consistently share a single view, and 'needs' may be understood differently by some or all community members and health professionals. This thesis aims to recognise and explore potentially different understandings, while as far as possible avoiding imposing one way of knowing.

3.7.1 Practical challenges: an informed consent process to reflect different ways of knowing

A practical challenge in taking this approach arose in negotiating between the requirements of my institutional research ethics committees and advice of the indigenous federation regarding procedures to seek and record informed consent for community members' participation in the study. The approaches of each organisation reflected the ways in which knowledge is understood and acted upon in their respective settings. In this case these differed in respect to the level at which decisions are taken, and the role of paper and writing in recording knowledge and events.

The institutional process had been developed in a medical research context which includes research involving medicine trials and other physical procedures such as blood sampling. It

stipulated that participants representing individual households be given a paper record of information about the research, and sign or mark a paper consent document. FECONACO advised that this would not be acceptable in communities for two main reasons: i) the key decision about whether or not to participate was taken at the level of the community, rather than the individual household; and ii) people would not want to sign a document as this was not routine practice; paper documents were for legal processes and statuses such as land title and national identity cards. Given FECONACO's advice I was wary of creating false expectations of my position[34], the status of the research, and implications of participation, given that paper documents may usually be associated with much more significant events than participating in a survey or interview. Additionally, I felt it was inappropriate to ask people to sign or mark a document they could not read.

With advice from FECONACO I developed a multiple level process of approval and permission, outlined in Figure 3b, which incorporated formal community level discussion and permission prior to household level approval, and was similar to a three-level consent process described in nutrition research with indigenous people in Peru (Creed-Kanashiro, Ore et al. 2005). After explanation and negotiation with my institutional ethics committee it was agreed that if participants did not want to sign a form a witness could instead observe a verbal consent process and sign a form to say they had done so, following guidelines proposed by the Nuffield Council on Bioethics (2002).

[34] I explained that I was not a medical doctor and could not myself provide health care. Where people reported health problems to us we facilitated co-ordination with the Villa Trompeteros Health Centre for diagnosis, treatment, and in urgent cases evacuation.

Step and level of organisation/community involved	Language
Research plan concerning activities in communities approved by Indigenous Federation and written agreement signed by leader.	Spanish (sp/w)*/ English (w)
↓	
Letter to *Apu* and research summary prepared for communities, hand delivered by Indigenous Federation Health *Dirigente*.	Spanish (w) Achuar (sp)
↓	
Community meeting discussion to decide whether they want research to happen in their community.	Achuar (sp)
↓	
Apu contacts Indigenous Federation office by radio with response and questions.	Achuar/ Spanish (sp)
↓	
Indigenous Federation contacts *Apu* to confirm involvement and arrange data collection.	Achuar (sp)
↓	
Researcher and Indigenous Federation representative arrive in community and seek formal permission to begin from *Apu*.	Achuar/ Spanish (sp)
↓	
Household approached, overall research and specific activity explained, adult couple invited to participate.	Achuar/ Spanish (sp)

Figure 3b: Steps in developing research plan and seeking consent for research conduct and participation following Indigenous Federation and community decision-making processes
*(sp=spoken; w=written)

3.7.2 Process in practice

The process for both household survey (3.9) and interview (3.10) data collection (after the steps in Figure 3b) was then to approach the adult couple in the household; explain the proposed research based on the study information sheet (Appendix A3.3.1) and offer them a copy to keep; ask whether they had any question;, and invite the household to participate. Those who wanted to participate were then asked if they would like to sign or mark a consent form, with the caveat that they could still participate without doing so if they preferred to give consent verbally. The interpreter explained that this was a record for my university to make sure that I was doing the research properly, and that this was how things were done in my country, but it was difficult to make this explanation make sense in a setting so removed from the context the system was developed in.

People's reactions varied. Many began by welcoming us and saying they were happy to talk to me. Some who could read and write were willing to read and sign the forms themselves. Others who could write offered to provide a fingerprint instead as they said their signature was not very good for putting on my document. Others said they didn't want to sign

anything but did want to answer my questions; in these cases the interpreter signed the 'witness' section of the form. Some people who didn't want to sign said they were worried about what could happen to their signature, including whether it could be sold; and the interpreter explained of one couple '*they do not want to sign; their signature is their life'* (Community 2). Nine households (8.6% of 105 approached) declined to participate in the household survey.

While I fully recognise and support the underlying principles and intended outcomes of the informed consent process in health research, the written process in practice in this context primarily reflected the form and nature of knowledge of my professional discipline, rather than that of the research participants. Many were willing to accommodate a request to sign, but as fieldwork progressed I felt that this part of the process was largely separate from their understanding of the research and willingness or not to participate in it, and sometimes counterproductive, potentially causing worry and in two cases prompting people to say they didn't want to participate if signatures were involved. This is not seen as a criticism of particular procedures, but a reflection of the challenges of negotiating research between 'different ways of knowing' (Cochran, Marshall et al. 2008).

3.7.3 Institutional Research Ethics Committee Approval

Approval for the study was sought from and granted by the LSHTM Ethics Committee (Application Number 5474, 25 March 2009) and Cayetano Heredia University (UPCH) Ethics Committee (CIE) (*Proyecto* 55168, 15 April 2009).

3.8 Case study approach

Much of this thesis draws on a 'case study' of a cluster of communities in the mid Corrientes River. A case study design in health research has been seen as either an approach to sampling: the selection of a set of cases; or a distinct research design (Green and Thorogood 2009:45). Here I follow the latter interpretation understanding a case study as 'a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context' (Crowe, Cresswell et al. 2011:100).

A case study design establishes a specific setting to investigate a complex issue or phenomenon. Yin emphasises the significance of this 'real-life' context 'when the boundaries between the phenomenon and context are not clearly evident' (Yin 2003:13). This is important in this study as there are not clear boundaries between 'how young children are' and the social and physical context of their everyday lives. The case study

design is compatible with facet methodology, and provides a setting for survey and interview data collection described below.

3.8.1 Selection of cases

Although this case study is not seen as a 'sample', the selection of 'cases' is nonetheless important. 'Cases' here equate to geographically defined communities, officially recognised in the region as distinct '*Comunidades Nativas'* [native communities]. Case selection was driven primarily by practical considerations, but I was also careful to consider how the cases of interest related to others in the region. Case study approaches are sometimes criticised by those with positivist orientations for not being (or seeking to be) generalisable; or for falsely claiming generalisability when they are not a representative sample. In this study my aim was not to select a representative sample; this would not be appropriate to investigate a phenomenon, and even in the context of an epidemiological study with fixed understandings of health would be difficult in this context where there are substantial differences between different communities along the river, and between individuals within communities. By describing the methods for case study selection and analysis transparently I hope to show how the findings relate to the specific aspects of this case study setting, and therefore how they may, or may not, inform work in other settings.

Early in the research process I used census data collected by FECONACO/PEPISCO in 2007 to review the size of communities, age distribution and reported occupation of inhabitants, to identify any particularly unusual communities in relation to these factors (PEPISCO 2007a). From this analysis I found a slight trend in age distribution, decreasing from a mean (average) age of 21 years in the furthest downstream community downstream to 18 years in the furthest upstream community[35]. I also spoke to FECONACO staff and health workers, NGO staff and other researchers who had visited the area to find out about language spoken in communities, involvement in previous and current environmental epidemiology studies, proximity of petrol installations and affiliation to FECONACO/FEPIBAC.

Communities involved in the environmental epidemiological study were avoided, as I was concerned not to interfere with or be confused with this work. I was also wary of being associated with that study's focus on contamination, and of the potential for discussions with me to reflect the discourse of other researchers. As I had become involved in work in the region through FECONACO, which did not have a smooth relationship with FEPIBAC, I

[35] See Appendix A1.3

chose communities which were clearly affiliated with FECONACO. For logistical reasons, far upriver communities were avoided. A public river boat from Iquitos ran regularly up the Corrientes as far as mid-river communities, but upriver communities could only be reached with private hire of a boat and driver. Access by boat was reported to be limited in the dry season when the river level fell and was therefore not always navigable. This was also an area where Spanish was reported to be least widely spoken and inhabitants least familiar with and welcoming to visitors. I decided to choose sites where I would be more likely to be able to travel on public boat services, speak directly with some people[36], and where FECONACO staff indicated that a visitor would be more welcome.

The model of visits to communities in the region, both for research purposes and health service provision, tended to involve specially organised trips using privately owned or hired motor boats, with an emphasis on doing the work quickly and returning to a town. In contrast I had been keen to base myself in a community for an extended period, a suggestion quickly ruled out by FECONACO as impractical. As a middle ground I chose communities which were not easily accessible from Villa Trompeteros, so it would not be expected that I would want to travel back there to sleep each night.

These various practical considerations narrowed down the area of interest to a stretch of communities upriver of Villa Trompeteros, and south of Pampa Hermosa. For the household survey (below) I hoped to survey approximately 100 households, and using census data I identified a group of four neighbouring communities which together included 101 households. The process of seeking permission to conduct research in these communities was outlined in Figure 3b above. As explained below, a fifth neighbouring community was later invited to be part of the study and accepted. The communities are referred to subsequently as Communities 1-5.

This cluster of communities also overlapped with some of the physical sites, and individuals living in them, who had been the subject of anthropological research in the region in the early 1980s (Seymour-Smith 1984). While this was not a primary factor in selecting the case study area I was aware of it and hoped that the overlap might help to inform my work.

[36] i.e. in Spanish

3.9 Cross-sectional demographic and health survey

A further methodological strand was the use of demographic and health survey data to describe the place and its inhabitants in public health terms. This involved collating existing data; collecting new data; data management; and analysis. Epistemologically, this approach is situated firmly in the positivist tradition of natural sciences, in which observation of physical objects or events provides the basis for testing hypotheses in order to deduce 'universally true' information about the world. This epistemology is discussed further in Chapters 5 and 6 where findings based on these methods are presented.

Derived from demographic and epidemiological approaches to describing human populations, this approach uses 'indicators', quantitative descriptions of particular characteristics, to represent variables of interest. For example, the number of rooms in a house may be used as an 'indicator' of household wealth. A population is surveyed to systematically record information about these indicators for each unit at the level of interest, usually the individual person or household. In this approach, sampling is a central consideration as conclusions are drawn based on calculations and comparisons of proportions within a population. It is therefore important to know whether data has been collected from all or a small group of that population. If the data has not directly been collected from the whole population, the researcher will want to know whether, and to what extent, the group or 'sample' is similar to their neighbours. If they are similar, findings from a 'sample' can reasonably be expected to represent the whole population; if they are different, they cannot. For example, in this case if only Spanish speaking respondents in each community were surveyed they may for various reasons give different responses about 'child health' to monolingual Achuar respondents[37], so their responses could not be expected to be representative of the whole community. In this study I did not select a sample, and instead aimed to survey the whole community. However as I will discuss below (3.9.3), not everyone was present, or willing to participate, so the principles underlying issues of representativeness were still of relevance in data analysis and interpretation.

[37] For example Spanish speakers might be more likely to be in-migrants from outside the region with access to different resources, may have easier interaction with Spanish speaking healthcare providers, or may be more familiar with biomedical categorization of illness and align these readily with survey questions asked in Spanish.

3.9.1 Collation and assessment of existing data

My first step was to identify and collate relevant data which had already been collected in the Corrientes region. Advice was sought and received from staff at PEPISCO, FECONACO, the Loreto Regional Ministry of Health, Villa Trompeteros Health Centre, NGO Racimos de Ungurahui, and researchers who had worked in the region including those who had been involved in producing a 2006 'Analysis of the Health Situation of the Achuar' (MINSA 2006) which included substantial reference to the Corrientes river basin. Through this process the following sources of existing data were identified:

1) An annual population census of Corrientes River *Comunidades Nativas*, initiated in 2007 (PEPISCO 2007a, PEPISCO 2008a, PEPISCO 2009a).
2) Data sets produced by Villa Trompeteros Health Centre based on paper consultation records from the Centre and the region's three Health Posts. These concerned infant growth and vaccination monitoring (PEPISCO 2009c, PEPISCO 2009g); reported cases of child respiratory infections (PEPISCO 2008c); diarrhoeal disease (PEPISCO 2009b); and confirmed malaria cases (PEPISCO 2009e).
3) Ad hoc cross-sectional surveys investigating incidence/effects of population exposure to heavy metals (DIRESA Loreto 2006, ERI, Racimos de Ungurahui et al. 2007).
4) National census of indigenous communities undertaken in 2007 reported to include some Corrientes River communities among 57 surveyed in Andoas, Morona, Tigre and Corrientes Districts (INEI 2008b).

Reliability and completeness of this data was assessed (see Appendix A1.4) and on finding that it would not provide sufficient basis for analysis I designed a cross-sectional household survey to collect appropriate data. An important advantage of doing this was that I would be aware of any problems or inconsistencies in data collection, and avoid the risk of 'ecological fallacy', in erroneously applying population level data collected elsewhere in the region to specific case study communities.

3.9.2 Survey tool design

A cross-sectional household survey tool was designed based on a questionnaire developed for an international collaborative study of childhood poverty, 'Young Lives' (hereafter YL)[38].

[38] Now based at the University of Oxford, YL was initially developed with involvement of researchers at LSHTM whom I sought advice from.

Peru is one of four country settings for YL and the baseline study data (2002) of children aged 6-17 months includes substantial demographic and health components. This was collected using a carefully designed and justified questionnaire (YL 2003d, YL 2003b, YL 2003c, YL 2014), translated into Spanish, piloted and adjusted for use in Peru (Escobal, Lanata et al. 2003). The YL questionnaire was adapted for this study with removal of irrelevant sections and addition of a small number of questions from the National Census and Demographic and Health Survey, to facilitate later comparison with these data sets (INEI 2005, INEI 2007a).

Following the YL approach it was planned to survey approximately 100 households. Given the age structure of the population I estimated that this would include approximately 100 children aged 0-4 years, facilitating comparison with the YL data[39], and - for the health component - a similar level of detection of common illness symptoms to that in each YL cluster. Visiting this number of households was seen to be manageable by FECONACO staff, and within the financial resources of the study.

The approach taken to translation between Spanish and Achuar followed the YL study method of working in written Spanish and using interpreters where necessary (YL 2003a:10-11), confirmed by advice from FECONACO. Warned that the majority of households in the case study area would either not speak Spanish or prefer to speak in Achuar, I suggested that preparing a written translation of the questionnaire may be helpful for consistency, but (as with the research agreement) was told that FECONACO staff were used to working in written Spanish and spoken Achuar, and that a written Achuar translation would not be helpful.

The survey was piloted in Iquitos, firstly with colleagues and FECONACO staff in Spanish, then with FECONACO staff and occasional visitors to the FECONACO office from Corrientes River communities in Spanish and Achuar, with interpretation by two female FECONACO staff. It was agreed that one of these two female staff would accompany me during fieldwork in the communities to act as an interpreter and guide. After each pilot session we discussed the questionnaire and I made amendments as necessary, for example by adding locally appropriate prompts to lists of food categories. We discussed translation and how best to explain some categories in the questionnaire which the interpreters advised might not be understood as intended, such as questions about events occurring within a

[39] The data sets vary according to a number of factors so this is done with caution, as explained below.

particular timescale. This led me to remove some questions and to be aware of potential queries about others. In addition, one further alteration was made to the questionnaire after beginning fieldwork, adding three questions about household ownership of hunting and fishing equipment (5.2.4). These were added on suggestion of the interpreter/guide when we found that some listed items were very rarely owned by households, and we were not asking about hunting/fishing equipment which was more frequently owned. The full questionnaire is appended in A.3.3.3.

3.9.3 Survey data collection

Data collection was undertaken in five communities from 25 April – 15 May 2009. This period was selected to coincide with school term time to reduce the risk of families being absent. Families make extended trips '*al monte'* into the forest, away from the community, to hunt, fish and forage, but FECONACO advised that families generally avoided travelling during primary school term time, so that their children could attend classes, and that we would only find whole families missing if we arrived during school holidays. Data collection was therefore timed to coincide with term time.

FECONACO assisted with logistics, providing a motor boat, male boat driver and female interpreter/guide. The interpreter/guide had a six month old baby, and proposed bringing a female cousin who helped her to care for the baby and cook for us, and her younger brother as a general assistant. We formed a team of six, including the baby. Costs of fuel, food, research materials and daily *per diems*[40] were met from my fieldwork funding.

The process for seeking informed consent for participation at three levels (Indigenous Federation, community and household) was discussed above (3.7). When we arrived in each community we therefore firstly visited the *Apu*, then unloaded our belongings to the household of a family member of one of the team, or in one community a spare community building as directed by the *Apu*.

I drew a map of each community, marking each house, and verified this with community members to make sure no houses were missing. We then visited each household in turn. The definition of a household, based on the YL Study protocol, was 'all the people who usually contribute to the family budget, who share meals, [and] who have not moved permanently somewhere else'. This is not based exclusively on residence in a building, i.e.

[40] At the standard daily rate paid by health services and visitors to FECONACO for local assistance.

under this definition an extended family sharing sleeping space and a cooking fire, but preparing meals separately, would be classified as two households. This was appropriate for the setting, as sometimes a number of adult children with partners and young children shared living space with their extended family, but provided and prepared food in smaller, distinct units.[41]

The questionnaire was primarily administered to the primary female caregiver in the household, but in some cases they answered questions together with their male partner, or the male answered the majority of questions, occasionally consulting with his partner. The interpreter and I visited each household together, often accompanied by her baby. I read out each question in Spanish, she interpreted where necessary in Achuar, then reported answers to me in Spanish which I wrote down. Where participants understood Spanish I spoke directly with them, but they often preferred to answer in Achuar, and often sought clarification from the interpreter in Achuar.

Data collection in Community 1 proceeded as expected, with nineteen households participating, one absent and one declining to participate. In Community 2 however, an unexpectedly large proportion of households (n=8; 20.5%) were absent, having gone away *al monte* into the forest for several weeks to collect food. Three households declined to participate and two were not approached, one due to recent bereavement and one due to urgently seeking health care[42], resulting in the survey covering 22/35 (62.9%) of households. I was concerned about the data unintentionally becoming a sample rather than a full cross-section of households and we discussed strategies to address this, including revisiting the community later in the data collection trip when the 8 missing households may have returned. Team members were extremely reluctant to do this. The atmosphere in Community 2 was unsettled. The interpreter had concerns about the well-being of her baby, and the whole team, while we were there. The boat driver shared her concerns and additionally raised logistical constraints, as Community 2 was the most distant and a return trip would require more fuel and time than our supplies and schedule allowed. Both our fuel supplies and timing had already been affected by the use of our boat and fuel for an evacuation trip (see previous footnote) to Villa Trompeteros, compounded

[41] This was often explained as a temporary arrangement, which could extend over many months, for example while a young couple was building a new, separate house, or while a father was away working for the company.

[42] Our boat and driver were used to evacuate a young family to Villa Trompeteros to seek urgent health care. The baby was diagnosed with malaria and dehydration, and the family returned several weeks later after treatment.

by an engine malfunction during the return journey needing a spare part to be sent via *Pluspetrol*'s transport system from Iquitos.

I decided that although I would continue to endeavour to collect as complete survey data as possible in each site, it was more important to maintain good relations and try to gain some understanding of the phenomenon which was unsettling the team than to try to force them to return to somewhere they had become very keen to leave. In order to survey the intended 100 households FECONACO contacted an additional, neighbouring community, which joined the study. This was down river on the return journey to Iquitos so required no additional fuel.

Appendix A1.9 describes household participation in the survey by community, and explores implications for data analysis.

3.9.4 Survey data management

Data were recorded in pencil on printed paper questionnaires, stored during fieldwork in plastic sleeves, inside plastic boxes, to protect from water damage. During afternoon rest periods I checked through the previous batch of questionnaires to identify any missed sections or obvious errors, and we revisited participants where necessary. Each household and individual was allocated a numerical code so that names could be removed for confidentiality.

After returning to Iquitos data was double entered into a password protected Epi-Info database. I first reviewed each questionnaire, clarified any handwriting that was difficult to read, crossed through blank sections and checked the numerical coding of each household and household member. I then entered the data into version A of the database, and passed the questionnaires in batches to a research assistant for double entry into version B. The research assistant was a native Spanish speaker from Iquitos with experience of questionnaire data collection and entry. I provided written guidelines for data entry and three training sessions, and was available to answer queries which arose during data entry. The database incorporated interactive checks (as the data is entered), for example age ranges allowed for children (Muñoz 2005:313), and after double entry a validation check was run to systematically compare version A and B, correct errors and produce a final checked dataset (Bennet, Myatt et al. 2001).

I then imported data into statistical analysis software for cleaning and analysis, following guidelines for data management in household surveys and health research (Buckingham

and Saunders 2004, Juul 2008b, Juul 2008a, Muñoz March 2005). Electronic files were password protected, and the original paper files stored securely in a locked office. During analysis I kept a log of analysis steps and new variables created.

3.9.5 Survey data analysis

I carried out statistical analysis, primarily using STATA statistical analysis software, and additionally SPSS and Microsoft Excel where appropriate.

As described above, the household survey was designed as a cross-section of the case-study communities, collected at one point in time. Because a number of households were missing or declined to participate the overall survey response rate was 74.4% (96 households surveyed out of 129 identified in 5 communities): not a complete cross-section. A series of analytical steps were therefore undertaken to check whether the non-respondents were likely to be systematically different from respondents in a way which may influence study findings (Altman 1991:131). These drew on information gathered from other community members during survey data collection, and comparison of household survey data with PEPISCO census data. Methods and findings are described in detail in Appendix A3.5. Based on this analysis, there was no evidence of systematic difference between missing households and those participating in the survey.

I analysed household survey data in two stages. In the first stage, simple descriptive techniques such as calculation of frequency counts and percentages (stratified by age group and gender where appropriate), mean and standard deviation were used to describe the data (Glewwe and Levin 2005). Where appropriate, the chi-squared (χ^2) test was used to compare proportions, means or prevalence between groups. In the second stage, household survey data was compared with secondary data from other sources. In order to do this household survey data was recoded to match categories used in other sources and frequency counts, percentages and means were calculated where appropriate. Appendix A5 lists the secondary data sources and describes the population represented by each.

This secondary data includes two sources not described in the initial data collation stage: the 'Healthy Families' Project, and a Health Centre nutrition survey. During a visit to Villa Trompeteros I became aware of the 'Healthy Families' project, an intervention funded by Pluspetrol and run by NGO Cáritas del Peru with the objective of 'contributing to the improvement of health and nutrition of the infant population of indigenous communities in the basins of the Pastaza, Tigre and Corrientes rivers' (Cáritas del Perú 2006a:13) (see 5.4).

This was arranged directly with communities without involving FECONACO or the regional health system, and staff from these organisations were unaware of it as a health intervention.[43] The Health Centre nutrition survey, which had been planned for some time and repeatedly postponed, was carried out shortly after I completed household survey data collection.

These sources of data included both i) samples selected to represent specific populations, and ii) surveys of all available members of specific populations, in populations of different sizes. Mixing these different types of data in statistical analysis entails different and more complex considerations and analytical steps to those needed for simpler calculations based on one dataset. Because this was one section of a wider thesis, rather than the main focus of the project, analysis was limited to calculating frequency counts, percentages and means within each dataset. A further layer of analysis, using statistical methods to compare odds ratios or means between populations was beyond the scope of this thesis. Had this been the primary aim of the project, the survey would have been designed differently to include more households and facilitate these comparisons. Discussion of the context of each dataset, the population it represents, and the conclusions that can be drawn from each source of data are carefully considered in Chapters 5 and 6 to make this limitation clear.

3.9.6 Implications of cross-sectional data

A cross-sectional survey provides information about a specific population at one point in time. This temporal boundary simplifies data collection for both the researcher and participants, in that it does not require the repeated visits or tracing of participants involved in longer term studies which collect data over longer periods of time. In this case, it was a practical option in a short-term project with limited budget.

In analysis and interpretation of data, the temporal aspect has important implications. One cross-sectional survey will produce information about one specific point in time and therefore not capture seasonal variation in factors of interest, for example in this study variations in food availability or infectious disease. In research about illness, cross-sectional survey data is used to calculate prevalence (number of cases at one point in time in a specific population) rather than incidence (number of new cases arising over a specific

[43] After meeting Cáritas staff in lodgings in Villa Trompeteros I facilitated introductions to FECONACO and health centre staff and the Cáritas team gave presentations about their work to both organisations. The Cáritas project was referred to locally as being about building ecological toilets rather than health and nutrition.

period of time in a specific population) (Last 2000). Additionally, when studying a mobile population, only the people present at the time of the survey will be included, as discussed above. When comparing cross-sectional data from studies conducted at different times, it is important to take this difference in time period into account.

3.10 Qualitative methods

The final methodological strand of the thesis was based on analysis of local accounts of 'how children are' collected through semi-structured interviews. Here I sought to interview both community members and individuals employed to provide a service to communities which in some way related to children. These were primarily health service staff but also school teachers, employees of the Cáritas Healthy Families project and Pluspetrol community liaison employees, henceforth referred to as 'employed professionals'[44].

3.10.1 Interview design and piloting

A core topic guide was developed in Spanish with an overall aim of encouraging participants to talk about 'how children are', without restricting the content of this discussion to my prior expectations or understanding of children's 'health'. I drew on approaches used in an LSHTM linked study of health and well-being among indigenous people (Bristow, Nettleton et al. 2003:5), and themes explored in open-ended interviews in Izquierdo's study of well-being in Matsigenka communities in the Peruvian Amazon (Izquierdo 2005). The terms *salud* [health] and *enfermedad* [illness/disease] were avoided as far as possible, with *bienstar* [well-being] instead used to introduce the study[45]. Choice of discussion themes and language used was also informed by observations made during time spent based in the FECONACO office in Iquitos and visits to the Iquitos regional hospital and Villa Trompeteros Health centre.

The core topic guide was then slightly adapted for three groups of interviewees: 1) parents of young children in communities, 2) community members with formal roles (*Apu, Madre Indigenas*, health promoter, pastor, FECONACO *dirigente*), who also sometimes had young children, and 3) individuals employed to provide a service to communities. The full topic guide is attached in Appendix A4.1. Interviews began with discussion of interviewees' own young children (for parents), children in the community (for community members with

[44] See discussion in Introduction to Part III of description in Chapters 7-10 as 'outsiders'.

[45] *Salud* was used in some documentation, following local advice during the ethics review process, but *bienestar* was used in discussion and explanation.

formal roles) or children in the case-study cluster of communities (for employed professionals), then moved to 'living well', care and protection of children, dangers or serious problems for children, and discussion of a vignette of 1 year old infant with diarrhoea and fever symptoms, where these came from and how children could be protected from these. Those who held formal roles or were employed to provide a service were also asked about any particular responsibilities, policies or practices in relation to young children which these roles/services entailed, and their experiences of providing these. A number of respondents also provided me with copies of policies and reports related to this work[46].

To collect data with parents I initially planned to use focus group discussions, as I was keen to elicit women's opinions as primary care givers and had found during pilot visits that small, informal gatherings of women which occurred naturally over domestic tasks gave the best opportunity for this, as when men were present women often stepped back from the main stream of conversation. During household survey data collection, however, we were initially met with scepticism in one community who had recently been visited by a team undertaking research[47] who had caused offence by convening a large discussion group and asking questions which community members reported included: 'if a man has more than one wife, how does he decide which wife to share a bed with each night?' They said this was very bad and they had 'thrown out'[48] these visitors. The interpreter explained that we were separate from these people, came via careful planning and agreement with FECONACO and would not ask anything so inappropriate. She suggested to me that I avoid planning group discussions and instead visit house by house, and I adapted plans accordingly.

Topic guides were piloted in Iquitos with visitors from Corrientes River communities, FECONACO staff, and Iquitos based health service employees not linked to the Corrientes region, with, where necessary, the assistance of an interpreter who was later involved in data collection. The interpreter and respondents were asked for feedback about the content, appropriateness and clarity of questions, and also gave helpful advice about phrasing and how to interact with interviewees. Interview guides were revised and

[46] Before accepting these I sought permission from the Head of Villa Trompeteros Health Centre and the leader of the Cáritas Project team.

[47] A private consultancy employed by a petroleum company to carry out a baseline Social/Environmental Impact Assessment as part of planning new oil extraction activities.

[48] *lo han botado*.

repiloted incorporating these changes. As with the household survey, I suggested written translation into Achuar, and was advised that this would not be helpful for the translator and that no-one was willing to do it. I was particularly concerned about the potential for misunderstanding in translation in these interviews (Pelto and Pelto 1978:80) and discussed this concern with the translator and other FECONACO staff. They reviewed the topic guide again, explained that it wasn't difficult for them to translate consistently, and that they were happy to discuss responses from community members that I didn't understand. This didn't address all my concerns but did reassure me that they were aware of the issue of translation and open to discussion about it during data collection.

3.10.2 Interview data collection

Data collection was undertaken between July and September 2009. Unlike the household survey data collection trip, I travelled with one female interpreter/guide. We used the public *'lancha'* riverboat service to get to and from the mid-river area, and travelled between communities and Villa Trompeteros in small individual or community-owned boats.

Two of the five case studies communities (previously visited for household survey data collection) were revisited for interview data collection; these were selected because we had established particularly good relations with the *Apu* and *Madre Indigenas* and been urged to return. I planned to interview every mother (or household head if fathers preferred to be involved) with one or more children aged under five years, who was present and willing to participate. I hoped to interview 5-10 families per community, (a total of 10-20 across both communities) and was pleased to find a total of 28 eligible and willing to participate[49], as well as 8 individuals who also held formal roles in the communities. Interviews with community members included a mix of just women, women and men together, and men alone where they held specific community roles. I led these interviews in Spanish, with the interpreter/guide present, and in most cases an additional female interpreter from that community. In one community this was the *Madre Indigenas*, in the other a young woman who had just completed high school education. Appendix A4.2 summarises the interviews conducted.

Interviews with employed professionals were carried out in a Health Post in a community neighbouring the case study area (n=2), Villa Trompeteros (n=16), Pluspetrol offices near

[49] Eight families declined to be interviewed.

Villa Trompeteros (n=1), and Iquitos (n=3). I aimed to approach all relevant individuals, identified by observation and word-of-mouth. Twenty-three people were approached, twenty-two were interviewed and one declined to participate. I conducted these interviews in Spanish.

Consent procedures in communities followed those described above for the household survey with the addition of a question about permission to make an audio recording of the interview. Permission was given for 24/28 parent interviews and 7/8 interviews with community members holding formal roles. Employed professionals were all competent in written Spanish, and completed a consent form which included a question about audio recording for which 21/22 respondents gave permission.

Interviews took between 15 minutes and 2 hours 20 minutes, sometimes conducted in two parts to fit around respondents' daily activities.

3.10.3 Interview data management

All interviews were recorded in handwritten pencil notes, and digital audio recordings were made where permission was given. Where audio recordings were not made I was particularly careful to make full notes and repeat back key phrases from my notes to the interviewee to check accuracy and my understanding.

Audio recordings were transcribed by a Peruvian Spanish speaker. This provided an additional language check from a native Spanish speaker. I then systematically checked and corrected transcripts line by line using the audio recording, noting regional terminology and any sections or whole interviews where I was unsure about the accuracy of translation from Achuar (for example if a long exchange in Achuar was translated very briefly in Spanish). I later checked regional terminology with colleagues, and an Achuar speaker not previously involved in the study listened to the noted sections of the audio recordings and independently translated them into Spanish. We then compared and discussed the two versions: this resulted in minor corrections to the Spanish and reassured me that there had been no obvious systematic misunderstanding, for example of one question or concept, in translation in either direction.

3.10.4 Approach to translation of qualitative data

Before describing methods of analysis, it is helpful to clarify the approach to translation of material in this analysis, which was generated in Achuar and Spanish, transcribed in Spanish, and discussed in English. In translation theory, approaches to translation have been described in terms of a continuum between bias to the source language at one extreme, and bias to the target language at the other (Hervey, Higgins et al. 1995:13). Extreme bias[50] to the source language involves preserving as far as possible its grammatical structure, and 'literal' translation of words (although this is not unproblematic), while bias to the target language uses idiomatic and grammatically correct structures within that language (ibid.). During the process of this research, approaches from along this continuum are likely to have been used; sometimes by others interpreting between Achuar and Spanish, elsewhere by myself translating written Spanish transcripts (themselves sometimes a secondary product of spoken responses in Achuar) into English. In analysis I worked with written transcripts in Spanish, and where I translate written records of speech into English to describe or discuss here, I have adopted an approach of bias to Spanish as the source (or intermediate source if translated from Achuar) language. This approach was taken partly to minimise additional interpretation (and alteration) of the data, and also to reflect the process of analysis, where Spanish terms and phrases were used to 'think with' until the point of writing for an English speaking reader.

Enfermedad **[disease, illness, sickness]**

In English three terms, 'disease', 'illness', and 'sickness', are sometimes used interchangeably but understood in medical anthropology/sociology to signify tacitly different concepts. To crudely summarise a wide literature these can be described as illness: self-defined ill-health; disease: a clinically diagnosed condition; and sickness: the social role of not being healthy. In Spanish, one main term, '*enfermedad*', is used in all three contexts, as well as '*malestar*' [bad or ill-being], used in opposition to *'bienestar'* [good or well-being].[51]

[50] 'Bias' is not used here in a negative way.

[51] Authors of a study of Latino use of home remedies in London (Ceuterick, Vandebroek et al. 2007) described the translation of *enfermedad* as 'disease' or 'illness' and discussed the use of *enfermedad* and *malestar*, associating *malestar* with 'discomfort', a slightly different use to that which I found.

In this study, where there is also translation between Spanish and Achuar; interpreters advised that *'bienestar'* and '*malestar*' fitted better with Achuar terms and understandings than '*salud'* [health] or '*enfermedad*', although I found that they used '*enfermedad'* in relation to what I describe in Chapter 8 (8.4) as 'clusters of illness'. They also suggested being *'fuerte'* [strong], associated with the ability to work, carrying out normal daily tasks, as a more appropriate alternative to '*sano'* [healthy][52].

Where I translate study participant's accounts from Spanish I use the term in English which I feel most appropriately fits the intended meaning in each context, following a 'bias' to the source language, described above. This sometimes results in the use of terms such as 'unwellness' and 'ill-being' which while understandable are not in common use in English.

3.10.5 Analysis of qualitative data

Qualitative data was analysed in three main stages. NVivo 8 was used to store and manage coding of transcripts. In the first stage, interview transcripts provided the data for thematic content analysis based on the *a priori* themes around which the qualitative interviews were structured (Ezzy 2002). Within each broad theme, a set of codes was developed to categorise sub-groups and their attributes. Deviant cases were identified and sub-groups modified/created to account for them. A descriptive account of each theme was produced. I found this unsatisfactory as some of the material I thought was important didn't 'fit' into these themes, and the analysis seemed shallow.

In the second stage, the *a priori* themes and content analysis structured around them were put to one side, and the data was recoded using an inductive approach. All codes arose from the data, either as *in vivo* codes (used by participants themselves) or from reflection on the relations between these, rather than *a priori* themes (although these had clearly informed the questions asked and hence some of the subjects discussed by participants). In order to move beyond descriptive categories to conceptual labels (Green and Thorogood 2009:203), I found Strauss' 'coding paradigm' helpful; this suggests consideration of 'conditions, interaction among the actors, strategies and tactics, consequences' (Strauss 1987:27-8). I used this list of considerations to 'open code' ten interviews (five from community members and five from employed professionals), then grouped and regrouped the codes, and added new ones, as I worked through the rest of the interview transcripts.

[52] A similar use of '*fuerte*' was noted by Gow among communities of the Bajo Urubamba in the early 1980s: 'they define health by saying they feel *fuerte*, 'strong', and willing to work' (Gow 1991).

During this process I also started to write memos, which I used to evaluate codes, develop categories and ask analytical questions (Charmaz 2012), and 'keep track of', link and 'build up' theoretical ideas (Strauss 1987:18). To test emerging categories I looked for contradictory cases in the data, and found that I also kept referring to my fieldwork diary, kept as a personal record rather than seen as 'data', for notes about my observations of day-to-day events and the context of data collection. This led me to then also code sections of this diary, treating it as another form of data, but taking care not to closely describe any personal information about individuals, or directly quote things I had noted down which individuals had said to me[53].

These methods draw on an approach developed by sociologists Glaser and Strauss, referred to as 'grounded theory': an approach to develop theory 'grounded' in an iterative process of constant comparison of data (Glaser and Strauss 1967). An important aspect of grounded theory research is 'theoretical sampling', in which initial analysis informs decisions about subsequent data collection. I began to use these methods after conducting all the interviews, so do not see my approach as using true grounded theory methodology, but have found the aspects of it which I draw on very helpful.

As the analysis developed, I identified 'hooks' in the data and memos which resonated with existing bodies of social theory. This was an iterative process of my own coding and recoding of data in conjunction with reading sociological and ethnographic literature and discussion of excerpts of data and my emerging interpretations with colleagues. I explored these 'hooks' by reviewing original theoretical work, and empirical work which drew on these theoretical approaches. I used this process to learn more about the bodies of theory, and set aside those which while initially appearing promising were not 'useful to think with' in the context of these data. I identified two main bodies of theory which helped to generate useful questions to ask of the data, addressing different aspects of the data and of the social worlds of the respondents, in relation to 'how children are'. These form the theoretical framework described in Chapter 2.

The third stage of analysis, informed by the idea of constant comparison of data, drew on the categories developed from analysis of interview data and fieldnotes, which were then considered in relation to other forms of data, and the social theory described in Chapter 2. This is discussed below.

[53] With the exception of individuals who specifically asked me to report things they told me, or asked to be identified by name, such as Ana Hualinga Sandi pictured in Chapter 4.

3.11 Thinking across methodological strands

The final methodological point to discuss is the use of data generated through different methods to form knowledge about 'how children are' which draws across disciplinary boundaries. This was seen as a further stage of analysis, taking the products of separate methodological strands, already analysed within their discipline, and considering them in relation to each other. This echoed and extended both Said's methodological device 'strategic formation' (3.5.4) and the iterative 'constant comparison' of qualitative data analysis (3.10).

Continuing this process of constant comparison, I drew on the themes developed from analysis of interview data and field notes, considered in relation to household survey data, findings from the critical review of archive material, published ethnographic material from the region, and the theoretical framework described in Chapter 2. While contradictory cases are helpful to test emerging themes, putting together different ways of thinking can initially reveal more contradictions than themes; here I found Bourdieu's concepts of habitus and field helpful tools in thinking about relations between and within themes. Together with a process of 'objectification of the object' (described in (2.3.5) and (Introduction to Part III)), these helped me to see and think constructively about intersections in understandings of 'how children are', rather than focusing on gaps between them. By taking a critical approach to categories, introduced at the beginning of the thesis (1.1), I was able to take an analytical step away from the tacit understandings implicit in Public Health terminology and methodology, recognising its perspectival nature, and propose an alternative conceptual approach to thinking about 'how children are' at the interface of different ways of knowing. This is discussed further in Chapter 10.

Introduction to Part II: The Field and Public Health

Part II of the thesis explores external perspectives of the Corrientes River region as a social and physical context for 'how young children are', addressing Research Questions 1 and 2:

1) How is the Corrientes region, the place and its inhabitants, described by outsiders?
2) What is the social and physical environment for children's health, as understood in public health terms?

To do this, I analyse and discuss two bodies of information. The first is an archive of externally produced material about the Corrientes region, systematically analysed to identify 'representations' drawn on and formed within the material (Chapter 4). Following Said (1978), this material is seen as both representing understandings of the place and people, and contributing to the formation of these understandings.

The second main body of information is of a different nature: primary household survey data collected in five communities in the mid-river case-study area. This type of data, and the methods used to analyse it, draw on public health understandings of the relationship between the physical and social environment in which individuals live and work, and human health (Chapter 5). This Chapter also describes the health services available for children in the region, an important aspect of the context for 'how children are' from a public health perspective.

Chapter 4: Surveying the field: representations of the Corrientes

Figure 4a *Madre Indígenas* Ana Hualinga Sandi looks at an image of herself published in the UK in the *Guardian* newspaper's *Weekend* magazine (2009).

'Texts..... circulate without their context, that is, without the benefit of being accompanied by everything they owe to the social space within which they have been produced' (Bourdieu 1993:263)

4.1 Introduction

This chapter provides an overview and analysis of the ways in which the Corrientes region and its inhabitants are presented to regional, national and international audiences in different fields. Conceptually and methodologically it is informed by Said's analysis of representations of 'the Orient' (Said 1978:14-15). The specific methodological approach was described in Chapter 3 (3.5). Through this analysis, I seek to consider both the context within which materials were produced, and how their production in turn contributes to shaping this social space (Bourdieu: ibid.).

Approaching this project I was aware that the political and social context of the Corrientes basin was complex, and given the range and nature of individuals and groups involved -

including community members, two separate indigenous federations, multinational businesses, the state, and regional, national and international NGOs (1.3) – likely to be contested. In order to gain some familiarity with this context I found it helpful to review the ways in which the communities present themselves, or are presented by others, to wider society. As well as directly informing my research this was also helpful to prepare me for interactions in and around the field.

This chapter summarises the main approaches and themes identified through this process, and relates them where appropriate to contemporary national discourses about native peoples from the *selva* [forest]. This topic could form an independent thesis, hence is focused in temporal scope between a key event in 2006 and the main 2009 fieldwork period. This chapter is intended to form a rough social landscape 'set', populated by 'real' characters through empirical data in subsequent chapters.

The sources drawn on include media materials, corporate websites and documents, government reports and policy documents, academic and grey literature from a range of disciplines. A recurrent theme in this thesis is that of moving between multiple perspectives. Reviewing material from different sources necessarily involves a range of perspectives; in this chapter, my aim is to identify and describe these different perspectives about the case study communities.

4.2 Authors, audience and purpose of materials

The figure below outlines whom sources of information about the Corrientes are produced by and their intended audience and purpose. Full details are given in Appendix A1.

Authors	Format, intended audience and purpose of material
Hydrocarbon industry (*international hydrocarbon exploration and extraction companies have been active in the Corrientes zone since 1971)*	Publicly available written material about company activities produced for shareholders, the general public, prospective employees and regulators.
NGOs and advocacy groups *(national and international environmental, civil society and indigenous rights groups are active in the region)*	Written material and films about the situation of human populations and the environment produced for advocacy purposes, for supporters, civil society and the public.
Academic researchers *(from the disciplines of anthropology, biology, geography, epidemiology and medicine have visited and written about the region during the period 1970-2010)*	Written material produced primarily for academic and professional peers, may also contribute to NGO materials, media reports/programmes.
Local, regional and national government	Reports and policy documents produced at the local, regional and national level concerning sectors such as health, education and mineral resources include information about the Corrientes. These are produced to state or inform policy, for staff and the public.
Local, national and international media	Media reports include accounts of specific events that have occurred in the Corrientes, and feature stories about communities. These are sometimes prompted by press releases produced by the petroleum industry/NGO groups.

Figure 4b Sources of information about the Corrientes region drawn on in Chapter 4

The remainder of this chapter discusses how the Corrientes region is presented in material from these sources. It is divided thematically as a remote site in the *selva;* a resource; a contaminated place and people; and as a site of struggle. These divisions reflect themes emerging from the material, although the categories are not entirely unproblematic. In each case they are seen as providing a perspective on the field, to be aware of in contextualising the study. They are not intended to be interpreted as strictly bounded categories, nor as statements of 'fact' (although much of the material drawn on is presented by its authors as factual accounts), rather groupings which reflect interpretations

presented by different groups of particular contemporary intersections of histories, activities and interests in the Corrientes.

4.3 The regional setting: a sunrise over water with oil, tree and fish

Figure 4c Loreto Regional Government symbol and slogan (GOREL 2012)

Before focusing directly on representations of the Corrientes, a brief consideration of representation of Loreto, the regional setting, provides helpful context. Loreto, Peru's largest region, forms almost one third of the nation's territory. The regional government's official symbol (Figure 4c), which adorns banners, employees' uniforms, buildings and streets in the region's capital, features a combination of icons set in the outline of a regional map. The backdrop is a sunrise and a large area of water, inhabited by a fish, an oil installation and a tree. This combines the forest and waters of the Amazon, the river fish which provide food and livelihoods for local residents, beautiful sunrises over the landscape for which the region is famous, and the oil industry which has a significant role in the regional and national economy. Except for the man-made oil installation, the symbol's constituents are natural. The regional slogan, '*grande y fuerte*' [big and strong] alludes to the large land area of the region, as well as the regional government's proud declaration of the region's strength. Awareness of these features which the regional government chooses to display and highlight provides a backdrop for analysis of representations of the Corrientes.

4.4 A remote site in the *selva*

The first dimension of representation of the Corrientes is as a remote site in the forest. This emerges in materials prepared by and for a range of authors and audiences who share the characteristics of being from outside the region, and themselves both physically and socially distant from it. Diverse written materials prepared by and for the international

hydrocarbon sector (Focus Reports 2011a), international medical professionals (Fraser 2006), local and international human rights and environmental advocates (ERI, Racimos de Ungurahui et al. 2007, Orta Martinez, Napolitano et al. 2007), academics (Santos-Granero and Barclay 2000, Perrault-Archambault and Coomes 2008), national government (OSINERGMIN 2009) and the Peruvian general public (La República 2006e) describe the Corrientes as isolated, distant, remote and inaccessible.

This sense of remoteness is described explicitly by some authors as a relational property, anchored in direct comparison with a familiar, non-remote place or entity. This may be for example a capital city:

> 'Achuar, Quichua and Urarina native communities, located hundreds of kilometres away from the capital' [S] (La República 2006b)

Or specific amenities, such as health services:

> 'The nearest hospital is in Iquitos, the departmental capital, a 2-day trip by riverboat.....three communities have health posts staffed by one or two nurse technicians....the most distant is 4 days away by riverboat'[54] (Fraser 2006)

In these descriptions physical distance is set in relation to specific places – the 'capital', with its plethora of people, services and amenities; the hospital and health posts. In the second example this is entwined with the amount of time needed to travel through distance between places. Physical distance is compounded by lack of transport. Describing a cluster of upriver communities, NGO Earthrights International and colleagues report in their general description of the communities:

> 'The five communities are extremely isolated. Except for helicopters and planes operated by the oil companies, the communities are only accessible by a two-to-three day boat trip upriver from Iquitos, the capital of the department of Loreto and nearest commercial airport...The upper reaches...are only accessible by small

[54] The indicative times given here relate to journey times for outsiders using high-powered motor boats in good climatic conditions. Health post staff during the fieldwork period in 2009 frequently travelled by the public riverboat service, which arrived every 5-14 days, travelled more slowly and sometimes broke down. Staff were also occasionally able to request 'coupons' from Pluspetrol to fly on the company's daily services for its own staff between Trompeteros and Iquitos, taking 25 minutes.

> boats or canoes. Travel between communities can take hours or even days by foot and canoe' (ERI, Racimos de Ungurahui et al. 2007)

A lack of transport contributes, in this account, to turning physical distance into physical inaccessibility. It is also related by some commentators, tacitly or explicitly, to social distance between the Corrientes and national society. A lack of representation of the state in the area is identified, and described in relation to difficulties in getting there. Discussing a visit to the region by a government delegation in 2006 during a period of conflict (4.7), Scurrah and colleagues note that the government relied on logistical support from Pluspetrol to travel to the region, and that after the Prime Minister requested the Ombudsman's Office intervene in the situation they were also 'helicoptered in' by Pluspetrol (Scurrah and Bebbington 2013:182-3). In order to participate in contemporary events in the Corrientes, the state had to get itself there, and was ill prepared to do so, relying on the hydrocarbon company's private infrastructure to be able to travel. Over the same period a national newspaper reported policemen travelling to the area:

> 'around 40 police officers flew to the area by plane, to provide security in the conflict zone' [S] (La República 2006a)

In these descriptions, the role of the state to participate in or shape events is mediated by the ability of its representatives to reach the region, which is affected by both the distance of the region from where they are based, and the availability of transport to get there.

Representation of the Corrientes as 'remote' is thus composed in this range of outsider's accounts as relational, and influenced by time taken to get there, possibilities of transport, and the absence or presence of the formal state. This resonates with a long regional history of the Amazon as distant, and a frontier to be 'tamed' (Santos-Granero and Barclay 2000).

4.5 A resource

The second representation discussed here, of the Corrientes - or aspects of it - as a form of physical resource, is common across a range of sources. The type of resource it is seen as, who classifies it as such, and who is seen to exploit it or benefit from it varies.

4.5.1 'The Corrientes Field': a site of hydrocarbon resources

This first conceptual category of the Corrientes, as a site of hydrocarbon resources, is the most internally consistent of the categories or groupings discussed. A product of international business practice and associated discourse, the category is structured by

external, generic reference points and situated very distantly, in terms of both physical space and ontology, from day-to-day human activity in the communities.

The sources from which this category is derived are produced by multinational companies to provide information to shareholders, business associates and regulators, and by agencies of the national government facilitating and encouraging these companies' presence in Peru. They are produced as part of routine business practice which is widely established and replicated across international sites and business sectors. For example company annual reports and accounts, which describe a company's activities over the previous year, are required by regulators to be prepared and publicly disclosed. Those responsible for compiling and producing the sources discussed here are therefore unlikely to be directly, locally involved in the processes which they describe.

Although the sources are produced for an international business market, they ultimately relate to a set of processes upon which both other categories described below and some aspects of daily life in the site are contingent.

Here the subject of the material and information it imparts about the site is summarised, then the 'strategic' location of the author is examined, and brief analytical conclusions are drawn. Individual authorship of the majority of these sources is not identified in documents; hence the business or state entity accredited is referred to as the 'author'.

History of concessions, exploration and extraction

In petroleum terms the Corrientes region is described as situated in the Marañon basin, which is one of 18 'sedimentary basins with hydrocarbon potential' in Peru (Perupetro 2010, slide 5). Under the Peruvian Constitution natural resources are the property of the nation, and the state governs their exploitation. Concessions for exploitation can be granted by the state to private individuals (Congreso del Perú). When a concession is granted, 100% of the hydrocarbons produced are the property of the concession licence holder (Perupetro 2010).

In 1952 the Peruvian government introduced the country's first national 'Petroleum Law' incentivizing petroleum exploration[55], followed in 1969 by a further law establishing a 'Peruvian model' of exploration[56], led by state owned 'PetroPerú' with financial support

[55] *Ley de Petróleo No. 11780* (1952)

[56] *Ley No. 17440* (1969)

from foreign capital (MINSA 1998). Areas of land were divided into *lotes* (blocks) for petroleum exploration and production activities.

Two blocks were established in the Corrientes region by 1970 – 'Block 1AB' in the upper Corrientes, and 'Block 8', which consists of several discrete areas of land in the mid-upper Corrientes. One of these areas within Block 8 covers the majority of the case study site, with 4 of the 5 case study communities located within or adjacent to its boundaries. The 'Corrientes Field' was discovered in 1971, when oil was found in the first exploratory well dug in Block 1A, known as *Capahuari Norte 1X* (Perupetro 2010).

Ownership of concession licences can change both directly, through outright sale from one company to another, and indirectly, through other groups investing in the company which owns the licence. In 1971 Block 1AB was operated by Occidental Petroleum, and Block 8 by state-owned PetroPerú. In 1996 Perupetro[57] sold some of its assets including Block 8 and Block 1AB which were awarded to an Argentinean exploration and production company, Pluspetrol. Pluspetrol took sole ownership of Block 1AB but bid for Block 8 with three Korean equity partners: Korea National Oil Corporation, Daewoo International and SK Innovation (Korea National Oil Corporation 2011b) who retain stakes (Figure 4d, below). Pluspetrol Norte S.A. was set up in 1996 as a subsidiary of Pluspetrol and operator of Blocks 1AB and 8 (Pluspetrol Norte S.A. 2011a). In 2003 China National Petroleum Corporation entered a 'Cooperation Agreement' with Pluspetrol regarding Blocks 1AB and 8, obtaining a 45% stake in subsidiary Pluspetrol Norte (China National Petroleum Corporation 2003). Five companies, based in Argentina[58], Korea and China, therefore have major stakes in the hydrocarbon reserves of Block 8 (see Figure 4d). Additionally, a number of other companies operate in the area as subcontractors carrying out specific operational tasks.

Each of these companies operate at the global level, with interests in multiple countries and regions internationally. Their website taglines, which explain what the companies do and attempt to represent their core brand, describe the companies in international, market

[57] During the 1990's some of PetroPerú's activities were privatised and it was replaced by Perupetro, which focused instead on promoting and managing contracts between the state and oil and gas companies (Focus Reports 2011b).

[58] Pluspetrol was based in Argentina but moved its head office to the Netherlands in 2000. Investigation of the company structure by the Dutch Centre for Research on Multinational Companies (SOMO) for tax purposes found that the Netherlands subsidiaries were '*mailbox companies'* hosted by a trust office without employees, and that other subsidiaries were held in *'secrecy jurisdictions such as the Cayman and British Virgin Islands'* (Christian Aid and SOMO 2011:13). It is therefore difficult to identify where the company is based.

oriented, competitive terms (Figure 4d). Energy is referred to directly in three of the companies' taglines, and indirectly by one, where industry specific terminology 'E & P' refers to the process of obtaining energy. The fifth company, Daewoo International, is presented as an international business rather than as tied to a specific industry sector. The company taglines share a sense of progressive, positive and productive change, produced by language such as 'creativity', 'innovation', 'technology driven', and 'globalisation'.

Company Name	Website tagline	% Stake in Block 8
Pluspetrol Norte S.A.	(none)	60.0 %
Jointly owned by:		
Pluspetrol Energy S.A. (55%)	E & P[59] creativity for complex projects	(33.0 %)
China National Oil Corporation (45%)	Innovation for Solutions / Pioneering in Engineering / The Nature and Future / Energize. Harmonize. Realize. / Synergy for Energy[60]	(27.0 %)
Korea National Oil Corporation	Energy: We have a passion for globalisation	20.0 %
Daewoo International	World Top Class Trader, Investor, Developer	11.7 %
SK Innovation	Technology driven global energy company	8.3 %

Figure 4d Ownership of Block 8, 2003-2011

Sources: (Daewoo International 2005, Pluspetrol 2009b, China National Petroleum Corporation 2009-2011, Korea National Oil Corporation 2011a, Korea National Oil Corporation 2011b, SK Innovation 2011)

For these companies the Corrientes region is one of many sites of hydrocarbon production operations. Companies operate across multiple sites, which are each associated with specific operational challenges and opportunities. The Corrientes 'field', like each other site, is discussed in these terms. Pluspetrol pitch their specific expertise as effectively operating 'complex' projects in difficult environments (Pluspetrol 2009a, Pluspetrol 2009b). Describing their successful bid for Block 8 in an interview with an industry agency,

[59] Extraction and Production

[60] Five rolling taglines

Pluspetrol's Executive Manager highlighted the challenging nature of the site environment and the company's experience of working under these conditions:

> 'Pluspetrol was fortunate to have previous experience operating in remote areas back in Argentina [...] and therefore we had the technology and expertise to operate in similar conditions here in Peru. Due to this, we were confident that we could handle the environmental and logistical challenges that came with operating in Block 8.' (Roberto Ramallo, Executive Manager Pluspetrol, Focus Reports 2011a)

In this account Block 8 is presented as an operational site, and its remote and logistically challenging attributes are identified in relation to this role. Across industry materials, the conceptualisation of the place as a site of specific business activities is reflected in both the names and descriptions used to refer to it, such as 'Block 8', 'the Corrientes field', and 'the high-water-cut, mature oilfield' (China National Petroleum Corporation 2007:22). In these terms the production project and the activities which it incorporates are bound up and undifferentiated from the physical, geographical site where activities take place.

Some terms used include local names, but these are anchored in the context of hydrocarbon operations and decontextualised from their local meanings. In the following excerpt from the China National Petroleum Corporation for example, 'yanayacu' is used as part of the name of an oil field, where particular production activities were carried out:

> 'Particularly significant results were obtained in the two horizontal wells in Yanayacu Oilfield of Block 8' (China National Petroleum Corporation 2007:22)

'*Yanayacu*' is a Quechua derived term meaning black (*yana*) water (*yacu*), used to refer to dark waters – often rivers or lakes - characteristic of the region. In this context, however, this meaning is not attached to the language by those who use it, bringing an anonymity to the name despite its derivation from a specific place.

This functional conceptualisation of the Corrientes in terms of its generic purpose for hydrocarbon activities is neither unusual nor surprising, but is none the less significant in outlining one dimension of how the Corrientes is seen by outsiders. Some of these outsiders are responsible for making influential decisions in relation to the Corrientes as a site of hydrocarbon resources, which have significant implications for activities and livelihoods in the region. These activities, directed and controlled by the hydrocarbon industry within a framework established by the state, also influence and interact with other representations of the Corrientes, discussed below.

4.5.2 The Corrientes River: a water resource

A contrasting 'resource' representation of the Corrientes is as a water resource. The state, in this case the Environmental Health Department of the national Ministry of Health, formally classifies the river as:

> 'a body of water of Class VI 'Waters of zones for preservation of aquatic fauna and recreational or commercial fishing.' [S] (DIGESA 2006)

This is part of a classification scheme established in 2005 (Directorial Resolution No. 1152/2005/DIGESA/SA). The Department describes the function of the river as follows:

> 'The Corrientes River, whose main use is the preservation of aquatic fauna and source of hydrobiological species provision (fish) for the ribereño communities' [S] (DIGESA 2006)

In this description, the river itself is considered a water resource, but not for direct use by humans. Instead, the water provides a habitat for fish and other aquatic fauna, which are in turn food resources for local communities. In comparison with hydrocarbon resources the product extracted by humans is one step further removed from the basic 'resource' (hydrocarbon/ water) under discussion – the fish a secondary product of the river habitat.

While this is the formal, state directed classification of the river water, other sources describe it as a directly used resource in itself. Orta Martinez and colleagues note this discrepancy between official classification and use in practice:

> 'The Corrientes and tributaries are not considered waters for human consumption, although the Achuar communities have always used them for drinking and cooking.' (Orta Martinez, Napolitano et al. 2007:6)

Writing in 1999, La Torre López described water use in Villa Trompeteros and surrounding areas:

> 'Because the town lacks potable water, it, like the indigenous communities in the basin, depends on the Corrientes River and its tributaries for drinking water' (La Torre López 1999:56)

As well as being used to drink, the river water is also described as a resource for other local daily activities:

> 'villagers....use river water for drinking, washing and cooking' (Fraser 2006)

> 'the Achuar of the Corrientes River... are dependent on rivers for many of their needs, particularly for drinking, cooking, crop irrigation, washing and transport' (ERI, Racimos de Ungurahui et al. 2007:11).

These representations, all focusing specifically on the river in the Corrientes zone, consider it as a water resource manipulated by local residents, and of either direct utility to them, for drinking, or as a necessary part of other daily processes such as growing crops, washing or cooking food. Its utility is sought and experienced by local residents in close physical proximity to the site, in comparison to hydrocarbon resources whose financial value derives benefits for diffuse international shareholders, and whose physical properties, when processed and combusted as fuel, are also realised in distant sites.

4.5.3 The Corrientes basin: a territory to live in

Related to representation of the Corrientes River as a water resource, the basin is also described as a territory to live in: a resource for human livelihoods. In most accounts of the Corrientes some basic information is provided about the presence of human populations in the basin. Their description as 'native communities', and mention of the town Villa Trompeteros are common among sources. In Pluspetrol's *Environmental and Social Sustainability Report* for example communities are referred to as follows:

> 'In the vicinity of the operation, there are 25 native communities of the achuar ethnic group (Block 8) and 15 communities of the achuar and quechua ethnic groups (Block 1AB)' (Pluspetrol 2009a:17).

A range of sources also explicitly refer to the livelihoods of community members, identifying subsistence agriculture, fishing, hunting and gathering. For example a 'social characterisation of the area', part of a technical report prepared for Pluspetrol, describes:

> 'the economy of these different ethnic groups revolves around agricultural production, principally for subsistence, complemented by hunting, fishing and gathering' [S] (Pluspetrol 2006:11)

While other authors may not situate these factors in terms of economy, the same range of food provisioning activities are widely identified (La Torre López 1999, DIGESA 2006, Ministerio de Salud del Perú 2006, Perrault-Archambault and Coomes 2008). Some sources

take a further step in describing these activities directly in terms of dependence on the natural environment:

> 'Traditionally, it has been necessary for the Achuar of the Corrientes River basin to maintain an environmentally sustainable lifestyle, as their existence has depended largely on the natural environment. Today, their subsistence is still largely based on hunting, fishing, gathering, shifting cultivation and raising fowl' (ERI, Racimos de Ungurahui et al. 2007).

Results reported of a participatory mapping project identify a broader range of specific environmental elements that community members rely on for both physical subsistence and spiritual and social purposes. These include for example places to gather medicinal plants and shelter building materials, to search for spiritual visions, places inhabited by spirits, and salt deposits which attract animals and birds, favoured by hunters (Ministerio de Salud del Perú 2006). In this account the Corrientes basin becomes more than a place for people to acquire food; instead, combined with its role as a water resource, a resource for fulfilling basic human needs.

4.6 A 'clamorous case of contamination'

A separate representation of the Corrientes, distinct from but linked with those of resource and remoteness, is as 'contaminated'. Contamination is described both in terms of the place, the physical site, and the people's physical bodies, as anthropologist Alberto Chirif depicts:

> '[Achuar citizens of the Corrientes River]...tired of the contamination of their environment and of their own organisms' [S] (Chirif 2008).

Contamination is referred to in a range of external sources discussing the Corrientes, including state documents, non-governmental and advocacy organisations' materials and local, national and international media. The only group of sources from which it is largely absent are those produced by the hydrocarbon industry.[61] Among other sources the extent and impacts of contamination are not always characterised as being quite the same, but there is agreement on the existence of contamination and its problematic nature for the

[61] The term 'contamination' is very rarely used in industry materials, with reference instead to environmental adaption and management. One exception is a 'Socio-Populational Analysis' produced for Pluspetrol Norte SA by consultant company Daimi Perú (2005), discussed in the section below.

ecosystem and its human inhabitants. The Spanish term *contaminación* is used consistently.

Although contamination is rarely discussed in sources produced by and for the hydrocarbon sector, it is closely tied to conceptualisations of the Corrientes as a site of hydrocarbon resources, as hydrocarbon production is identified as the cause of contamination. In 2007 Orta Martinez and colleagues reviewed documents prepared by official sources, operating companies, and non-governmental organisations, to 'evaluate the status of knowledge on historical and current environmental liabilities generated by hydrocarbon activities' (Orta Martinez, Napolitano et al. 2007). They identified reports dating from 1983 onwards, documenting monitoring results for the presence of contaminants and describing areas as 'saturated by contaminants' (OSINERG 2004:19); and 'one of the most damaged critical environmental areas in the country' (ONERN 1984) (cited in (Orta Martinez, Napolitano et al. 2007)). National newspaper *El Comercio* described the situation as a 'clamorous case of contamination' [S] (Revilla 2008).

The contaminants referred to come both from hydrocarbons themselves and from other chemicals used during the hydrocarbon extraction process. Hydrocarbons reach the environment directly through spills and leaks of petroleum during extraction and transportation, and flaring (burning) of waste gases. Additionally they are present in effluent 'production waters', water pumped into and out of wells during the production process, which in the Corrientes were until 2009 discharged directly into the main river, its tributaries or surrounding soils. Ten years prior to this, La Torre López reported:

> 'According to residents, at certain times of the year and in certain zones, there are days when they must let the water sit in receptacles. A green cap of oil rises to the top and they skim it off so they can consume the water' (1999: 59).

Production waters also contain breakdown products of hydrocarbons, and of other substances pumped into wells to aid the extraction process. National newspaper *La República* described the Corrientes production waters as 'poisoned waters' [S] (2006c). High concentrations of chlorides, barium, copper, lead and abnormal PH levels have been detected in river water, sediment and fish samples (MINSA 1998, DIGESA 2006, ERI, Racimos de Ungurahui et al. 2007, Orta Martinez, Napolitano et al. 2007). An analysis prepared for Pluspetrol in 2005 described the issue of production waters as follows:

> 'for more than 30 years, that is to say since the operations of Oxy and Petroperú, and now Pluspetrol Norte, the Corrientes, Tigre and Pastaza rivers have been receiving pollutant discharges from both lots, 1AB and 8. The principal forms of impact of contamination of the waters and the environment come from the process of petroleum extraction; the sub-soil zones contain large quantities of salts, remnants of geological eras when these areas were oceans.
>
> In the phases of perforation, extraction and secondary perforation, highly toxic additive chemicals are used which enter the well to then flow out mixed with highly saline water, heavy and radioactive metals, soluble hydrocarbons and insoluble crude. Metals such as hexavalent chromium, cadmium, lead, mercury and copper accumulate in live organisms such as fish (they are bioaccumulative), which allows them to travel through the tropic chain, each time in higher concentrations, until they become very harmful' [S] (DAIMIServices Peru 2005:51-52).

In 2005 when this was produced Pluspetrol Norte was therefore clearly aware of the risks posed by their activities. This document was not initially made publicly available, so did not contribute to the external representation of the Corrientes as contaminated. It demonstrates however that despite resisting this representation the hydrocarbon industry itself was also aware of it internally. In 2009, following long negotiations (see 4.7.3) Pluspetrol begun to 'reinject' 100% of the production waters[62], thus stopping them from flowing into the environment.

The role of water as a resource is also interwoven with representation of the Corrientes as contaminated. Water is the main medium through which contamination is transported to the wider environment, plant, human and animal populations. The classification of the river water then determines whether it is seen as a direct or indirect source of human exposure, and becomes not just an issue of misclassification but also affects the setting of environmental limits and official calculations of risk.[63]

As well as contamination of the environment, contamination is also described specifically in relation to humans. National newspaper *La República* reported:

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[62] Over 1 million barrels per day, reinjected 2.4 km or deeper below ground (Pluspetrol Norte S.A., Pluspetrol Norte S.A. 2012)

[63] Maximum permissible limits of contaminants vary between water classified for direct human consumption (drinking, cooking), close physical contact (bathing, washing), use for fishing and irrigation.

> 'the quality of life of their [native communities'] 5,000 inhabitants is bad due to the contamination produced by petrol activity in Lots 1AB and 8' [S] (La República 2006b)

> 'the life and health of 8,000 people, threatened by the monstrous contamination from petroleum exploration in the zone' [S] (La República 2006c)

In some contexts this is seen explicitly as a pathway, of contaminants affecting the environment and the environmental damage they cause then having impacts for humans. For example, an analysis of Achuar health carried out by the Ministry of Health in 2006 presents findings from workshops with community members, in which impacts of contamination of water were identified in relation to food availability:

> 'Contamination of water:
>
> - Contamination of lakes doesn't allow fish to breed
> - Petrol spills in the rivers don't let fish breathe, and endanger their food
> - Contaminated fish can't be eaten, they are tough, have a bad smell, and cause harm' [S]
>
> (Ministerio de Salud del Perú 2006:103)

In terms of impacts for humans, environmental contamination is primarily associated in sources with human health impacts. La Torre discusses 'contamination of water sources and poisoning of residents' (1999:55). Investigations by both state and non-governmental organisations have reported elevated levels of contaminants such as lead and cadmium in human blood samples collected from local populations. Sources which include testimonies from local people list symptoms and deaths attributed locally to contamination (Goldstein and FECONACO 2003, ERI, Racimos de Ungurahui et al. 2007). In a short film made in 2003, a man aged 40-60 from a mid-river community explains:

> 'Now that we drink contaminated water, we are sick. Because of the sickness I am dying... Look, my grandchildren, daughter-in-laws and daughters are all sick' (Goldstein and FECONACO 2003).

In some accounts, contamination is not seen merely as an exposure, coming from the environment, but as a property of people themselves. Ana Hualinga, pictured at the beginning of this chapter, is a *Madre Indígenas* from a lower river community whose lands border the Pluspetrol base and airport at Villa Trompeteros. A staunch advocate for

Corrientes communities' rights, she travels regularly to Iquitos and has visited Lima as part of a protest supported by NGOs. She has given interviews with visitors which are quoted in a number of sources. For Ana 'our blood, our bodies are full of lead, we are contaminated' (personal communication, March 2009).

Community members' concerns with contamination have in turn been the subject of analysis by consultants employed by Pluspetrol Norte. In 2005 consultancy company Daimi Perú, who provide 'services and advice in the areas of Social Responsibility, Environment and Industrial Security, Management of Conflicts and Logistic Support' [S] (Proinversión 2008), prepared a 'socio-population analysis' [S] of the Pastaza, Tigre and Corrientes. This includes analysis of 'socioenvironmental problems', including 'problems generated by the [petroleum] operation' and 'environmental liabilities' [S] (DAIMIServices Peru 2005). They discuss the representation of contamination by communities as follows:

> 'for the communities the problem of contamination has become a point of reference to obtain some benefit from the company..... Although the company has managed to convince all the surrounding communities to sign agreements[64], despite this they have not managed to silence the community members' voices on this thorny issue' [S] (DAIMIServices Peru 2005:52).

Here contamination is seen by the analysts as a lever used strategically by communities to acquire benefit from the company. As explained below (4.7) the authors were correct in identifying this as a thorny issue, although when it reached international prominence twelve months later the term 'benefit' was not used and negotiations were widely reported in terms of repair and compensation.

A final aspect of representations of the Corrientes as contaminated is the juxtaposition drawn between previous, pristine environments and peoples, and the contemporary, damaged, contaminated situation. Stepan, discussing the construction of the concept of Amazonia, argues that 'the process of deconstructing the myths and errors that have plagued interpretations of, and policies toward, Amazonia .... is now proceeding apace' (2006:17) and suggests that:

[64] Individual agreements between the company and each community.

> 'instead of imagining Amazonia as pristine, unspoiled, virgin forest, we speak of how the Amazon region has been shaped, and in this sense produced, by Amerindians over the course of centuries' (Stepan 2006:28).

However, in sources reviewed here the pristine, peaceful imagery persists to describe a previous era, albeit encompassing both the natural and social worlds.

> 'Oxy drilled approximately 230 wells in Block 1AB in an area of over 1.2 million acres (nearly half a million hectares) of pristine rainforest in the Corrientes River basin in the traditional lands of the Achuar, Quechua, and Urarina peoples.' (ERI, Racimos de Ungurahui et al. 2007:14)

It is not seen as empty of people, rather as sparsely populated, but the people, like the landscape, are also presented as a natural, pre-industrial ideal:

> 'by the 1970s, the Achuar were one of the few groups that remained relatively unaffected by contact with the modern western world' (ibid.).

In this account the 'traditional' is presented as a timeless, pre-modern state, of both the people and the territory they inhabit. Negative impacts of social and environmental change attributed to contact with the modern world are presented particularly starkly in a public blog entry from a BBC film crew member visiting an upriver Corrientes community in 2008. The writer contrasts the current conditions he observes in the community with 'traditional Achuar life':

> 'we stayed in Jose Oliya[65], a small Achuar settlement in the middle of this vast jungle oil field. It was the saddest place we have visited on this trip so far, a blighted place caught between two worlds. There was litter everywhere and empty oil drums. Their traditional Achuar life has all but gone, but it has been replaced with other benefits. Every house had a TV or a stereo, they had electric lights, one even had a deep freeze.' (Robinson 2008)

Sources drawing emotive comparisons such as this between previous, undamaged environments and peoples, and a current, negative situation include NGO/civil society groups, and media reporters for national and international audiences. They frequently portray the change through brief accounts from community members. For example a

[65] [Jose Olaya]

journalist from a national newspaper interviewing a community leader near Villa Trompeteros reports:

> 'Leandro misses the times of his childhood when the forest maintained its purity' [S] (Revilla 2008).

As well as 'purity' and a sense of an undisturbed natural environment, 'peace' is a commonly occurring theme in these accounts; both as something which has been lost, and as something which communities strive to regain. A man interviewed in a short film documentary explains:

> 'before, by my own hand, I searched for food and lived peacefully. But now, with the company, we can't live in peace.' (Goldstein and FECONACO 2003)

The then president of FECONACO, quoted in the title of La Torre López' book about oil activities and indigenous territories, also explains living in peace in terms of going about daily activities, relating peacefulness closely to territory, livelihoods and family:

> 'what we want is to live and develop in peace, to be respected as owners of our territories, to keep our culture alive, to pass undisturbed in search of our families, to hunt and fish in our forests and rivers' (La Torre López 1999:13).

These themes resonate with an explanation of the relation between territory, people's well-being and change in the Corrientes reported in a quote from a health workshop participant:

> 'Before the petrol arrived our territory was wide, clean, free and healthy. Now it is sick and because of this we all get sick, the people, the animals and the plants; when we get sick we can't find a solution in nature because it is also sick' [S] (Ministerio de Salud del Perú 2006:77).

The accounts are drawn on by authors to represent the contemporary situation in the Corrientes as something altered, negatively, from its original state, by the presence and activities of the hydrocarbon industry. Accounts which represent the Corrientes as contaminated are produced to describe, document, and draw attention to the local situation in order to encourage acknowledgement of problems, change in hydrocarbon company behaviour, and remedy of problems.

Beyond specific attention to the local situation, this representation of the contaminated Corrientes is also drawn on as an example of what can go wrong in natural resource extraction projects involving indigenous peoples' territories. In this context, an information leaflet produced by national civil society organisations explaining the importance of territory for Amazonian indigenous peoples, and summarising proposed changes to national legislation which may affect them, explains:

> 'The extraction of hydrocarbons brings a high level of environmental degradation....'

and the authors follow this statement with a supporting example of the Corrientes:

> '...Between 2006 and 2009 48 spills have occurred in Pluspetrol's Lot 8 and 1AB, affecting the Tigre and Corrientes rivers and their tributaries, generating negative impacts in the 34 indigenous communities that live there...' [S] (Diez Canseco 2009)

Amazon Watch, a US based NGO whose stated aim is 'to protect the rainforest and advance the rights of indigenous peoples in the Amazon Basin' (2012b), describe on their website the stance taken toward hydrocarbon activities by Achuar communities in the neighbouring Pastaza region specifically in light of the example of the Corrientes:

> 'The Achuar of the Pastaza's resistance to oil development comes from their desire to protect the environment on which their livelihood and cultures depend. They are determined not to allow a repetition of the tragedy that has befallen the land of their relatives, the Achuar of the Corrientes River, where the rivers and forests have been polluted and the local ecosystem devastated by almost 40 years of oil operations.' (Amazon Watch 2012a)

Here the 'polluted' and 'devastated' Corrientes is presented as an example which neighbouring indigenous groups have learnt from. Similarly, NGO Shinai has dubbed films of the Corrientes into Machiguenga, another indigenous language, to show Machiguenga communities in another region of Peru, to inform their negotiations with hydrocarbon companies over proposed activities.

4.7 A site of struggle: 'We defend our life'

The final representation of the Corrientes identified from materials is as a site of struggle. That representations themselves should be contested is of little surprise: as explored above representations of the Corrientes as a site of remoteness, of different resources for

different people, and of contamination are not mutually unproblematic, hence some dispute or conflict between those supporting incommensurable representations is perhaps expected. The level of dispute however, and its implications in terms of practice - the very real actions taken by people - is substantial.

This section examines representation of the Corrientes as a site of struggle through analysis of accounts of an event in October 2006, three years prior to fieldwork for this study. In a peaceful protest eight hundred community members took over oil installations in blocks 1AB and 8, shutting down oil production in the basin for two weeks. External, mainly retrospective accounts of this event and its resolution provide the main material for analysis. After focusing on the event, the following section discusses the national context of competing representations and agendas of resources and development.

4.7.1 Background: a long incubation

As outlined above, the Corrientes region has an established history as a site of hydrocarbon extraction, and also as a site of contamination. Accounts of the installation shutdown cite aspects of this situation as cumulative contributory factors of 'long incubation' [S] (Chirif 2008:5), emphasising that 'the problem has certainly not only emerged now' [S] (La República 2006c). Other commentators note that community members were 'fed up of years of indifference' [S] (Revilla 2008) during which they had made repeated formal complaints (La República 2006d).

La Torre López describes the community leaders' experiences in the months preceding the protest, emphasising that this was a repeated, time consuming process for the leaders, which once again had failed to achieve any change:

> 'in 2006, as in previous years, the Apus (leaders) of the communities had been to endless meetings in Lima, travelling over a week to get there. In August, they met representatives of the new administration that came to power in July, but by September... [ ]... it was clear that the promises and agreements had come to nothing. After the demonstration [in Iquitos, capital of Loreto] the Apus met, decided to take action, set a date, and went home to their communities until October 10th' (La Torre López and Napolitano 2007).

This account sets the leaders' actions in the context of a long, unsatisfactory process, showing that they had repeatedly taken reasonable steps to try to resolve the situation by conventional methods.

An independent report into the events produced for the national parliament, published in 2007, highlights the absence of the state in fulfilling its responsibility to provide basic services to the Corrientes populations as a contributory factor:

> 'The conflict has its antecedents in the impacts generated by petroleum companies on the native communities of indigenous peoples of the Corrientes river during more than 35 years of exploitation, violating their right to property, contaminating the region and impacting on health, with negative consequences for the economy and very life of these populations, without the State having developed policies to protect their rights, nor stepped in to provide their basic unmet needs for health, water, nutrition, education, energy, transport and communications services. Nor is it appropriate that the company should attend to the basic needs of communities, in substitute for the State.' [S] (Grupo Ambiente y Ecología 2007:21)

This passage sets the conflict in a rights framework, positioning community members as citizens whose rights to property – their territory – has been systematically violated. Furthermore, the state has failed to protect them, or to fulfil its responsibilities to meet their basic needs. This interpretation is significant in relation to the role of the ombudsperson described below.

4.7.2 Taking the petrol installations: 'totally paralysing' production

The petrol installations were taken over by community members on 10 October 2006.[66] They shut down five oil plants, closed the river and blocked roads leading to oil wells. The oil plants, providing half of Peru's national daily oil production (Scurrah and Bebbington 2013:181) were described as 'totally paralysed' [S] (La República 2006f). Approximately forty oil company workers, initially reported to be 'trapped' in the installations (BBC 2006) were evacuated by the company.

A press release produced by AIDESEP, a national Amazonian indigenous organisation to which FECONACO is affiliated, stated that 'the Achuar communities have firmly decided to retake control of their territories' (Scurrah and Bebbington 2013:182) and called for the government, the independent Ombudsperson and civil society to engage with the Achuar to find a resolution to their problems. Chirif described the communities' aim as to 'to expose their problems and to present their complaints and solutions' [S] (Chirif 2008:1).

[66] See (Scurrah and Bebbington 2013) for detailed description and analysis of events and negotiations.

In a contemporary statement reported in national press Roberto Rammallo, Pluspetrol Norte's General Manager said 'the men are armed with shotguns and the women have wooden spears and sticks' [S] (La República 2006f). Contrasting accounts emphasised the peaceful nature of the protest, noting that 'men, women and children were involved' (La Torre López and Napolitano 2007). Petronilla Chumpi, of FECONACO, reported in a retrospective interview for a national newspaper weekend magazine that 'there was no violence, whole families participated' [S] (Revilla 2008) No injuries were reported. Chirif, reviewing events one year later, attributed the lack of violence to:

> 'The conscientious management by the indigenous population, and the good performance of the Ombudsman, who opposed the use of force, unlike other State sectors who promoted it' [S] (Chirif 2008)

This difference in approaches is supported by an account of an exchange between indigenous leader Tomás Maynas and a policeman. According to the report, the police commandant informed the leader that he had orders to shoot, and the leader responded 'very calmly' that "we will die defending our lands, the health of our children. You, why will you die?" at which the commander 'deflated' [S] (Revilla 2008) and no shots were fired.

While this was a site of conflict, then, this particular event is not portrayed as a violent struggle, despite popular representations of indigenous peoples, particularly those of Jivaroan groups such as the Achuar, as violent[67]. Guns and spears are routinely carried on formal occasions[68], so Roberto Ramallo's comments, while perhaps factually correct, contributed to a representation of the events as having potential for violence, in contrast to other accounts emphasising peacefulness.

4.7.3 Resolution: the Act of Dorissa

On the 22 October 2006, following negotiation between community leaders, represented by FECONACO, representatives of the state, Pluspetrol, and the ombudsperson, a joint agreement known as the 'Act of Dorissa' was reached (FECONACO, MINEM et al. 2006). The nine sections of the Act are listed in Figure 4e. Prepared in neutral language, it did not

[67] Historically Jivaroan Shuar peoples in Ecuador and Peru have had a reputation for fierceness, carrying out raids on neighbouring communities and shrinking the heads of captured enemies, for example (Harner 1973); Descola discusses this in relation to the Achuar, noting the role of 'ethnographic zeal of the Salesian missionaries' in collecting information about head-hunting practices (Descola 1993:273) .

[68] For example in meetings held between community leaders and myself during fieldwork.

include the term contamination – instead referring to environmental liabilities and damages. Nor did it discuss responsibility for any previous events, instead focusing on jointly agreed plans for the future.

Sections of the Act of Dorissa (2006)	
Section 1	Designation and aim of the act
Section 2	Reinjection of production waters discharged into the Corrientes river basin
Section 3	Integrated Health Plan
Section 4	Health insurance for the indigenous communities
Section 5	Integrated Development Plan
Section 6	Food assistance and supply of potable water
Section 7	Remediation of environmental liabilities and damages in Blocks 1AB and 8
Section 8	Monitoring the Act of Agreement
Section 9	Final provisions [incl. withdrawal of protestors and resumption of normal activities at production facilities]

Figure 4e Act of Dorissa [S] (FECONACO, MINEM et al. 2006)

The agreement is described in different ways by different sources. NGO and civil society groups saw it as a significant 'victory' (Chirif 2008) achieved by communities and their supporters. The following account for example describes the agreement as a series of undertakings of the government and company toward the communities:

> 'they achieved an historic agreement called the Act of Dorissa, where the government and the company Pluspetrol undertook to re-inject the production waters, reduce the contamination, implement plans for health and for sustainable development and support an independent plan of vigilance implemented by FECONACO' [S] (Stoll 2011:14-15)

In contrast, Pluspetrol's own account describes an agreement to speed up measures the company was already taking to modernise production methods, and to contribute to various local projects:

> 'The Act of Dorissa is an agreement that Pluspetrol Norte signed with the Federation of Native Communities of the Corrientes (FECONACO) through the Regional Government of Loreto in October 2006. In this, Pluspetrol Norte undertook to accelerate works on reinjection of production waters and remediation of soils affected by old exploitation methods, as well as contribute to

> the implementation of a variety of development projects in education, health and production' [S] (Pluspetrol Norte S.A. 2011b)

The sense of responsibility conveyed in these two accounts differs. In the former, the government and company are portrayed as agreeing to fulfil their responsibility toward the communities, including reducing 'contamination'. In the latter, the company describes steps it was already taking, including remediation of old methods, which situates responsibility distantly from its own current exploitation practice, and avoids mention of contamination. Development projects are an additional contribution, rather than any form of compensation for damage to health or livelihoods.

4.7.4 Continued struggle

Implementation of the agreement has had mixed success. Full reinjection of production waters was achieved in 2009, but other aspects including provision of emergency food and development projects have progressed much more slowly, with protracted negotiations between FECONACO and the state to release funds to commission services (La República 2008, La Región 2010b, La Región 2010a, Pro y Contra 2011). The local health system is gradually being strengthened, but in 2009 progress was slow and staff turnover high (see 5.4.3). While reporting of oil spills continues (Stoll 2011:68-75), results from a case-control study suggested that lead exposure in both communities directly affected by extraction activities and an area thought to be unaffected was high, therefore questioning the role of petrol extraction in exposure (Anticona, Bergdahl et al. 2011).

In 2012 FECONACO stated on their website in Achuar and Spanish: *'!Ayamrakmi lna lwiakmurij - Defendamos Nuestra Vida'* [We Defend Our Life] (FECONACO 2012). An introductory paragraph marking five years of independent environmental monitoring activities sets out their position:

> 'The Achuares, Kichwas and Urarinas, demand respect for our lives, plants and animals, if we mark a milestone in the battle of indigenous people [against] petroleum contamination, and against the abandonment of the state, it is because we ourselves assume the responsibility, to demonstrate and denounce to Peru and the world, that they are not killing us with the so called development of black gold, we continue in the battle, while the state institutions say everything is alright.....' [S] (FECONACO 2012)

FECONACO position themselves squarely in the midst of a struggle. They portray themselves as three different ethnic groups aligned together, seeking respect for their lives, plants and animals; fighting against the petrol companies who cause contamination, and the State which ignores its responsibility to defend its citizens and claims 'everything is alright'. They are wronged, but not weak – taking responsibility for defending themselves, letting the world know about their situation, and surviving. This representation is the product of a long process of negotiation between clashing dialogues produced by different external and internal authors, anchored in real physical events.

The following section briefly explores the State's contemporary representation of land, resources and people to shed light on the national context in which the Corrientes is situated.

4.8 National discourse: the Amazonian in the manger

> 'Amazonia has been seen from various perspectives, depending on the times: the world of the epic warriors, the unknown land of gold, the land of rubber, the land of green gold, the zone of colonization par excellence, the dispensary of the world and lungs of the world' [S] (Mariñas 2009:11)

To this list we could add the land of 'black gold', but the essence remains the same: by and for outsiders, the Amazon region has long been represented as a place of resources and associated opportunities. It is not only the Corrientes that is a site of competing representations, but many parts of Amazonia – and indeed other 'tropical' regions, which have been explored by waves of outsiders seeking different things. While the 'epic warriors' were an early representation, in some areas eventually assimilated by colonial forces, they have remained in other areas to a greater or lesser extent, contesting and complicating outsiders' visions for the region.

To briefly explore contemporary representations of the Peruvian Amazon I turn to a series of essays by national President Alan García published in national newspaper *El Comercio* (García Pérez 2007a, 2007b, 2008). The first was published in October 2007. Its title '*El síndrome del perro del hortelano',* literally translated as 'the syndrome of the dog in the kitchen garden', refers to a metaphor originating in Aesop's fable *The Dog in the Manger,* which also appears in Spanish literature in a play *El perro del hortelano* by Lope de Vega (1618). The dog in question in both cases guards food - lettuce, straw or grain - which it does not eat, nor does it allow others to eat. The phrase is used commonly to describe

someone who 'begrudges others what they are not enjoying themselves' (Andean Air Mail & Peruvian Times 2007).

García's essays set out his argument that for Peru to progress and be successful, its natural assets must be transformed into commodities to trade, develop and exploit. He likens this process to the creation of housing titles:

> 'The demand for housing titles is very high. Every Peruvian knows that he can improve his situation if he has a property that can be sold, mortgaged or left to his heirs. But Peru as a whole has the same problem and doesn't realise it. Many of its assets cannot be valued, nor sold, nor invested in by others, nor used to generate employment' [S] (García Pérez 2007a).

This argument resonates strongly with that of Hernando de Soto, a Peruvian economist who advised the García government and advocates for individual property rights as the basis for poor people to generate capital (de Soto 2000)[69]. García identifies a plethora of 'unused' resources 'that are not tradable, that don't receive investment and that don't generate work'. He attributes this situation to 'the taboo of superseded ideologies, laziness, indolence or the law of the dog in the manger that says 'if I do not do it, then let no-one do it'' [S] (García Pérez 2007a). Discussing these 'unused resources' in turn, Garcia states: 'the first resource is the Amazon'. This is of course not the first time national policy has explicitly favoured exploitation of the Amazon. Santos Granero and Barclay, citing Larrabure i Correa (1905-1909) note that 'in 1853 Pres. Rufino Echenique asserted that the Amazon River valley required 'preferential attention' and that the state should 'endeavour to exploit and populate its fertile plains'' (2000:12).

In 2007 García's argument, with an aside to respect virgin and native forests, envisages export of wood, furniture and the creation of hundreds of thousands of formal employment opportunities. Those who oppose the concept of making private property of the Amazon, or of large companies deriving profits from it, are described once again as the dog in the manger. A similar argument is applied to the use of agricultural lands that

[69] In 2009 de Soto turned his attention to Amazonian indigenous communities, recommending *'It is time for the indigenous peoples of the Amazon to consider the possibility of adopting property and business rights in order to exchange signals with each other and the outside world, to combine their resources productively and create diversity and wealth, thereby protecting themselves from the dangers of globalization and benefitting from its advantages'*[S] (de Soto 2010). In 2010 he gave a series of public presentations in Amazonian cities outlining his argument.

'demagoguery and deception' claim cannot be touched because they are 'sacred', and Peru's mineral resources, of 'the greatest richness in the world'.

This account is built upon a series of representations. The Amazon is portrayed as a resource, Peru's citizens as blind to the rich potential of their country, and those who object to the realisation of resources as the alternately selfish, lazy and deceptive dog in the manger. The rural poor are described as penniless smallholders who rely on the State for help rather than developing lands that sit idle to their full potential. Garcia's vision of the Amazon is bounded in a similar way to that of other outsiders, such as the hydrocarbon resource representation of the Corrientes described above, in terms of the goods that can be extracted from it and the financial benefits which can be accrued from this process. As Bebbington comments, the president reiterates 'a long-standing vision of the Amazon as empty and awaiting development' and the countryside as 'a space to be once again colonized in order to extract' (2009 :13).

This series of essays were part of an accelerated process 'opening up' Peru to foreign investment, following a neoliberal model initiated during the Fujimori government of the 1990s. Central to this model was the 'generation of economic growth based on the exploitation and export of the country's natural resources' (Bebbington, Scurrah et al. 2011:108). In 2006 a comprehensive Free Trade Agreement (FTA) was signed between Peru and the United States, to promote the liberalisation of trade in goods and services between the two countries (Office of the United States Trade Representative). The Congress of the Republic of Peru then granted the Peruvian government the ability to promulgate new legislative decrees necessary to implement the FTA, beginning with a series of 99 controversial decree laws passed between March-June 2008, regulating the use of land and resources (Barandiarán 2008, Amnesty International 2009:12). These were widely criticised by national and international civil society groups for threatening human rights, indigenous peoples' rights, and removing environmental protection (Diez Canseco 2009, El Comercio 2010), and led to national protests culminating in violent confrontation between police and indigenous protestors at Bagua on 5 June 2009 (Amnesty International 2009). Chase Smith identifies the 'dog in the manger' theory as the launch of a campaign to justify these decrees, 'warning the public of the existence of various groups seeking to block Peru's advance toward democracy, the free market, foreign investment and modernisation'. He notes that 'at the same time, native and rural communities were compared with 'the dog in

the manger', marking them as relics of the past that hamper Peru's development' [S] (Chase Smith 2009).

AIDESEP, in an open letter to Alan García, interpret the stubborn, selfish and lazy dog in García's metaphor as referring to 'all of those of us who defend, with our lives, our territories, our forest, our rivers, our biodiversity and our cultures' [S] (AIDESEP 2007). They highlight ecosystem functions of the Amazon which García's vision of it lying idle does not acknowledge – providing oxygen for the planet, 10% of the world's biodiversity, and 30% of the world's fresh water. They explicitly tie the representation of the Amazon as a resource to the interests of outsiders, pointing out that this ignores the interests of people who live there:

> 'Mr President: Our territory for many centuries has been seen as a place of development and possible riches for others, but not for ourselves. Its resources have been exploited, if not ransacked, without the authorities of central government doing anything to stop this, just as in the example of the Corrientes River...' [S] (AIDESEP 2007)

As the Corrientes is a contested site, so too is the Peruvian Amazon. As in the Corrientes, different groups take different stances toward the region. The heart of this difference is exemplified in the following description from a national civil society advocacy organisation, in an explanation of why indigenous communities objected to García's legislative decrees:

> 'For the market, the land acquires monetary importance and is marketable. For the indigenous, [it] acquires a spiritual importance and is sacred' [S] (Diez Canseco 2009).

From these examples, we can see that while the dominant national representation of the region is as a resource, it is also a habitat and a home for communities whose perspectives differ from those of the outsiders who dominate the construction and reproduction of external representations.

Chapter 5: The local context for young children's health: public health perspectives

5.1 Introduction

Chapter 5 aims to describe the social and physical environment for young children's health in the case study communities, as understood in public health terms. The previous chapter explored external representations of the region: here the focus narrows spatially to the case study area and epistemologically to conceptualisation of the environment and its relation to human health within the professional field of public health. This reflects the disciplinary orientation of professionals who hold 'knowledgeable' roles in regional, national and international policy spheres and have normative authority to evaluate children's health. Analysis and discussion in this chapter draw on the forms and categories of knowledge recognised and used in this professional field, following the principle that within a multidimensional analysis knowledge claims made within each strand 'need to be true to the epistemologies from which they are derived' (Mason 2011:84) (3.3)[70].

Firstly, I describe the conceptual models which inform public health professionals' understanding of child health and its relations to the environment (5.2). The nature of these relations and the methods used to empirically identify and measure them are discussed. These methods are then applied to the Corrientes case study through presentation and discussion of quantitative 'indicators' directly representing various domains of the physical and social environment (5.3, 5.4), using primary data collected in the household survey, and secondary regional and national data. For each domain, the normative relation to health is discussed briefly, and its source, internal to or external from the local setting, is considered. The regional health system, a further aspect of the local context for children's health, is then described (5.5). This section draws on policy documents, local records and interviews with staff. The chapter concludes with identification of factors which would raise concerns for health professionals about potential negative impacts of the local context for children's health.

Discussion within this chapter reflects the epistemological position of public health professionals, underpinned by a realist ontology in which knowledge is seen as objective, to be obtained through observation and measurement. This position is discussed later in the thesis as the basis of one of multiple possible representations of 'how children are'.

[70] Hence, for example, analytical implications of survey methodology and response rate were considered carefully (3.9.5).

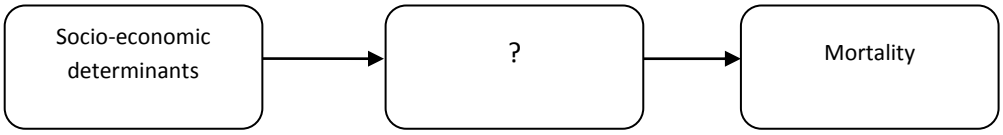
5.2 Environment and children's health: public health perspectives

Within public health, the concept of 'health' is derived from a biomedical model, developed in 'western' medicine and expanded from a specific physical disease focus to include mental and social well-being:

> 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.' (WHO 1948)

Historically, western medicine sought causal factors for ill-health in the immediate physical environment of the patient, and this remains a primary concern. Additionally, social factors and their distribution within the structure of society are conceptualised as 'determinants' of health, as introduced in Chapter 2 (2.2.1). Studying child mortality during the early 1980s Mosley and Chen (1984) suggested that two separate conceptual models from the social and medical sciences were in concurrent use to understand the influence of the living context on morbidity and mortality (Figure 5a). The social science approach (A) concentrated on associations between socio-economic status and population mortality patterns, without focus on the mechanisms through which these operated. The medical science approach (B) concentrated on biological causes of morbidity, with less consideration of socio-economic determinants (or of mortality outcomes).

Social science approach (A)



Medical science approach (B)

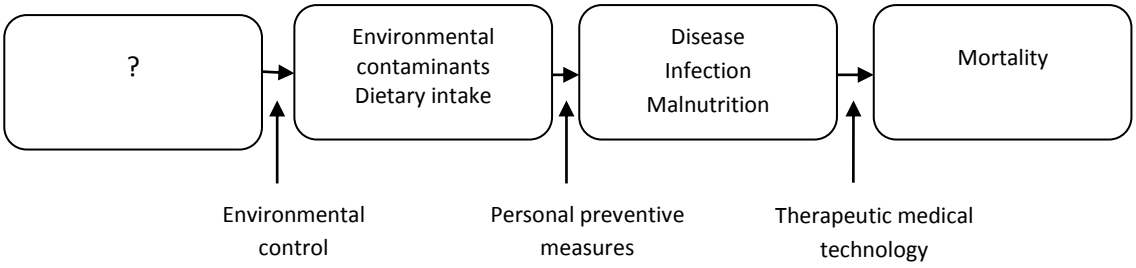


Figure 5a Conceptual models of social and medical science approaches to research on child survival (Mosley and Chen 1984)

The authors proposed a new analytical framework combining social and medical sciences, 'based on the premise that all social and economic determinants of child mortality necessarily operate through a common set of biological mechanisms, or proximate determinants, to exert an impact on mortality' (ibid.:25). Although it addresses child mortality this underlying principle is useful in understanding contemporary public health approaches to child health. Macro-level social, economic and political factors, also described as 'distal', 'structural', 'up-stream' or 'driving forces', influence proximal or 'intermediate' factors in the local environment, which directly affect children's health. In a simplified example, political and socio-economic factors influence whether a rural community has access to improved drinking water. Children drinking improved water have fewer episodes of illness than those drinking unimproved water, who are at greater risk of exposure to diarrhoeal disease transmitted by faecal contamination of unimproved water. Relationships between factors are rarely this simple; many diseases are multifactorial, exposures can act in an additive, cumulative or synergistic manner, health status can influence distal level factors, access to and quality of health care influence health outcomes. However the overall concept, of societal factors influencing the local environment, which in turn influence health outcomes of resident human populations, informs contemporary public health research and policy. Notably, the recent international WHO 'Commission on Social Determinants of Health' (CSDH) developed a conceptual framework disaggregating complex inter-related factors into three differentiated levels of determinants influencing distribution of health and well-being, mediated by the health-care system (CSDH 2008:43) (see Chapter 2 Figure 2a).

Both indirect and direct factors are considered by public health professionals investigating population health. Information about them is used for distinct purposes including routine monitoring, planning and evaluating health policy or specific interventions, and in epidemiological research which aims to quantify their effects on health outcomes (Victora, Huttly et al. 1997). Analysis and interpretation frequently involves a relational element, comparing the current situation in the site of interest with other spatial or temporal contexts.

To move between a conceptual diagram and a real situation, quantifiable 'indicators' are selected to represent different factors. Briggs describes the role of indicators in children's environmental health research:

> 'Indicators are signals for things that cannot directly be seen. They are based on data, but ideally add value to data by expressing them in a way which is more understandable and more relevant to the user [...] they are the entities that we try to

> measure [...] to describe the issues that we are concerned about in a clear and understandable way.'(2003: 2)

A data variable can be used as a single indicator to represent a single factor, for example number of years of education may be used to represent education. Alternatively, a number of indicators can be combined into an indice to represent one factor. This commonly occurs for more complex or conceptually variable factors such as socio-economic status (Oakes and Rossi 2003), which may, for example, include data about household possessions, occupation, income or housing construction. A data variable can therefore have concurrent alternative statuses; for example a variable recording access to safe and sufficient drinking water may be used singly as an indicator of water supply - a direct, physical health determinant. It may also be aggregated with other indicators described above to create a compound indicator for household socio-economic status. Reflecting the international nature of the professional field, many indicators are recognised and recorded internationally using standardised data collection methods and parameters. Access to safe and sufficient water, for example, is surveyed in international monitoring programmes including those managed by the Demographic and Health Survey (DHS) programme (Ayad, Barrère et al. 1997:44), the WHO (WHO 2012) and the World Bank (World Bank 2012).

In this chapter, indicators representing factors seen to have both direct and indirect influences on children's health are presented and discussed. For each indicator the nature of this influence is explained briefly and original data collected in the case study communities is presented. Quantitative data is supplemented by contextual information recorded in field notes, data from interviews, and published literature where appropriate. These data sources are used primarily to provide greater depth, for example describing the limitations to daily function of water taps, which is not evident in the crude proportion of households using a public tap as their main water source. In some cases comparisons are made to research findings from elsewhere to check the likely validity of primary quantitative data, for example regarding food production and consumption, following the positivist epistemological approach taken in this section.

As explained in Chapter 3, selection of specific indicators from the range routinely used in public health monitoring and research was led by the availability of reliable data collection tools developed for use in Peru (3.9). Of proximal indicators, most relate to material circumstances: factors which serve to protect young children from harmful aspects of their environment or are basic necessities for survival such as water, food and shelter. These

'traditional' hazards and basic necessities associated with the physical environment are the most widely recognised proximal determinants of health in low income settings such as the Peruvian Amazon. Proximal factors are presented in section 5.3. Secondly, 'distal' factors associated with social position, such as education and occupation, are discussed and presented (5.4). For each distal factor, its usual relation to proximal factors, and specific local information pertaining to this, is explained. Discussion of socio-economic status, an inherently relational measure, includes comparison with regional and national secondary data sources. Full data tables are attached in Appendix B. In the main text below, key figures are presented with cross-references to Appendices B1.1 –B2.19, and full tables included only where this is necessary to avoid lengthy explanation in the text.

In addition to these indicators, the availability and function of the health care system is seen as a key factor in determining child health outcomes (Gilson, Doherty et al. 2007:5-6, Muldoon, Galway et al. 2011). Section 5.5 describes the regional health system and specific programmes and services for young children, based on descriptive analysis of information from policy documents, local records, interviews with staff and field notes. This is presented as a basic description of the systems and policies (5.5.1-2), followed by a more nuanced discussion of challenges for health system operation (5.5.3) and impacts of these challenges for delivery of health services. Indicators conventionally used to represent population use of health facilities are discussed in Chapter 6.

5.3 Proximal factors: children's physical environment

The physical environment of children under five in the case study communities is centred on their parents' house in the community. It includes the house itself, the ground immediately underneath and around it, and neighbours' houses which children visit with adults, siblings or alone. Young children also spend time in their families' *chacras*[71] and accompanying family members in daily domestic tasks such as washing clothes in the river and collecting water.

Indicators used to represent physical environments in low/middle income settings conventionally reflect basic human needs such as access to shelter, water and sufficient food. Here, indicators representing five aspects of the physical environment in the case study communities are discussed: housing, access to safe drinking water, food, sanitation and transport.

[71] Cleared area in forest used for cultivation of useful plants including food and medicinal crops, and plants used in house construction, handicrafts, and hunting. See 0.4.

5.3.1 Housing

Housing directly protects people from physical exposure to the elements and from dangers in the wider environment. In the Corrientes houses shelter inhabitants from heat, cold, rain and wind, and form a physical barrier preventing forest animals from entering the dwelling, protecting people, domestic animals and stored food[72]. A family's house provides a safe and comfortable place to sleep, cook, store goods, make objects for daily use and go about social life.

Surveyed houses consisted of one (33.3%, n=31), two (36.3%, n=34) or occasionally up to five (n=2, 2.1%) linked square or rectangular rooms raised 1-2 metres above the ground and accessed via a notched log stair (Appendix B1.1). An open kitchen fire and cooking materials were located either in a rear corner of the main room, or on small separate platform attached to the main house. In the evening hammocks, mattresses and mosquito nets were arranged for sleeping. These were usually tidied away during the day, except in a few larger houses with designated sleeping areas.

The majority of households' dwellings (n=90, 94.7%) were constructed entirely from materials collected locally in the forest: timber, used to construct the frame, floor and any walls, and palm fronds woven together to form a pitched waterproof roof on a triangular frame (B1.2). Of the 95 households surveyed all had raised floors made from narrow timber strips, and 92 (96.8%) palm roofs, with three roofs constructed from metal sheeting. Sixty-eight (71.6%) had one or more half or full height timber walls while walls in three houses (3.1%) were constructed of metal sheets, and one household used thin plastic sheeting. The remaining 23 (24.7%) had no walls, so these houses consisted of a raised wooden floor platform and roof supported by posts.

5.3.2 Water

A basic human need, access to a clean, sufficient water supply is necessary to maintain hydration and function of the body. Cleanliness of drinking water supply is necessary to prevent illness from water-borne diseases such as diarrhoeal diseases and poliomyelitis transmitted through consumption of contaminated water (Esrey, Feachem et al. 1985, Esrey, Potash et al. 1991, Landon 2006). Water is also needed to wash the body, utensils and clothing, and for use during food preparation.

[72] The barrier is not impenetrable, for example during the night rats may gain access to stored food, and inhabitants reported occasionally being bitten by bats.

In the Corrientes water was consumed daily in *masato* (5.3.4) plant-based infusions and some food dishes, and used to boil manioc while preparing *masato*. The majority of surveyed households, from four of the five case study communities, (n=75, 78.1%) collected their main water for consumption and cooking from public taps (B1.3). Installed by Pluspetrol, these provided groundwater pumped from aquifers through a solar powered elevated tank system (Pluspetrol 2006). Community members reported that the system was unreliable, for example not working when it was cloudy, pumps and pipes malfunctioning and water sometimes containing sediment. Pumped water was reported to run out quickly and was often not available later in the day. When taps were not functioning and any water stored in receptacles in the house had been used water for consumption was collected from the river or tributary streams instead.

The remaining 21 households (21.9%) collected their water from a tributary of the Corrientes or the main river. This contradicts the Ministry of Health classification of the river (4.5.2) as a resource for 'preservation of aquatic fauna and recreational or commercial fishing' (DIGESA 2006). Fifteen of these households were in one community where there was no functioning water pump system.[73] As explained in Chapter 4, water quality is a widely discussed issue in relation to the Corrientes and families commented during the survey that they were aware that the river water was dangerous, bad or contaminated, but that they had no choice but to use it when the taps were not working. Some commented that they heated or boiled river water before directly consuming it when in the community, but that they did not do this when '*al monte'* outside the community, where there were neither taps nor kitchen fires.

Water from public taps was not used for washing clothes, and rarely used for washing utensils or for personal bathing. This was done at the edge of the main river, or a tributary stream if one was available with sufficient water flow. Community members also waded and swam in the main and tributary rivers to catch passing shoals of fish or crustaceans with nets and in hot weather swam for pleasure. Given the limited sanitation arrangements (5.3.3) faecal contamination from the local population is likely to have affected these water bodies. Passing boats, for example the *lancha* service (5.3.4) and oil company supplies and staff transport vessels may also have contributed to this, as passenger toilets emptied sewage directly into the river.

[73] In 2006 a system was reported to be in place and functioning (Pluspetrol 2006) but in May 2009 when the household survey was completed community members were waiting for a new system to be installed, and this was still reported to be the case in July 2009 (Cáritas del Perú 2009a:25).

5.3.3 Sanitation

Sanitation facilities separate human waste from the wider environment; designed to prevent untreated waste from reaching the human body via the media of water, food and other forms of physical contact. This helps to prevent the transmission of bacterial, viral and parasitic diseases transmitted via faecal contact (WHO 2009).

Among the 96 surveyed households in the case study communities, the existence and use of sanitation facilities was limited (B1.4). Sixty-two (64.6%) households reported that they used no sanitation facilities, urinating and defecating '*al campo*'[74], usually hidden from public view among vegetation at the edge of the community. Similarly, two households (2.0%) used low-lying ditches or streams near their houses. The remaining 32 (33.3%) used untreated pit latrines. Ten of these used communal latrines, for example in Community 4 a latrine by the school building was used by several neighbouring households. Twenty-two (22.9%) used 'private' pit latrines, associated specifically with their household. The majority of these were in two communities (8 in Community 2 and 10 in Community 5), and none existed in Community 1. These household pit latrines, built a short distance from the house, were constructed by Cáritas as part of their 'Healthy Families' project (5.5.2). Cáritas reported that this was a difficult part of the project to implement, with the principal difficulty the 'cultural shock that the use of this new technology implied for the indigenous communities'[S] (Cáritas del Perú 2009a:25) When reviewing the programme they noted that many families did not use the toilets because they did not have toilet paper (ibid.). During the household survey community members reported problems with pests such as flies and rats being attracted to the toilets and some dismissed the 'ecological toilets'[75] as dirty, saying it was better to go *al campo*. Some households which had latrines reported that they used them for other purposes such as housing chickens.

Reported population use of latrines related only to time spent in the community. During days spent working away from the house in their *chacra*, fishing, or hunting or gathering *al monte* (5.4.5) no latrine facilities were available for community members to use.

[74] Outside and away from buildings, used in this context to refer to semi-open areas between the main clearing of the community/chacra and uncleared forest.

[75] Referred to as *baños ecológicos*

Overall, despite the existence of limited sanitation facilities used by some households, separation of human waste from the wider environment was limited.

5.3.4 Food

Food provides nutrients and energy essential for daily survival, and child growth and development are dependent on consumption of an appropriate nutrient balance. Insufficient food and diets lacking in appropriate nutrients are associated in the short term with morbidity and mortality, and in the long term with educational and economic effects and adult chronic diseases (Caulfield, de Onis et al. 2004, Black, Allen et al. 2008). Maternal diet before and during pregnancy is associated with children's health outcomes (Kunz and King 2007). Access to sufficient and appropriate foods is therefore seen as both a direct and indirect health determinant. This section describes household level food consumption and factors related to obtaining and preparing food in the Corrientes household survey communities.

Food consumption

Community members were asked whether anyone in their household had consumed any food items from 32 specified food categories during the previous 15 days[76]. As this was a small, cross-sectional survey completed at one point in time seasonal fluctuations in availability of food sources were not captured. During data collection for example some species of fish and freshwater shrimps were reported to be in greater abundance than during the preceding months. Seasonal changes in river levels also influenced transport links to Villa Trompeteros and Iquitos, affecting delivery of externally produced goods brought by *lancha* or sold by small traders. Data are therefore interpreted as indicating food consumption in May 2009, rather than representing an annual consumption pattern for specific categories.[77] Results are presented and discussed below in descending order of frequency (Figure 5b).

[76] Day and date keeping were not consistently practiced and some respondents queried '15 days' saying they 'didn't know' that kind of time period. The question was rephrased for them as 'recently' or 'in the last two weeks', so responses are unlikely to reflect an exact 15 day period.

[77] One error should be noted regarding the category 'wheat, semolina,corn' as there was a misunderstanding during survey data collection between the researcher and translator regarding the term for corn. Fresh roasted corn was being widely consumed in one community where a crop was ripe, but was not recorded as the term used in the survey was associated regionally with dried or processed corn (*maiz*) rather than fresh sweetcorn (*choclo*). Following this each listed item was reviewed to confirm that there had been no other misunderstandings.

Food Category	Frequency (n) (%)	Source[78] (I)=Internal (from local area) (E)=External (from outside local area)
Plantain/banana[79]	95 100%	Cultivated (I)
Roots and tubers (e.g. manioc, taro, potato, yam)	95 100%	Cultivated (I)
Masato (manioc base)	95 100%	Produced from cultivated manioc (I)
Fresh fruits	94 99.0%	Cultivated, Gathered (I)
Cooking oil, margarine (vegetable based)	94 99.0%	Donated (E)
Rice	93 97.9%	Donated, (E)
Salt, seasonings, spices	93 97.9%	Purchased/traded (salt) (E), Cultivated, Gathered (spices) (I)
Beans (including peas, chickpeas, lentils)	91 95.8%	Donated (dried) (I), Cultivated (fresh) (E)
Fish, shellfish	85 89.5%	Fished (fresh) (I), Donated (tinned) (E)
Suri[80]	82 86.3%	Gathered (I)
Fresh vegetables and herbs	76 80.0%	Cultivated (I)
Bird meat	74 77.9%	Hunted, Reared (I)
Milk [81]	59 62.1%	Donated (E)
Eggs	58 61.1%	Reared (I)
Red meat	57 60.0%	Hunted (I)
Soft drinks (coca cola, inca kola, etc.)	46 48.4%	Purchased/traded (E)
Tea, coffee, cocoa, herb tea	45 47.4%	Purchased/traded (tea, coffee, cocoa) (E) Cultivated /Gathered (herb tea)(I)
Sweets, chocolate, honey	37 40.0%	Purchased/traded (sweets, chocolate) (E) Gathered (honey) (I)
Sugar	36 37.9%	Purchased/traded (E)
Alcoholic drinks (wine, beer, liquors, *masato fuerte*[82])	36 37.9%	Purchased/traded (E) (All except *masato fuerte* produced from manioc (I))
Biscuits, cakes etc.	22 23.2%	Purchased/traded (E)
Noodles (includes pasta)	16	Purchased/traded (E)

[78] Post hoc categorisation based on observation and interview data (not a survey question).

[79] Both plantain and banana are *Musa* species; plantain are firm and savoury, boiled or roasted before eating; banana are softer and sweet, eaten raw or roasted.

[80] Insect larvae likely to be *Rhynchophorus palmarum* collected from palm trunks.

[81] Powdered or tinned condensed milk, including milk for infants. Not fresh milk.

[82] '*strong masato*' fermented for longer than usual and more alcoholic.

Food Category	Frequency (n) (%)	Source[78] (I)=Internal (from local area) (E)=External (from outside local area)
	16.8%	
Bread	11 11.6%	Purchased/traded (E)
Prepared sauces (tomato, mayonnaise, etc.)	11 11.6%	Purchased/traded (E)
Yoghurt, butter, cheese, other non-milk dairy products	8 8.4%	Purchased/traded (E)
Instant food/drink mixes	6 6.3%	Purchased/traded (E)
Wheat, semolina, corn	*5*[83] *5.3%*	Purchased/traded (wheat/semolina) (E), Cultivated (corn) (I)
Oats, quinua, barley	2 2.1%	Purchased/traded (E)
Dried or conserved fruit (jam)	2 2.1%	Purchased/traded (E)
Meat sub-products (tinned ham etc.)	2 2.1%	Purchased/traded (E)

Figure 5b Household level food consumption in last 15 days (May 2009)

The foods most widely reported as recently consumed were either locally cultivated/gathered or donated foods, while those least frequently consumed were purchased or traded from external sources. Food sources are discussed below. Foods from two categories, 'plantain/banana' and 'roots and tubers', were reported to have been consumed recently by all 95 surveyed households. These groupings include two staple carbohydrate sources that were widely cultivated in *chacras* and harvested all year round; plantain *(Musa sp.)* and manioc *(Manihot esculenta*). Both were peeled and cooked before consumption. Plantain were roasted directly over the fire or boiled in water with fish or meat as *pango.* Like plantain, manioc was widely eaten in the region as a savoury, solid food. In the communities it was also the base ingredient of *masato*, a fermented liquid consumed daily and at the heart of family sustenance.

Masato is a liquid 'beer' made by women from fermented manioc and water. Manioc is harvested and carried back to the community in large baskets, and washed in water at the edge of a stream or river, or in the house with water carried from a tap. It is then peeled, chopped, boiled over the kitchen fire, drained and tipped into a large open dish. Small pieces of raw manioc are then chewed while the cooked manioc is mashed with a wooden paddle, and the masticated pulp gradually added to the mixture. Small amounts of other ingredients such as raw peanuts are sometimes added, altering the flavour. When it reaches a thick foamy

[83] Inaccurate frequency, see explanation in text.

consistency, the *masato* base is stored in covered containers. After several days' fermentation it is ready to use, mixed by hand with water just before consumption to form a creamy liquid. Described by Seymour-Smith (1984:106) as 'not only a central nutritional source but also a central ritual of family and social life', *masato* is the product of women's work cultivating, tending and harvesting manioc. The provision, flavour and quality of *masato* are a responsibility and source of pride for its maker. It is served daily in the morning to give sustenance for the day ahead, during *mingas* (5.4.5), when visitors come to the house, and serves as replacement for solid food when none is available. Large batches were prepared in advance for *mingas* and periods of celebration. For the latter, for example for a christening and for mother's day, the base was left to ferment for longer than usual to become more alcoholic and make '*masato fuerte*' [strong *masato*].

Production and consumption of *masato* from manioc, other tubers and fruits has been widely reported among rural Amazonian communities including, for example, the Airo-Pai (Belaunde 2001), Amuesha (Santos-Granero 1991), Awajún (Roche, Creed-Kanashiro et al. 2008), Ashéninka (Hvalkof and Veber 2005)/Asháninka (Fabián 1994) and Candoshi (Surrallés 2007). Anthropologists studying Achuar communities between 1955-1986, who described *masato* in English as 'manioc beer' documented the production process and volumes consumed (Harner 1973), described the 'incalculable symbolic' contribution of its role as a 'social lubricant'[S] (Uriarte 2007:65) and related it's abundant supply to male social prestige (Descola 1994:114). The role of *masato* in the Corrientes is discussed in Chapters 7-9, particularly 9.4.1.

In addition to manioc, the 'tubers' category includes locally cultivated varieties of sweet potato (*Ipomoea batatas*), taro (*Colocasia esculenta*), and *'Sachapapa'* [false potato'/yam] (*Dioscorea trifida*), also grown in *chacras*.

Fresh fruits, cultivated in *chacras* and occasional trees in the community, or gathered in the forest, were reported to have been consumed recently in 94 households. Unlike plantain and manioc, fruit availability is seasonal, so households draw on a range of species through different periods of the year. During household survey data collection in May, papaya (*Carica papaya)* and guaba (*Inga sp*.) were plentiful. Fruits were eaten throughout the day rather than forming part of a set meal.

These results correspond with the findings of a study of agrobiodiversity in *chacras* in the Corrientes conducted in 2003 (Perrault-Archambault and Coomes 2008). Of the twenty most

common garden plants identified in a survey of 300 low and mid-river households, three were tubers (taro, sweet potato and manioc) and thirteen fruits (ibid.)(B.1.5).

The next most frequently reported food groups were donated foods – vegetable oil, rice and dried beans, reported by over 90% of households. Donated foods are discussed separately below. Turning to other widely reported food groups which were not donated, all categories reported by over 50% of households contained at least one element which was gathered, raised or hunted locally. Considering these in descending order of frequency, 'salt, seasoning and spices' reported by 93 households included *ají* [sweet and hot peppers] *(Capsicum annuum, Capsicum frutescens*) grown in *chacras*.

'Fish and shellfish', reported by 85 households, was the most widely reported of the four categories which included animal meat. This included fresh fish and shellfish such as freshwater shrimp caught locally with nets and baskets, and donated tinned sardines[84]. *Suri* (*Rhynchophorus palmarum)* reported by 82 households, are insect larvae gathered in the forest from the centre of palm trunks. Eaten raw or cooked, they were particularly favoured by pregnant women who reported craving them and going away *al monte* with their families specifically to gather them. Other meat categories were bird meat (74 households) and red meat (57 households). Bird meat was obtained mainly through hunting species such as *paujíl* (Family *Cracidae*) and *pinsha* [toucan](Family *Ramphastidae*). Small numbers of domestic chickens were raised but were only killed for household consumption for particular occasions. Red meat consisted almost exclusively of hunted wild animals including various species of monkey, *majás* (*Cuniculus paca*), *añuje (Dasyprocta fuliginosa*) and *huangana* [peccary] (*Tayassu pecari*). Domestic pigs were reared by a small number of families, primarily to sell to traders.

Other animals such as bats, toads and stingray were also observed being caught, cooked and eaten by community members. These were not included as prompt examples in any of the four categories discussed above, of which fish and shellfish, red meat and bird meat were based on those used in the YL questionnaire and reflect categories recognised in national society. Each category was discussed with research assistants prior to fieldwork and following piloting, and locally relevant examples noted as prompts. *Suri* was added as a category after discussion with

[84] Fish and shellfish were likely to be caught in rivers, streams or lakes rather than reared in '*pisigranjas*' [fish farms], which were widely discussed in Loreto region at the time of fieldwork as sustainable development initiatives/ nutrition interventions. In one of the case study communities a *pisigranja* had been dug and stocked with fish, but then covered over because it was associated with an increase in mosquito populations.

research assistants about other types of foods eaten by community members, but bats, toads and stingrays were not mentioned at this stage. Neither were they raised by respondents during fieldwork when they were asked if there were any 'other' foods they had eaten recently which had not been mentioned already. They may have been regarded as part of existing categories, or ignored as an appropriate category was not presented.

Another food which similarly may not have been included in categories used in the questionnaire but widely consumed was palm heart, illustrated in X. This was harvested from the centre of palm trunks and eaten raw. This may have been included in the vegetable category as it is plant based and not a tuber or grain, although unlike other vegetables it is not grown in *chacras* as a crop[85].

Uncertainty about reporting of foods indicates the limitations of using a priori categories in data collection, and the importance of observation, which was a more effective way to gather extra information than asking direct open questions about 'other' foods consumed.

Fresh vegetables and herbs were reported to have been recently consumed in 76 households (80%). This included fresh herbs such as *sacha culantro*[86] [false coriander] *(Eryngium foetidum),* widely used in households we visited to flavour *patarashca* (food cooked slowly wrapped in leaves) and *pango*. As herbs and vegetables were included together in one category these responses may have referred to herbs, vegetables or both. Similarly the category 'tea, coffee, cocoa, herb tea' from which 45 respondents (47.4%) reported recently having consumed something also included locally grown fresh herbs, albeit generally different herbs used for infusions than to flavour cooked foods.

Recent egg consumption was reported in 58 (61.1%) households. Eggs were obtained from domestic chickens. At the time of fieldwork, a teacher in Community 4 reported that she was encouraging parents to feed their children more eggs to provide protein, and showing them how to prepare dishes using donated foods and egg such as '*arroz chaufa'* [chinese rice] using egg, rice and vegetable oil.

Recent consumption of food from categories only available from external sources – not cultivated, reared, hunted, gathered or donated - was reported by less than 50% of households. Of these soft drinks (46 households, 48.4%) were most frequently reported,

[85] Palms were grown for their fruit and leaves (used as roof material), but extracting the heart of the trunk damages the plant so palm heart was generally gathered '*al monte'* rather than from *chacras*.

[86] Reported to be newly cultivated in Achuar *chacras* (MINSA 2006).

followed by sugar (36 households, 37.9%) then biscuits and cakes (22 households, 23.2%). All of these categories contain some products which are sweet, easily stored in high temperatures for extended periods and transported without damage, and are among the more cheaply priced packaged products in regional markets, compared, for instance, to tinned meats or dairy products. The remaining nine categories of externally produced foods such as noodles, bread and 'non-milk' dairy products (cheese etc.)[87] were consumed recently in less than 20% of surveyed households and were generally savoury, with the exception of preserved fruits/jams and possibly yoghurt drinks in the non-milk dairy category. Of the six households reporting recent consumption of foods from the three least widely reported categories – oats, quinua and barley, dried or conserved fruit, and meat sub products - five had members whose paid work as teachers, petroleum company employees and a FECONACO *dirigente* provided them with both the means and opportunity to purchase a range of foods in Villa Trompeteros or Iquitos. The remaining household had three close family members working for FECONACO, who brought gifts of foods when visiting.

In summary, these data show an overall pattern of wider consumption of locally available or donated foods, with foods only available from external sources consumed recently by fewer households. The types of cultivated, hunted and gathered foods reported are similar to those reported in contemporary studies of Achuar communities in the Corrientes and neighbouring areas (MINSA 2006, Perrault-Archambault and Coomes 2008) and Awajún communities in the Cenepa River region (Roche, Creed-Kanashiro et al. 2008).

Obtaining food

As noted above in Figure 5b, foods were obtained from a mixture of local and external sources. The most ubiquitous staple foods, manioc and plantain, were produced locally, cultivated by each family in their *chacra*. Vegetables, some fruits and herbs were also cultivated. As discussed below, cultivation was the most frequently reported daily activity among community members, reported as one of their three main daily activities by 48.7% of males (n=57) and 80.6% of females (n=104) (Figure 5f, below). With the exception of one household inhabited by two newly arrived teachers, all others (n=95, 99.0%) reported having one or more agricultural tools, commonly a machete[88].

[87] Preserved in tins or as long life, bottled drinks, not requiring refrigeration.

[88] Table not presented as no further disaggregation (95 households had one or more agricultural tools; 1 none, total n=96 households).

Other locally sourced foods were obtained through hunting, fishing and gathering. Fishing was reported most frequently by men (23.1%, n=27), although 9.3% of women (n=12) also described it as one of their three main daily activities, and hunting/gathering was identified as one of their three main activities by 23.9% of men (n=28) (Figure 5f).

Being able to capture animals, birds, fish and crustaceans was dependant both on individual knowledge and skills, and on ownership of appropriate tools. Blowguns (*pucuna*) and arrows, used to hunt animals and birds, and fishing nets were made in the communities from local materials. Describing Ecuadorian Achuar communities, Descola noted that blowguns were 'particularly difficult to make' (Descola 1994:222) therefore those produced by the 'few men who are particularly reputed for their skill in this area' were sought after (ibid.). In the surveyed case study households one 46 year-old man reported 'making blowguns' as the second of his three principal daily activities. Shotguns and cartridges, also used to hunt animals and birds, were obtained through purchase or exchange. Ownership of a shotgun and replenishment of cartridges was therefore dependant on receiving financial pay for employment, or being able to provide and sell sufficient sought after trade goods. Access to money and means of transport were also necessary if shotguns required repair; the *Apu* of one surveyed community asked the translator to take his shotgun to Iquitos for repair.

Household ownership of hunting and fishing equipment was surveyed in 84 of the 96 case study households[89], of which 80 (95.2%) owned some equipment (Figure 5c). Fifty-seven (67.9%) owned fishing equipment, and 68 (90.0%) either a shotgun or blowgun.

[89] n=84 because these items were not included in the questionnaire for the first households surveyed (see 3.9.2).

Household equipment ownership		Frequency (n) (%)
Household has no fishing or hunting equipment		4 4.8%
Household has fishing or hunting equipment		80 95.2%
of which: *Fishing net*	*57* *67.9%*	
Shotgun	*58* *69.1%*	
Blowgun	*40* *47.6%*	
Shotgun or blowgun	*68* *90.0%*	
Shotgun and blowgun	*30* *35.7%*	
Fishing net, shotgun and blowgun	*20* *23.8%*	
Total Households		84 100%

Figure 5c Household ownership of hunting/fishing equipment

Ownership of equipment gives some indication of household capacity to capture meat and fish for food. The survey data demonstrates that the majority of households had access to equipment used to catch fish, meat, or both, for consumption. Opportunistic fishing without special equipment was also observed, for example as women and children washing clothes in the river used a bednet and kitchen pots to catch small fish from a large passing shoal.

The food consumption data discussed above, together with information about daily productive activities and equipment, shows that the local physical environment, mediated by human activities to grow, find, capture and collect specific food species, was a key factor in food provision for community members.

Over 95% (n=92) of households also reported recent consumption of donated foods, which were externally produced and not available from the local environment. Food donations came primarily from two main sources: a local food assistance programme set up specifically for the Corrientes River native communities, and the national *Vaso de Leche* [Glass of Milk] programme.

The *Acta de Dorissa* (4.7.3) included the provision of food assistance, funded by Pluspetrol, to the Corrientes river native communities. A food procurement and distribution system was set up jointly between FECONACO and PRONAA [National Program of Food Assistance], using funds specified in the *Acta de Dorissa*. Those involved and recipients suggested that the

scheme encountered numerous logistical and administrative challenges including securing food supplies in Iquitos, releasing funds to pay for foods and transport, availability of reliable transport, and provision of appropriate foods. When the household survey was carried out in May 2009 a delivery trip had been successfully completed one month before, distributing rice, vegetable oil, dried beans and tinned sardines to registered families[90].

The *Vaso de Leche* programme is a national nutritional programme established by the World Bank in 1984, which provides milk and cereal products at household level to children under six years and pregnant and lactating mothers (Aguiar, Rosenfeld et al. 2007). In the Corrientes communities tinned condensed and powdered milk were provided at household level[91], and additional supplies were issued to primary school teachers to provide *desayuno escolar* [breakfast at school] to all students. Teachers reported that supplies for the latter were infrequent, for example in May 2009 they were still waiting to receive the first supplies of the calendar year, and in 2008 their supply had run out in September.

Figure 5d shows the frequency of receipt of donated food among the 96 households responding to the household survey. Four households reported not receiving any donated food, while in 92 households one or more members had received some form of donated food.

Type of donated food received	**Frequency** (n) (%)	**Source** FAP = Food assistance programme PVL = *Vaso de Leche* programme
Receipt of any donated food	92 95.8%	FAP/PVL
Rice	90 93.8%	FAP
Vegetable oil	90 93.8%	FAP
Tinned sardines	89 92.7%	FAP
Dried beans	88 91.7%	FAP

[90] To receive food assistance families needed to have been resident in the community in August 2008 when a population register based on the 2007 population survey (PEPISCO 2007a) was updated by the community authorities and sent to the FECONACO office in Iquitos. The population recorded in this survey was used to calculate volumes of food needed in each community. There were problems with updating the register and during fieldwork some families complained that they were not registered or were incorrectly registered. There was also some variability regarding whether teachers and their families were deemed eligible to receive food assistance.

[91] Unlike the local food assistance programme all families with young children were eligible for this programme, including 'non-native' teacher's families.

Tinned condensed milk	71 74.0%	PVL
Powdered milk	61 63.5%	PVL

Figure 5d Household receipt of donated food

Food selection and quantities were based on PRONAA's nationally determined daily allowances of four food categories for nutritionally 'at risk' populations. For adults this was 150g of cereals, 20g of pulses, 10g of fat and 20g of animal product (PRONAA 2010a). The majority of households received four foods from the food assistance programme. Those receiving rice and vegetable oil but not tinned sardines (n=1) or dried beans (n=2) may have refused them, as these were discussed unfavourably by some community members who were unfamiliar with preparing and eating dried beans, and disliked tinned sardines. One family who received neither dried beans nor sardines reported that they 'didn't know [how to] eat them'. Respondents in Community 2 reported that in the recent delivery of donated food dried beans had arrived damp and been discarded by families as they had gone bad. These observations were reflected by a health post staff member who reported that the quality and type of dried beans sent was problematic, and that 'for custom' community members didn't like the tinned fish. She observed that while families might eat two or three tins, when they were given many they didn't eat them, and in one community (outside the case study area) where there was a health post instead sold them to health post staff.

76 households (79.2%) reported receiving donations from the *Vaso de Leche* programme, of either tinned condensed milk (71 households) consumed by adults and children, or powdered milk (61 households) intended for supplementary feeding of young children.

As discussed above consumption of donated foods was widely reported, although the volume and frequency of consumption was observed to be lower than that of traditional staple foods.

Cooking food

The majority of foods, with the exception of fresh fruits, were cooked before consumption. Cooking was dependent on fuel availability. All except one surveyed household (n=95, 98.9%) cooked over an open kitchen fire, using wood collected locally as fuel (B1.6). One surveyed household, of a teacher, reported that their main fuel source for cooking was gas, brought with them in canisters from Iquitos, although when this ran out they also cooked over a wood fire. As with food sources, fuel for cooking was also therefore derived mainly from the local environment.

5.3.5 Transport

Transport, while not usually a basic need for survival, was an important aspect of everyday life in the case study communities. Household owned wooden canoes made by community members were used daily for local trips such as to travel to a *chacra* situated a short distance up or down stream, cross the river between the main community and outlying houses, or to set and collect fishing nets. They were also used less frequently for longer trips to visit neighbouring communities for social, trade and health[92] purposes, and to travel to Villa Trompeteros. As well as enabling community members to travel longer distances more quickly than on foot, access to boat transport assisted transport of trade goods, food, household construction materials and fuel supplies.

Sixty-eight households (70.8%) had their own boat transport (B1.7), and for short everyday trips those who did not joined relatives or neighbours or borrowed their boats. Boats were frequently powered by hand, using locally made paddles. In addition, 57 households (59.4%) had a boat motor, a '*peque-peque',* transferable between boats. Reliant on availability of both petrol and motor oil to function, these helped to make journeys upstream quicker and facilitated longer journeys. Households which had them did not necessarily use them every day, as fuel was not widely available in the region. Repair facilities and materials for broken motors were also only available outside the region.

Unlike motors, wooden canoes and paddles were made locally and therefore independently of resources or skills from outside the community. Ten males aged 19-74 reported that making canoes was one of three main activities they had carried out in the past 12 months. For four men aged 28-62 this was reported as their principal activity.

Other sources of transport included larger motorboats owned by two of the case study communities (provided by Pluspetrol), PEPISCO boats used to transport patients and a *lancha* river boat service operated from Iquitos. Passengers on the *lancha* were charged a cash ticket price, which made the journey unaffordable for some community members.

[92] Including visiting health facilities, evangelist pastors and *medicos* to seek assistance to alleviate symptoms of ill-health (see Chapter 8).

5.4 Distal factors: children's social environment

The 'social' aspects of the environment in which children are born and grow up are seen in public health terms as distal determinants of health; they influence proximal factors which in turn directly influence health and well-being. Six factors are discussed here in turn: ethnicity, language, religion, education, national registration, daily activities and socio-economic status. For each factor the normative relevance to health in accordance with public health perspectives is explained briefly, and potential pathways in the case study setting are described.

To give a temporal context to this section, Figure 5e lists the groups present in the Corrientes region, and key local and national policies and events, in relation to the birth of surveyed case study community members alive in 2009 (n=576). This gives some indication of the social influences in the region at different periods over the lifetimes of community members. For example, the 39 adults aged 40-49 years in 2009 were born in 1960-1969; in this decade oil exploration began and SIL Evangelist missionaries became active. In 1970-79, when this cohort was aged 10-19 years, oil was found and large scale oil production began in the region. This is based on the assumption that the majority of current residents were born in the region. Data were not directly collected about this, however 87.2% of female and 81.2% of male household heads spoke Achuar as their mother tongue indicating that they were likely to have been born in the region [B2.1][93].

Sources for Figure 5e: (Seymour-Smith 1984, ERI, Racimos de Ungurahui et al. 2007, PEPISCO 2007a, INEI 2008a, Society for Threatened Peoples 2008, Scurrah and Bebbington 2013).

[93] Survey question 'What was the language that your mother spoke with you since when [from the time] you were a child?. Figures may include Achuar speakers from neighbouring areas e.g. later migration from Pastaza region after the main 1930-40s wave.

Time period	Groups present, significant local and national (*) events and policies	Birth of 576 surveyed case study community members alive in 2009[94] (n)							
Pre 1930s	*Small dispersed settlements; thought to be offshoots of Pastaza Achuar families and a distinct Murato (Candoshi) population.*								
1930-9	Border conflict with Ecuador and border shift (1941); *Murato population moved away south, in migration from Achuar Pastaza region and Quechua men* (1930s-40s)	2							
1940-9	Patrons establish in Corrientes (1940s-50s); trade of forest items for commercial items through supply-exchange-debt labour pattern		3						
1950-9				15					
1960-9	SIL Evangelist missionaries become active in region (1960) Oil exploration begins				39				
1970-9	Oil found in Corrientes in exploratory well dug in Block 1A (1970) Occidental Petroleum Corporation sign contract for Block IAB concession (1971); large scale oil production begins (1975) *Law of Native Communities and amendments (1974,1978)* *AIDESEP formed (national organisation representing Peruvian Amazonian indigenous Peoples) (1979)*					44			
1980-9	*Four communities of 100-450 inhabitants centred around oil camps and native SIL trained Evangelical leaders, plus scattered households, total population 1100* (1982)						86		
1990-9	FECONACO (Federation of Native Communities of the Corrientes River) formed (1991)							141	
2000-9	Pluspetrol buys Block 1AB concession from Occidental Petroleum Corporation (2000) Five new petrol concessions granted in Corrientes (2005) Acta de Dorissa (2006) *Peru - USA Free Trade Agreement (2006); land laws (2008); Bagua violence (2009)* *35 separate 'Native Communities' of 29-503 inhabitants, total population 5567, and mestizo town Villa Trompeteros population 2554 (2007)*								246
		70+	60-69	50-59	40-49	30-39	20-29	10-19	0-9
		Age(years) in 2009							

Figure 5e Groups and events in the Corrientes Region over the life times of current residents

[94] Date from household survey. Total reported here 576 individuals, whose age was known. A further 35 people (5.7% of 611 surveyed) did not know their age; examining their family position showed fairly even distribution across generations of children (n=10), parents (n=13) and grandparents (n=12).

5.4.1 Ethnicity and language

Ethnicity and language are discussed together as they are inter-related and sometimes used interchangeably in quantitative public health research. 'Ethnicity' is a context-dependent term (Bradby 2003), used to refer to both physical factors such as genetic constitution and cultural factors such as language, shared customs and social institutions (Abercrombie, Hill et al. 2000:123). Depending on both the intended meaning of 'ethnicity' and the specific social and temporal setting, language can be part of the construct or a separate factor. In the case study communities, as explained below, ethnicity and language occupy overlapping but not identical domains (see also Introduction to Part III).

In public health, ethnicity is seen to influence health both i) through socio-economic and political status, which influence access to material resources and health services, and ii) through cultural beliefs and practices. These are seen to influence health both directly, for example through treatment seeking behaviour in case of illness, and indirectly, for example through daily activities which influence access to material resources. Additionally, institutional and individual discrimination against specific ethnic groups is seen as indirectly and directly affecting health (Williams 1999), and language can affect communication between the general population and health care providers, facilitating or hindering patients to seek care, and health professionals to disseminate health promotion messages.

Ethnicity, and discussion of associated categories such as 'indigenous', 'native' and '*mestizo*'[95] is a fluid and contested field in Peru (Paredes 2007, Cánepa 2008, Thorp and Paredes 2010, Sulmont 2011) (1.2), and data about ethnicity has been described as 'mostly unavailable or unreliable'(Figueroa and Barrón 2005:8). Language is the factor most commonly used for formal categorisation of ethnic group although the way in which language use is classified varies, for example some national surveys classify only monolingual speakers of a specific language as belonging to a specific ethnic group, while others also include bilingual Spanish speakers[96]. Up to ninety-three 'indigenous' languages

[95] The category '*mestizo*' originated as a racial description of individuals with both indigenous and non-indigenous parentage. In contemporary use it has been described as referring to 'a cultural and class-based process of acculturation'(Paredes 2008:22) , in conjunction with *mestizaje* 'a process of scaling up from the 'Indian' situation of exclusion and exploitation to a life of citizenship and progress through the learning of Spanish, education and migration to urban centres' (ibid.) De La Cadena (2005) discusses the history and conceptualisation of the terms *mestizo* and *mestizaje* in Peru in depth.

[96] The 2007 National Census used mother tongue as a marker of ethnicity, recording only the language that the respondent learnt to speak in of the following options: 'Quechua, Aymara, Ashaninka, other native language (specify), *Castellano*, other foreign language' (INEI 2007c). The

have been recorded as spoken in Peru (Gordon 2005) classified into 11 – 16 language groups (Gordon 2005, IWGIA 2008).

Male (n=85) and female (n=94) household heads in the case study communities were asked directly about their ethnic group, mother tongue and languages spoken, using question wording and categories based on the YL study (see Appendix A3.3.3)[97]. One hundred and sixty-five (92.7%) reported that they belonged to the 'Native of the *selva,* Achuar*,'* group, one Yagua (a distinct *'Native of the selva*' group) and one Aymara (B2.2). Four (2.2%) described themselves as *mestizo* and 8 (4.5%) didn't know. Being Achuar was also referred to by some respondents in the context of discussion about their daily activities (5.4.5) prefacing responses: 'As Achuars we....'. Being Achuar denoted in the region being part of a social group with a particular history of relations with Pluspetrol and other non Achuar people (4.7). It was also directly related to entitlement of access to health services (5.4) and Pluspetrol funded food donations (5.3.4) following the *Acta de Dorissa* (4.7.3). As discussed in 4.8, negative conceptions of indigenous or native people from the *selva* were widely held in Peru, which may influence access to and appropriate delivery of health services (Alcock 2001). Attitudes of local health workers in the Corrientes toward community members are discussed in Chapters 7 and 9.

Affiliation with the 'Native of the *selva*, Achuar' grouping did not unanimously equate with speaking Achuar. One hundred and fifty-nine respondents (88.8%) reported speaking Achuar (B2.3), six fewer than those who described themselves as part of a 'Native, Achuar' group (B2.2). One hundred and fifty-one spoke Achuar as a first language, five as a second language and three as a third language (B2.4). Of the eight Achuar speakers for whom it was not a first language seven were male, suggesting a higher rate of in migration by males than females.

2001 ENAHO-1V *Encuesta Nacional de Hogares* carried out by INEI was more comprehensive with six questions to determine ethnicity, including mother tongue, language most frequently used, parents' language, grandparents' language, other languages known, and self identification with ethnic group (Quechua, Aymara, Amazónico, among others); these were not included in subsequent surveys (Trivelli 2005).

[97] Respondents were asked directly 'To which group do you belong?' rather than this being assigned by the interviewer (based on appearance/language spoken) as in YL study. The survey question was 'To which racial group do you belong?' but in translation to Achuar the interpreter reported asking 'To which group do you belong? *Mestizo*, Native of the *selva* Achuar, Urarina...' rather than directly translating 'racial', which she said did not make sense to people, and we also used this wording in surveys conducted in Spanish.

The majority of respondents (n=140, 78.2%) spoke some Spanish, with varying levels of fluency (B2.5, B2.6). Proportionately more men (n=81; 95.3%) than women (n=59; 62.8%) were Spanish speakers (B2.5), and men reported higher levels of spoken fluency and ability to read in Spanish (B2.6, B2.7). Over half of surveyed female household heads could not read at all in Spanish (n=54, 57.4%) compared with 22.4% of male household heads (n=19) (B2.7). Being able to understand and speak Spanish influenced interaction with health workers, few of whom spoke any Achuar. Gender differences in language proficiency made it difficult for health workers to communicate directly with mothers, the primary carers for young children (see 9.6). This influenced both verbal and written communication, as parents were expected to safely store written records of children's vaccinations and present them for updating when new vaccinations were given. Written materials were also used in health interventions, for example written booklets of recipes for young children of different age categories up to four years and advice about infant feeding produced by the PEPISCO nutritionist (PEPISCO 2009f).

The majority of parents (n=132, 73.7%) reported that they spoke Achuar with their children, indicating that the majority of children would also speak Achuar as their mother tongue (B2.8). This would in turn influence children's communication with health workers, and their language proficiency when entering education (5.4.3). Adult language use and proficiency was also indirectly related to health via several pathways including education and employment (5.4.6). In order to be employed by the company, for example, males needed to have completed secondary education, for which spoken and written Spanish was necessary.

5.4.2 Religion

Religion is seen to affect health status through a range of behavioural and psychosocial pathways (Chatters 2000), including influences on mental health, health-related lifestyle behaviours and utilisation of health care services. It is discussed here as it was a prominent aspect of social life in the Corrientes, and religious figures played an important role in treatment of illness (see 9.6.1).

Over 90% (92.2%, n=165) of surveyed household heads reported 'having a religion'[98]; of whom 81.2% (n=146) reported being Evangelist Christians (B2.9). Evangelist Christian missionaries from the Summer Institute of Linguistics began activities in the Corrientes

[98] Phrasing in Spanish (*tener*) translates into English as 'having' a religion rather than 'being' religious.

River area in 1960 (Seymour-Smith 1984:84) (Figure 5e) using a model of practice which involved living in communities, learning the native language and establishing churches. In collaboration with the Ministry of Education they provided primary school education and trained teachers, as well as developing bilingual written religious and community education materials[99] (SIL 2010). Following fieldwork in the Corrientes in 1982-3 Seymour-Smith noted SIL missionaries had 'considerable success in converting the native population to Evangelism' (1984:84). Seymour-Smith related their success both to their control of material goods and wealth, and to their role in bearing new knowledge, valued by Achuar community members in the context of domains of knowledge as sources of power (ibid.).

In 2009 male Pastors led Evangelist church congregations in each case study community. They were all community members who had been trained at missionary boarding schools or by visiting missionaries, except one Pastor who explained that he had been born in Lima to *'Limeño'* parents, before travelling in Loreto region, adopting the Corrientes as his home and marrying a woman from Community 1. A young couple absent from one case study community were reported by family members to be away in Pucallpa with missionaries training to become Pastors. Displayed prominently in their homes Pastors had guitars and audio-visual materials (music and films) provided by missionaries. No foreign missionaries were present in the communities during fieldwork, although community members reported that a white American man had visited to speak about the bible the previous year.

Despite structures of evangelism being well established few community members were observed to participate in church services, held daily. During my first visit to Community 3 two families, whose household heads later reported evangelism in the household survey, explained that they had initially been worried that I was an evangelist preacher who would question them about their religious practice. They explained that now more people worked for the *empresa* things had changed and fewer people practiced evangelism. This indicated some variety in attitudes toward and involvement in religious practice, despite the appearance of conformity in reported religion and observed physical presence of churches and Pastors.

[99] The first recorded resource published by SIL missionaries in the region was a bilingual primary school text produced in 1967 (Fast 1967). During the 1970s and early 1980s other materials included school texts, health education materials, a translation of the Universal Declaration of Human Rights and a translation of the New Testament. Publications about Achuar communities included linguistic analyses, Achuar/Spanish dictionary and a compilation of myths.

Although few community members were observed during fieldwork to participate frequently in church services, Pastors were involved in healing and sometimes reported to be the first source of assistance sought outside the immediate household in case of children's illness (Chapters 7-9). These religious figures therefore had an important role in parents' treatment-seeking behaviour, and evangelical teachings contributed to community member's descriptions of illness causation.

5.4.3 Education

Both an individual's own education level and parental education are associated with individual health status (Hatt and Waters 2006). Most importantly for young children, maternal education has been shown to be strongly associated with infant and child mortality; Cleland (1988) reported a 7-9% decline in under-5s' mortality associated with each one year increment in mother's education in developing country settings. The mechanisms through which this occurs are complex and direct causality is debated (Desai and Alva 1998). Cleland found that economic advantages associated with education accounted for one half of the education-mortality relationship, i.e. that maternal education indirectly contributed to child survival through its effect on economic status, which in turn influenced material factors such as water and latrine facilities. Higher levels of maternal education are also associated with 'health-related habits' (Wadsworth 1999:48) such as attendance at health facilities, engagement with health promotion messages and take-up of services such as child immunisation. Vikram et al (2012) identified two pathways through which education levels influenced child immunisation: health knowledge for mothers with primary education, and communication skills for mothers with secondary education or beyond.

In the case study communities the majority of mothers surveyed had incomplete primary education (46.8%, n=44) or no education (36.2%, n=34) (B2.10). Four (n=4.3%) had incomplete secondary education, and two who were teachers had higher education – one a completed university degree, the other an incomplete further education course. One of these teachers was born in the Corrientes and had returned to the community her family lived in to work.

Each case study community had a primary school staffed by one, two or three teachers. Children of up to six grade levels were taught in one classroom. For secondary education, students attended boarding schools in Nueva Jerusalen (upstream), Villa Trompeteros (downstream), or further away on the Tigre River, travelling by *lancha* each term, and

boarding at the school or staying with relatives. Education was provided by the state, which recruited teachers and paid their salaries, but did not fund classrooms or school materials for students; these were provided by Pluspetrol as part of agreements with individual communities. Some teachers in the Corrientes region were trained through *Programa de Formación de Maestros Bilingües de la Amazonía Peruana [Training Programme for Bilingual Teachers of the Peruvian Amazon]* (FORMABIAP), which trained candidates from indigenous communities in 'Intercultural Bilingual Primary Education' (FORMABIAP 2012). This only began operation in the Corrientes in 2007[100], hence Achuar speaking teachers trained through the programme were from neighbouring Achuar speaking areas. Other teachers, from outside the region, taught primarily or wholly in Spanish.

In common with health services providers (5.5.3), teachers from outside the region reported difficulties with logistical issues such as transport, annually negotiated contracts and pay, as well as adjustment to living in the communities. Teachers surveyed in a FORMABIAP report of the Corrientes were described as suffering from 'culture shock' on first arrival in an indigenous community, and as being 'between two worlds' [S] (Putsum, Clement et al. 2007:27). Some teachers had made compromises in their family situation in order to work; one female teacher lived in the community with her youngest child during term time, separately from her husband and older children in Iquitos, returning to them during school holidays. When her youngest child reached school age this child would also stay in Iquitos for their education. Community members reported that teachers who came from the city often did not stay very long. One exception was a male teacher, approaching retirement age at the time of fieldwork, who had been posted to the Corrientes as a young man, settled with a local partner and had several children, all of whom were studying in Iquitos or had graduated from university.

Community members reported that teachers were often absent, and that school terms began late and finished early, while teachers reported that it was sometimes very difficult to get children to attend school and that parents would take them out of school for days or weeks to travel *'al monte'* or to visit family in other communities. Among the 295 school age individuals (aged 3-18 years) surveyed, 72.5% were reported to be attending school (B2.11). The proportion of boys attending school (n=110, 80.9%) was higher than that of girls (n= 104, 65.4%) (p=0.003). Parents reported that girls were sometimes taken out of school to help their mothers. For example, one seven-year-old girl had left school to help

[100] Established in other regions from 1988.

look after younger siblings, and sisters aged 12 and 16 had been taken out of primary school at grades 5 and 6 to help their mother, who had chronic back pain and difficulty walking, with tending the *chacra* and other domestic tasks. For older children, attendance at secondary school was reliant on parents being able to pay for their transport, board and lodging. Some parents were reluctant to send girls to attend school away from home, and members of one community explained that they associated transmission of sexually transmitted infections in the community with girls' attendance at boarding school.

5.4.4 National registration

In Peru written national registration documents, completed in Spanish, are necessary to participate in national society: to vote, to use some modes of transport, to be formally employed, to register with the national health insurance scheme. National registration is an indirect determinant of health through its association with employment (explained in 5.4.6) and with accessing health services. Historically, national registration rates were reported to be very low among indigenous peoples, although this was reported to have improved during the late 1970s:

> 'During the 1970s the government also addressed the problem of lack of personal documents, especially acute amongst indigenous peoples. Thus, for instance, in a 1975 survey of Shipibo-Conibo settlements, only 16 percent of all men and 13 percent of all women had birth certificates. In addition, only 8 percent of adult men and less than 1 percent of adult women had voting cards, and only 12 percent of adult men had military cards (Chirif et al. 1977:112). In more isolated areas, such as the Purus, Yavari, and Putumayo River basins and the upper tracts of the Morona, Tigre and Corrientes Rivers, the percentage of indigenous people possessing identity documents was even lower. This situation changed drastically after the implementation of the 1974 Law of Native Communities, which allowed the opening of civil registers in every community, permitting indigenous authorities to issue birth certificates.'
>
> (Santos-Granero and Barclay 2000:300)

Despite these reported changes, civil registers are not always kept. In the Corrientes region, birth certificates were required for registration with SIS, the national health insurance scheme (5.5). The process for obtaining these could be initiated by specific authorities in some of the communities, but to complete the process and obtain the certificate community members had to travel to the municipal offices in Villa Trompeteros. Birth

certificates were also required to obtain national identity cards, available to citizens aged 17 years and over, which were a prerequisite of application to work for the *empresa*.

Of all household members surveyed (n=611), 59.9% (n=366) were reported to have birth certificates, 36.8% (n=225) not to have them, and 3.3% (n=20) didn't know, or were absent and their family members didn't know whether they had them (B2.12). When analysis was restricted to those aged 5 years or above, 69.8% (n=330) were reported to have birth certificates, indicating that registration rates were higher among older community members and registration may happen some time after birth. There was no significant difference in proportions registered of females and males.[101]

Among surveyed adults aged 17 years and over (n=263), 61.6% (n=162) had National ID documents, 36.9% (n=97) did not, and 0.8% (n=2) were in the process of application, and 0.8% (n=2) did not know or did not state (B2.14). Proportions were significantly different between males and females: 20% of males (n=25) did not have ID compared to 52.2% of females (n=72).[102] [103] Obtaining ID was a time consuming, costly process, carried out in Spanish. Santos-Granero and Barclay describe rural dwellers having to make 'long, costly trips to the district's capital' (2000:299) in order to obtain ID. A health worker described the situation in the Corrientes:

> *'a humble father, sells his produce, from one year of production, why? For one journey, to get the ID, nothing more ...'*
>
> (Male, Healthcare Assistant, >10 years in Corrientes)

Corrientes residents had to travel to Iquitos, pay a fee in a bank[104], pay to have a photograph taken, and take the payment receipt, photo, their birth certificate and proof of address to the appropriate office, then wait several days in Iquitos for the application to be processed (RENIEC 2012). The FECONACO office offered some assistance with taking photos and providing proof of residence, but the process presented substantial financial and logistical challenges for many families.

[101] Chi square test statistic = 0.52 for 5 years and over, 0.06 for ages 0-4.

[102] Chi square test statistic = 0.000.

[103] Proportions with ID were higher than those recorded three years earlier in a sample of 7 Corrientes communities, when 37.9% were reported to have ID, but the age range of this sample was not given (MINSA 2006:108).

[104] At the time of fieldwork 24 S/, approximately £6.

5.4.5 Daily activities

Daily activities, often described in public health terms as 'occupation' or 'employment', influence a range of proximal determinants of health such as exposure to hazards in the environment, access to foods and access to material goods. The term 'daily activities' is used here as it reflects life in the case study communities more closely than 'occupation' or 'employment' associated with formal positions and financial payments. Some community members did take part in paid employment, described below (5.4.6) but for the majority of respondents it was not a primary activity.

Household survey data was gathered in the case study communities describing the main daily activities undertaken by household members during the 12 months prior to the survey. Respondents were asked to describe the three main activities, in order of importance, of everyone who contributed to the household in some way. There was no restriction given on age and households reported responses for 246 individuals, 98.0% aged 14 years and over. It is important to be aware that the categories reported below are not entirely discrete: for example, a response reporting '*chacra,* because every day I have to bring manioc' was categorised as cultivation, but was also related to cooking and making *masato*. Figure 5f shows the three main daily activities reported by males and females, in descending order of combined frequency.

Activity	Males				Females				All
	Main daily activities 1-3 (n)			Total (n)(%)	Main daily activities 1-3 (n)			Total (n)(%)	Total (n)(%)
	1	2	3		1	2	3		
Cultivation	32	20	5	57 48.7%	80	19	5	104 80.6%	161 65.4%
Work for *empresa*[105] (P)	10	10	35	55 47.0%	0	0	0	0 0.0%	55 22.4%
Making *masato*	0	0	0	0 0	6	27	11	44 34.1%	44 17.9%
Fishing	9	13	5	27 23.1%	2	5	5	12 9.3%	39 15.9%
Hunting/gathering	9	14	5	28 23.9%	0	0	0	0 0.0%	28 11.4%
Cooking	0	0	0	0 0.0	4	13	9	26 20.2%	26 10.6%
Minga (communal work)[106]	9	9	2	20 17.1%	1	3	1	5 3.9%	25 10.2%
Household tasks	4	1	2	7 6.0%	1	11	4	16 12.4%	23 9.3%
Communal work for community	6	8	4	18 15.4%	1	1	2	4 3.1%	22 8.0%
Helping parents	4	1	0	5 4.3%	13	2	1	16 12.4%	21 8.5%
Making goods for daily use	5	5	4	14 12.0%	2	3	1	6 4.7%	20 8.1%
Constructing house	9	6	0	15 12.8%	0	0	2	2 1.6%	17 6.9%
Looking after children	0	1	0	1 0.9%	5	4	7	16 12.4%	17 6.9%
Community role (unremunerated)	4	1	5	10 8.5%	2	0	0	2 1.6%	12 4.9%
Teacher (P)	2	0	1	3 2.6%	6	0	0	6 4.6%	9 3.7%
Community role (remunerated) (P)	4	1	0	5 4.3%	0	0	0	0 0.0%	5 2.0%
Study away from home	3	0	0	3 2.6%	2	0	0	2 1.6%	5 2.0%
Travel to visit someone	1	2	0	3 2.6%	0	0	1	1 0.8%	4 1.6%
Raising chickens	1	1	0	2 1.7%	0	0	2	2 1.6%	4 1.6%
Cultivating crops to sell (P)	1	2	0	3 2.6%	0	0	0	0 0.0%	3 1.2%
Army (P)	1	1	0	2 1.7%	0	0	0	0 0.0%	2 0.8%
Other work away (P)	0	0	0	0 0.0%	2	0	0	2 1.6%	2 0.8%
Staying in house ill	0	0	0	0	1	1	0	2	2

[105] [company]; *Pluspetrol Norte* or one of various subcontractors (5.4.6)

[106] Discussed in (9.4.1)

Activity	Males				Females				All
	Main daily activities 1-3 (n)			Total (n)(%)	Main daily activities 1-3 (n)			Total (n)(%)	Total (n)(%)
	1	2	3		1	2	3		
				0.0%				1.6%	0.8%
Visiting someone locally	0	0	0	0 0.0%	0	1	1	2 1.6%	2 0.8%
Looking after ill person	0	0	0	0 0.0%	1	0	0	1 0.8%	1 0.4%
Other	3	0	0	3 2.6%	1	3	0	4 3.1%	7 2.8%
Total responses for activity 1-3	117	96	67		129	93	52		
Total respondents				117				129	246

Figure 5f Three main daily activities (P) = Paid work

The main activity reported by both males and females was cultivation, preparing and maintaining the *chacra* to produce food. Three of the remaining four most frequently reported activities – making *masato*, hunting/gathering and fishing – were also directly associated with providing food (5.3.4). All of these food related activities were dependent on interaction with the local natural environment. As is discussed in Chapter 8, community members associated food provisioning activities directly with having enough food to eat, and these activities were seen as a matter of necessity rather than choice, for example:

> '*we work to be able to maintain, feed our children.... we work in the chacra, sometimes we go fishing, sometimes we put our nets in the lakes to be able to give this food to our children'*
>
> (Father, Family 24, Community 3)

Work for the *empresa,* discussed further below (5.4.6), was the second most frequently reported activity for men. There were clear gender divisions in the daily activities undertaken by community members. For each of the seven most frequently reported activities, each reported by >10% of combined respondents, there was a significant difference in reporting by gender (p=<0.05) (B2.15). Women were responsible for making *masato* and cooking, and primary workers in cultivation. Men were responsible for hunting and gathering, undertook more fishing and work in *mingas* than women, and were the only group employed by the *empresa*. They also contributed substantially to cultivation.

These broad categories mask secondary differences in roles within activities. Cultivating *chacras*, men tended to be more involved in preparatory work clearing new *chacra* sites, felling trees and larger undergrowth, and managing small clearance fires. Women contributed to clearing but were primarily responsible for cultivating food plants and

maintaining plots, regularly removing weeds, and harvesting food. Despite the apparent absence of women from the hunting and gathering category they did participate in these activities. Women frequently accompanied their husbands on trips *al monte* – sometimes with the whole family - but their role was to assist, to carry and prepare food, serve *masato* and care for any accompanying young children, rather than to hunt. Among the smaller category of 'making goods for daily use' (n=20) there was also a gender division of roles, with women making *macawa*, decorated pottery (n=6), and men other objects such as canoes, oars and baskets from wood and plant materials. The broad roles and divisions identified here resonate with those described in the Corrientes in the early 1980s (Seymour-Smith 1984:209), among Peruvian Achuar communities including the Corrientes region (MINSA 2006), Achuar populations during 1976-9 (Descola 1994) and 1980-86 (Uriarte 2007).

5.4.6 Paid activities

Money was not in frequent use within the case study communities, and was only observed in occasional transactions concerning goods or services from outside the community. These included, for example, selling or buying gasoline, paying to receive telephone calls, and in one community buying carbonated drinks stocked by one family. Food produced in *chacras* was shared or exchanged between families, not bought or sold as in the market stalls and shops in Villa Trompeteros. The majority of daily activities undertaken by community residents contributed directly to the household's daily food needs and were not financially remunerated. The main exception to this was formal paid employment for an *empresa*, reported in the previous 12 months by 55 men (47.0% of men whose daily activities were reported) (B2.16). Referred to generically as the '*empresa'*, employers included four main companies, subcontractors of Pluspetrol:

- *Graña Y Montero (GyM*): construction and engineering company
- *SAE*: logistics and equipment company for the energy industry
- *Corpesa*: petroleum logistics and construction company
- *Domus*: environmental consulting company

In order to be eligible for employment men reported needing to present ID documents, have completed primary/secondary school education[107] and pass health screening, which

[107] Reportedly depending on age – older men reported being required to have primary school education and young men seeking employment for the first time secondary school education.

had recently excluded one community member with eyesight problems[108]. Working involved living away from the community for the duration of the contract. Community members carried out unskilled work, described by consultancy company *DAIMIServices Peru* as 'maintenance and cleaning of the encampment, clearing and opening up of trails and roads'[S] (2005:48).

Among those employed by these companies, length of employment varied with 39 men (70.9% of those employed) contracted for 1-3 months of the previous 12, 8 (14.5%) for 4-6 months and 8 (14.5%) for over 6 months (B2.16). Men reported 'waiting' for months to be summoned to work, a situation described by a health worker concerned about the effects of this situation on family agricultural production:

> *'Pluspetrol sometimes they give, they use them for one month, two months, then there is a break, and they are waiting in hope of being called again, and then they are not producing.'*
>
> (Male, Health Technician, >10 years in Corrientes)

Working for the *empresa* was not prioritised by respondents in terms of daily importance in comparison with other activities; it was described as the most important activity of three for 10 men, the second most important for 10 men, and the third most important for 35 men. Neither was priority accorded in relation to length of employment, with the three respondents reporting the longest contracts of 11 and 12 months ranking it as their third most important activity. There was no significant variation in proportions of men employed across the 5 communities.

In addition to work for the *empresa*, a small number of community members (n=19) reported undertaking other forms of formal, paid employment (Figure 5g).

Type of formal, paid employment (previous 12 months)	Males (n)	Females (n)	All (n)
Army	1	0	1
Community Environmental Monitor	2	0	2
Community Representative: FECONACO	3	0	3
Community Representative: PEPISCO	2	0	2
Teacher	3	6	9
Other employment (away from community)	0	2	2
Sub-total	**11**	**8**	**19**
Work for *empresa*	55	0	55
Total	**66**	**8**	**74**
% of total surveyed	56.4%	6.2%	30.0%

[108] Described as *carnosidad,* appears similar to the condition 'Pterygium', a benign growth associated with sun exposure which can affect vision.

Figure 5g Formal paid employment

To varying extents all of these roles entailed travel away from the Corrientes region to larger settlements. Teachers were based in the communities during term time and some stayed for the majority of holiday periods, but travelled to Iquitos for training and to sign annual contracts[109]. Community Environmental Monitors were employed by FECONACO to monitor and document local environmental quality and spent the majority of their time in their community, travelling to Iquitos for regular training and occasional participation in advocacy events. Representative roles with FECONACO and PEPISCO involved being based in Iquitos for periods on rotation. The two women engaged in 'other employment' were both aged in their early twenties, and reported to be working in Iquitos and Villa Trompeteros as cleaners.

In addition to income earned through formal employment, exchange or sale of locally hunted, harvested and produced goods to travelling traders and oil company staff has been reported in the Corrientes region since the early 1980s (Seymour-Smith 1984). In 2009 the *lancha* provided a means of transporting goods to market in Villa Trompeteros and Iquitos, although since it did not always function smoothly fresh goods sometimes spoiled on extended journeys. Small commercial traders also travelled by *lancha* or small private boats to sell or trade commercial goods such as sweets, biscuits, batteries, beer and carbonated drinks in communities. However, not all *lancha* services travelled as far as the case study area, and had sometimes exhausted their stock of commercial supplies by the time they reached it.

Four respondents reported activities oriented to producing goods for trade or sale among their three principal activities. These were three men respectively growing *barbasco*[110], corn and plantain, and one man gathering *sangre de grado*[111]. This does not indicate that other individuals surveyed were not undertaking these activities, but that these four respondents were the only surveyed who reported them as among their three principal activities of the past 12 months.

Paid activities, income and health

[109] Some teachers were from the Corrientes region or had settled there permanently with local partners and families while others saw their posting as temporary and considered their main home to be in Iquitos (5.4.3).

[110] Plant, *Lonchocarpus urucu*, root used as fish poison.

[111] Sap of tree *Croton lechleri,* used for healing wounds and other medicinal purposes.

Paid work provided financial income which community members used to buy consumer goods including clothing, household goods, electrical equipment, packaged foods and drinks (5.3.4), and tools such as guns (5.3.4), boat motors (5.3.5) and chainsaws. These were purchased in Villa Trompeteros or Iquitos or from travelling traders. Financial income could also help to fund travel on the *lancha* or purchase of gasoline and engine oil for *peque-peques* (5.3.5), and education of older children (5.4.3). Relations between these factors and health were explored above.

As noted above, while agriculture remained an important activity for men in the case study communities, there was some concern among health workers about negative effects of paid work, and waiting for paid work, on agricultural production. Additionally, employment which involved regular travel to larger settlements exposed employees to regional cultural and economic practices which differed from those of their communities, such as purchasing staple foods and using sanitation facilities. This exposure may indirectly influence practices in their home communities including factors that influence proximal determinants of health.

5.4.7 Socio-economic status

The final distal factor discussed is socio-economic status (SES). This is a composite measure, combining an index of social and economic factors to situate an individual, household or population subgroup within a population level context. SES differs from the factors previously discussed in that i) it is inherently relational; categories of socio-economic status are defined in relation to each other but do not stand alone, and ii) it is a composite measure derived from a combination of factors. Like other concepts and factors discussed here it was developed in high income settings, originating from classification of socio-economic groupings developed for the 1951 British national census. Cortinovis et al note that 'usually the measures of a socio-economic condition reflect the values of specific societies. Thus one cannot use the same indicators in developed and developing countries because the economic and social structure is too different' (1993:1094). The indicators routinely used in Peru (INEI 2010:38, Milch, Gorokhovich et al. 2010, Poterico, Stanojevic et al. 2011, Bernabe-Ortiz, Benziger et al. 2012) reflect categories recognised by health professionals working in low/middle income settings.

In relation to health the concept of SES has been described as 'an attempt to capture an individual's or group's access to the basic resources required to achieve and maintain good health' (Shavers 2007). Adler and colleagues suggest that 'there are multiple pathways by

which SES determines health; a comprehensive analysis must include macroeconomic contexts and social factors as well as more immediate social environments, individual psychological and behavioural factors, and biological predispositions and processes' (Adler and Ostrove 1999). Conventionally, a range of factors are used either as standalone indicators of SES, or combined into a composite index to represent SES (Vyas and Kumaranayake 2006). These typically incorporate economic status, social status and work or occupation status (Adler, Boyce et al. 1994). Factors used in low/middle income settings include material living conditions, household assets, education level and occupation of family head. Some of these were discussed above as direct or indirect determinants of health. Below they are revisited in a relational context set within the regional and national[112] social structure, together with three additional factors not previously discussed. It is beyond the aim and scope of this project to use these indicators to construct an index of SES, but discussion of the factors below highlights crude comparisons between the case study communities, other indigenous communities in the Amazon region, and the national population.

Economic status

Economic status includes both income and asset based measures, and the latter includes infrastructure and housing characteristics. Data about six factors conventionally used as indicators of economic status were collected in the case study communities: household access to electricity, improved water and sanitation facilities, house construction materials, number of rooms in house, and household goods.

Access to electricity and water in the case study communities primarily reflects community level access to infrastructure rather than household ability to pay for services, as both are provided by *Pluspetrol* to communities free of financial charge. Access to electricity (a crude measure of any access/no access) was higher in the case study communities in 2009 (63.5%, n=67) than in the Achuar population (37.7%, n=606) and Amazonian indigenous communities (13.8%, n=9116) in 2007 (B2.17). It was similar to that of poor communities nationally surveyed in the Young Lives Study in 2003 (65.2%, n=1338) and lower than the national population in 2007 (74.1%). In the case study communities electricity was available for several hours per day in the evening (mean 2 hours 58 minutes per day[113]), and was sometimes not available for weeks or months when petrol to power the community

[112] Where both regional and national where data is available.

[113] Based on household survey data. s.d. 1.71.

generator ran out. The survey question was phrased in terms of having 'light', and several respondents pointed out that while their houses were connected to the community network, they did not have functioning light bulbs. In addition to community level electricity supply, two households had personal generators, and two had rechargeable batteries which they used when the community generator was turned off. Similarly, access to an improved water source was higher in the case study communities (78.1%, n=75) than among the Achuar population (49.3%, n=793) and Amazonian indigenous communities (26.7%, n=17673), and lower than among the national population (84.0%) (B1.3). Again, service was intermittent (5.3.2).

In contrast, access to sanitation facilities was lower in the case study communities than in all other settings for which data was available: 64.6% (n=62) of households had no access, compared to 56.8% (n=912) of Achuar households, 36.6% (n=24231) of Amazonian indigenous households and 17.4% of households nationally (B1.4).

In terms of house construction materials, floor materials are discussed as walls were complicated by a lack of walls in the case study communities, not recorded in other datasets, and roof materials were not recorded in three of the five datasets used for comparison (B1.2). All households in the case study communities had floors made of wood, while other Achuar and indigenous Amazonian populations had predominantly wood or earth floors, with 8.9% of Achuar and 3.3% of indigenous Amazonian households having cement floors. Nationally, 3.4% of households had wood, 43.4% earth and 38.2% cement floors. Wood or earth, locally available materials from the natural environment, are associated with lower economic status than cement or other man-made materials.

House size was slightly smaller in the case study communities, with a mean of 2.0 rooms (n=93), compared with 2.1 in the poor, *selva* region households surveyed in the Young Lives study (n=308), 2.5 in all Young Lives Study households (n=2052) and 2.9 nationally[114] (B1.1).

Household ownership of 'durable assets' (Vyas and Kumaranayake 2006) is a further economic aspect of SES. As shown in Figure 5h below, over half of case study community households (55.2%, n=53) owned none of the most frequently reported household goods surveyed, compared to 24.7% (n=76) of poor *selva* households surveyed in the Young Lives

[114] Data was not available for Achuar/Amazonian indigenous populations. All means except that for the Corrientes are slightly reduced as 6 or more rooms were counted as 6.

Study and 14.7% nationally[115]. These electrical goods were purchased in Iquitos and transported by boat to the communities.

Population	5 Case Study Communities Corrientes River	Poor Selva Households (1 site)	Poor Households (20 sites)	National Population
Data source	Household Survey (2009)	Young Lives Study (2002)	Young Lives Study (2002	National Census (2007)
Household Goods		Frequency (n, %)		
Working radio	26 27.1%	210 68.2%	1 544 75.2%	4 869 621 72.1%
Working television[116]	34 35.4%	143 46.4%	1 204 58.7%	4 116 857 61.0%
Working stereo	20 20.8%	42 13.6%	358 17.5%	1 978 281 29.3%
Working refrigerator or freezer	13 13.54%	34 11.04%	336 16.4%	2 191 585 32.4%
Working washing machine	0	1 0.3%	37 1.8%	957 125 14.2%
Computer	0	4 1.3%	49 2.4%	998 222 14.8%
None	53 55.2%	76 24.7%	310 15.1%	995 743 14.7%
Total Households	96 100%	308 100%	2052 100%	6 754 074 100%

Figure 5h Household ownership of goods

Social status

Education level is commonly used as an indicator of social status, frequently represented by the education level of the male household head. This variable (together with comparable national/regional data) is not available here so two related indicators are discussed: education level of women aged 15-49 and education level of all community members aged >3 years. Women aged 15-49 years[117] in the case study communities had lower education levels than those surveyed in the selva region and nationally in the 2009 DHS (INEI 2010) (Figure 5i). 23.6% (n=30) had no education and 44.9% (n=57) incomplete

[115] Data was not available for Achuar/Amazonian indigenous populations.

[116] National Census specified colour television, YL and Corrientes Household Surveys did not. In the Corrientes communities, televisions were used to play DVDs rather than watch scheduled services, for which there was no access.

[117] Note that the age structures of the two populations are not standardised, so age differences between the case study population and DHS samples may contribute to the differences in education level described.

primary education, compared with 3.4% with none and 23.0% with incomplete primary in the DHS *selva* region sample, and 2.8% with none and 14% with incomplete primary level nationally. The median education level for females in the case study communities was incomplete primary education, whereas that in the DHS *selva* sample was incomplete secondary education and in the DHS national sample complete secondary education.

Population	5 Case Study Communities Corrientes River Females aged 15-49 years	DHS *Selva* region sample Females aged 15-49 years	DHS National sample Females aged 15-49 years
Data Source	Household Survey (2009)	DHS Survey (2009)	DHS Survey (2009)
Education Level		Frequency (n)(%)	
None	30 23.6%	95 3.4%	678 2.8%
Primary (incomplete)	57 44.9%	646 23.0%	3608 14.0%
Primary (complete)	21 16.5%	331 11.8%	2010 8.3%
Secondary (incomplete)	12 9.4%	733 26.1%	4891 20.2%
Secondary (complete)	1 0.8%	542 19.3%	6344 26.2%
Superior (complete/incomplete)	4 3.1%	463 16.5%	6683 27.6%
Unknown	2 1.6%	0	0
Total	127 100%	2808 100%	24213 100%

Figure 5i Education level, females aged 15-49 years

Comparing education levels of both males and females aged 3 years and over from the case study area with those of other indigenous communities (B2.18), a smaller proportion in the case study communities had no education (17.9% compared with 22.1-26%), and a smaller proportion had secondary or superior education (14.5% compared with 21.9-34.8%). The median education level in the case study communities, Achuar, Amazonian indigenous and national native speaking populations was primary education, while nationally it was secondary education.

Taking these two sets of figures together, education levels in the case study communities were broadly similar to those in other indigenous communities, and lower than non-indigenous communities in the region and nationally.

Work status

As discussed in 5.4.5, the majority of case study community members (70% of those contributing to the household) were not regularly involved in formal paid work, with subsistence agriculture and household tasks the most frequently reported activities. Those who carried out paid work were mainly employed by private contractors associated with petroleum extraction, FECONACO/PEPISCO, or the state (teachers) (Figure 5g). Comparative household level data was not available for the region, but community level data collected in 2007 indicated that agriculture was undertaken in 97.9% of all Amazonian communities surveyed, 89.5% of all Achuar communities and 100% (n=25) of Achuar communities surveyed in the Corrientes river region (Trompeteros district) (B2.19).

Nationally in 2007 12.9% of the Peruvian population were occupied in 'agriculture and fisheries' (17.5% of males and 4.6 % of females) and 9.8% in 'mining, quarrying and manufacturing industries' (INEI 2007a). In contrast to the Corrientes region, significant proportions were employed nationally in the service industry (25.5%), sales (15.5%), in roles with professional status (10.4%) and in construction and factory work (10.2%) (ibid.). These activities were more likely to provide a regular financial income than subsistence agriculture.

SES Summary

In summary, the above discussion of the component factors of SES shows that status of community members in relation to the majority of indicators was low in comparison to regional and national populations. Two indicators, water and electricity supplies, were clear exceptions to this, with higher proportions of households in the case study communities having access than other populations in the region, although levels of access were lower in the case study communities than in the national population. Both electricity and water supplies were provided to communities directly by Pluspetrol rather than by the state or commercial providers.

5.5 Regional Health System

Nationally, Peruvian health care provision is split between the public and private sector, and at the time of fieldwork there was no universal coverage system. Health service provision in the Corrientes region is unusual, combining a Ministry of Health (MINSA) funded and managed system with additional services funded by Pluspetrol Norte following the *Acta de Dorissa* (4.7.3). This programme, PEPISCO[118], was formally managed by a Directorate of eight members. Four, including the President of the Directorate, were regional Ministry of Health staff based in Iquitos, and four, including the Vice-President, were male community members elected annually at community meetings. Responsibility for day-to-day management of health services was held by the project Director based in the regional Ministry of Health in Iquitos.

The health care system provided by PEPISCO during the study period was delivered from a Health Centre in Villa Trompeteros and four regional Health Posts catering for downriver and upriver communities. The Health Centre was run by a medical doctor and staffed by three other medical doctors, two obstetricians, a dentist nutritionist, three nurses, eight health technicians and a lab technician. Each Health Post was run by a nurse, supported by a health technician, and one of the four also had an obstetrician. Of the 41 personnel based in the Corrientes region staffing the Health Centre and Health Posts in 2009, funding for 14 was provided by the government and 27 by Pluspetrol via the *Acta de Dorissa*.

Additionally, each community in the region had two lay health promoters ('*promotores'*) who received basic training and were responsible for administering supplies from a '*botiquín*' [first aid cabinet] held by each community. From the perspective of external health service staff, *promotores* were also responsible for dissemination of health promotion messages[119] and co-ordination of patient transport when community members needed to seek medical help. Transport for patients was provided by several motor boats based at Villa Trompeteros, although these were not always functional.

Although Health Posts were responsible for providing services to a number of communities, they did not have their own transport and it was difficult for staff and patients to travel between them. *Brigadas* [brigades], mobile outreach teams of a doctor, nurse and technician, were programmed to travel from the Health Centre visiting groups of

[118] *Proyecto Especial Plan Integral de Salud del Corrientes* [Special Project for the Corrientes River Comprehensive Health Plan].

[119] Discussed in 9.6.

communities in monthly rotation, but during 2009 these visits were frequently postponed or cancelled due to lack of transport, staff or fuel, discussed below (5.5.3).

The health care provided included both national MINSA primary care services and additional services specifically designed for the Corrientes population. Following the *Acta de Dorissa* the national Comprehensive Health Insurance Scheme[120] (SIS), available to uninsured Peruvian citizens in a situation of poverty or extreme poverty, was extended to the Corrientes population. This provided free basic preventative services, pre- and post-natal care, emergency treatment, and hospital care for some conditions (SIS 2010). Additional services provided by PEPISCO beyond the usual remit of MINSA rural health facilities were outlined in four objectives of the PEPISCO Annual Plan for 2009, approved by the Directorate in Iquitos on May 22 2009 (PEPISCO 2009i). These were designed to address health issues related to petroleum extraction activities and to improve the provision and management of health services:

1) Implementation of a population environmental impact health surveillance system.
2) Contribute to the improvement of the nutritional situation and risk of heavy metal intoxication for indigenous communities through the implementation of a food security programme.
3) Strengthen the supply of health services in Trompeteros District through a programme of recategorisation of the Health Facilities, under the DIRESA Loreto Regional Recategorisation Plan.
4) Improve the management of the Comprehensive Health Plan through the exercise of citizen participation, the involvement of the DIRESA Loreto technical division, and community advocacy [S] (PEPISCO 2009i).

In addition to services provided in the Corrientes, arrangements existed for the transfer of patients whose needs could not be addressed at the Health Centre to the MINSA Loreto Regional Hospital in Iquitos. Various transport means including the *lancha*, Health Centre motor boat and Pluspetrol flights were used depending on availability and the nature and urgency of the case. In Iquitos, two nurses employed by PEPISCO co-ordinated patient transport and care. Additionally, FECONACO employed a 'Health Assistant' to support patients while in Iquitos, assisting with translation, arranging accommodation and

[120] *Seguro Integral de Salud*

transport if lengthy outpatient treatment was needed, and supplying daily necessities such as toilet paper not provided by the hospital.

5.5.1 Additional Health Service Providers

In addition to the health services provided by PEPISCO, community members reported making infrequent visits to Pluspetrol medical posts provided for employees at oil extraction bases in the forest. From here emergency cases were occasionally evacuated by helicopter to Iquitos. Such visits were discouraged by Pluspetrol, although the company required employees to attend to members of the local population 'in areas of work and in accordance with existing medical facilities' in case of medical emergency (Pluspetrol Norte S.A. 2005).

Between 2006-2009 Pluspetrol also directly funded a standalone health intervention programme, the 'Healthy Families Project', run by NGO Cáritas[121] in the Corrientes and two neighbouring river basins. Four staff members (two nurses and two community development practitioners) travelling regularly between Iquitos, Villa Trompeteros and communities were responsible for project activities in the Corrientes region. The project is discussed below.

5.5.2 Child Health Programmes and Services

This section summarises health programmes and services specifically aimed at or including young children in the Corrientes region in 2008-09. Section 5.5.3 discusses challenges to their implementation.

PEPISCO Health Services and Programmes

Following the introduction of health insurance for Corrientes native community members, consultation and treatment at health facilities in the region was freely available. Parents could therefore bring children to health facilities to seek primary care without needing to pay for the consultation or treatment.

Several national programmes co-ordinated regionally by staff at the VT Health Centre directly or indirectly concerned child health. Those specifically targeting children aged less than five years were managed by a nurse responsible for child health who described her role as encompassing 'all that is growth and development, immunizations, all that is acute

[121] Cáritas is an international Catholic NGO with 165 national level member organisations. The Healthy Families Project was run by *Cáritas del Peru* and *Cáritas Iquitos*.

respiratory infections and acute diarrhoeal illnesses' (Female, Nurse, 2 years in Corrientes). This included responsibility for regional management of two specific monitoring and intervention programmes:

i. 'CREDE'[122] monitoring child growth and development. The programme aimed to register newborn babies (0-28 days old), and monitor growth and development to one year, followed up with one visit at ages 1 year, 2-4 years and 5-9 years. In 2008, 166 newborns were registered in the Corrientes region (C.S. Villa Trompeteros 2009a). If infants are identified as being of low birth weight, malnourished, or at risk in terms of language, motor, social or co-ordination development additional monitoring visits are recommended. Supplements of Vitamin A (for age 6 months – 5 years) and Iron Sulphate (for age 6 months – 2 years) are provided for registered children.

ii. 'ESNI'[123], the National Immunisation Strategy. In the Corrientes region in 2008/09 the following routine vaccinations for children were scheduled for provision through the ESNI by the Health Centre (C.S. Villa Trompeteros 2009a, C.S. Villa Trompeteros 2009b).

Vaccination	Age Administered
Tuberculosis	Newborn
Hepatitis B	Newborn
Polio	< 1 year, 1-4 years
Rotavirus (most common cause of severe diarrhoea in infants <1 year)	< 1 year
Pneumococcal infections	< 1 year, 1 year
Diphtheria, Whooping Cough, Tetanus, Haemophilus Influenza Type b, Hepatitis B	< 1 year, 1-4 years
Haemophilus Influenza Type b	<1 year
Influenza	< 1 year (2009 only)
Measles, Mumps and Rubella	I year, 4 years
Yellow Fever	15 months

Figure 5j Routine Childhood Vaccinations, Villa Trompeteros Region 2008/09 [124]

There was also a catch-up Hepatitis B campaign, which in 2008 reached 994 unvaccinated children aged 2-4 years with their first of three doses.

[122] *Crecimiento y Desarrollo.*

[123] *Estrategia Sanitaria Nacional de Inmunizaciones.*

[124] Full names and explanations from (MINSA 2010).

In addition to these two programmes, numbers of consultations for acute respiratory and acute diarrhoeal infections among children aged <5 years were monitored. For all monitoring programmes monthly data was collected at the Health Posts and the Health Centre, and consolidated at the Health Centre to report annually to DIRESA Loreto.

Although not specifically targeted, young children were also included as part of the general population in the region's malaria control programme. Parasitological diagnosis of suspected cases was carried out in the Villa Trompeteros Health Centre. Diagnosis was mainly responsive, of patients reporting to health facilities, but in May-June 2009 a series of malaria screening *brigadas* were launched visiting clusters of communities following reports of an epidemic.

Health Centre staff were also involved in local delivery of two national cross-sectoral programmes targeted at poor families with young children:

i. *'Juntos'*[125] ['Together'], a conditional cash transfer programme in which mothers receive a monthly 100 soles cash payment in return for compliance with health, nutrition, education and civil registration criteria. These include complete child vaccination, attendance at pre-natal and child growth and development checks and school enrolment and attendance for children aged 6 years and over (Gobierno del Perú 2010).

ii. 'PIN'[126] [Comprehensive Nutrition Programme], which aims to prevent malnutrition in children, pregnant and breastfeeding mothers (PRONAA 2010b).[127] In the Corrientes region 150 children aged less than three years and categorised as at high nutritional risk or malnourished were registered with the programme in 2009. Each child was entitled to receive 2 kg rice, 0.5kg dried beans and 200ml oil, and pregnant mothers 4 kg rice, 1.5kg dried beans, 1L oil, and three tins of fish.

[125] *El Programa Nacional de Apoyo Directo a los más Pobres* [The National Programe of Direct Support to the Poorest].

[126] *El Programa Integral de Nutrició.n*

[127] Nationally there are two sub-programmes, for (1) infants (age 0-3) and pregnant/breast-feeding mothers, (2) for pre-school and school age children to 12 years. In the Corrientes (1) was implemented.

Cáritas Healthy Families Project

As described above, a separately funded intervention project 'Healthy Families', managed by NGO Cáritas ran between 2006-09. The project's stated aim was to 'contribute to improve the health and nutrition of the infant population' in native communities in the region (Cáritas del Perú 2006a), and purpose to 'improve family and community practices related with health, nutrition and basic sanitation' (Cáritas del Perú 2009a). Implemented to differing extents in the majority of Corrientes communities, it included the following activities:

- 'Monitoring of height, weight and haemoglobin levels of children aged <5 years, during monthly community visits.
- Nutritional monitoring and vigilance with the aim of preventing infant and maternal malnutrition and/or assisting recovery of any identified cases, in coordination with MINSA health facilities.
- Training of promoters, birth attendants and mothers in issues related to family health and nutritional care, through the use of appropriate methods aimed at adults.
- Family advice using the AEPI[128] (Early Childhood Care and Education) Manual.
- Permanent coordination with MINSA to ensure an adequate response to the population's health and nutritional problems.
- Promotion of family kitchen gardens and the inclusion of their products in daily family diets.
- Construction of family ecological toilets and promotion of their use among families.
- Promotion of citizen participation to achieve better understanding of and solutions to the problems of health and nutritional care of pregnant women and children, at the local level' (Cáritas del Perú 2009a)

5.5.3 Challenges for health system operation

The descriptions above reflect accounts of the health system presented in official documents and policies. Delivery of health services was sometimes difficult and there were differences between these formal accounts of health service provision and the operational reality of implementation. Drawing primarily on interview data, this section explores local challenges for health system operation and their reported impacts on service provision.

[128] *Atención y Educación de la Primera Infancia.*

Challenges arising from physical and social distance between operational headquarters, staff delivering health services and target communities are widely reported in rural areas worldwide (Strasser 2003, Chen 2010, WHO 2010a). As discussed in Chapter 4, the Corrientes region is characterised by outsiders as remote and isolated, and it can be difficult to travel between Iquitos and the Corrientes and within the Corrientes basin. Neither health service staff nor patients had consistent access to reliable transport. There were a number of possible transport modes, including small and large boats, and Pluspetrol operated flights, but their reliability was dependent on availability of fuel and staff, boats being in serviceable condition, capacity, goodwill of Pluspetrol staff (flights), and weather conditions, which vary to the extent that it was not possible to make a definite travel plan and expect that it would not be subject to change. Similarly, facilities for communication were variable and prone to malfunction. At the time of fieldwork some communities had a telephone, operated using prepaid cards, which were sometimes available in Villa Trompeteros (otherwise purchased in Iquitos), and users were sometimes charged locally to receive a call. Telephones were solar powered and didn't work in rainy weather. Communities also had radiophones, as did the Health Centre; to function these needed both parties in a call to have the radio turned on, and they were also affected by weather conditions. Mobile phones sometimes functioned in Villa Trompeteros, but prepaid 'phone credit' was not always available to buy. These travel and communication factors contributed to a challenging physical situation which affected staff, the availability of resources necessary to run the health service, and the ability to resolve problems which arose. These points are discussed in turn below.

Personal and professional challenges for staff

During both formal interviews and our daily interactions in the field health workers raised logistical and emotional difficulties which they associated with working in the Corrientes. Underlying these accounts was the difference between lifestyles in the rural Corrientes setting and the urban lives most staff were accustomed to leading.

In terms of logistical issues, food availability was consistently described as problematic. Staff based in community health posts could not purchase food and other supplies in the communities as there was no retail system. Most were not accustomed to food cultivation, and their work schedules did not allow sufficient time for cultivation or fishing to produce substantial contributions to their daily food requirements. Some staff were able to establish strategies in response to this, which were dependent on them having personal

networks of friends or family in the Loreto region to arrange periodic shipments of food and other commercial personal goods. For example, a nurse based in a downriver health post in a community with a telephone was able to communicate with her family in Iquitos, and arrange for them to send supplies, including food and prepaid telephone cards, via the *lancha*. They telephoned the community to let her know that the goods were loaded and the *lancha* had departed. She was then able to calculate roughly the 12 hour period in which it would pass the community three days later, and if it was due overnight have clothes and a torch ready to run down to the river when it docked briefly to collect her goods. For other staff these arrangements were not possible, either because they were from distant areas of Peru such as Lima or the mountains and had no regional connections in Loreto, or because they were based upriver beyond Villa Trompeteros where the *lancha* visited less frequently. Instead, they invested in large volumes of non-perishable supplies in Iquitos and rationed them carefully over the 4-8 month stretches in their posts. Staff also experienced administrative difficulties in receiving their salary, which was transferred via MINSA to their personal bank accounts. As there were no banking facilities in Villa Trompeteros they had to access their salary on occasional visits to Iquitos, ask personal contacts to send them cash via other staff travelling to the region, or pay agents to collect their salary for them. One respondent described this as an example of the 'suffering' endured by staff, which he felt should be addressed by the government:

> *'We suffer here, the health personnel suffer, because there is no bank, here there is no bank. What do you do? You have to pay someone in Iquitos - you have to - you have to pay them to collect your money. That's the truth, and I don't see why the government can't [do something]*'
>
> (Male, Healthcare Assistant, >10 years in Corrientes)

Similarly, staff had to return to Iquitos to process extensions to short fixed term contracts and resolve associated administrative issues.

Many staff also discussed their postings in the region as being emotionally difficult. They related this to several factors: firstly to the physical location of the site, meaning that staff spent extended periods of time distant from their families and personal social networks. This situation is not unusual for health staff in Peru, who frequently complete rural postings as part of their training, but in the Corrientes opportunities to see family were particularly limited because travel to and from the region was so time consuming and unreliable. This meant that unlike staff posted in rural areas closer to towns, Corrientes personnel had no

option to stay away overnight outside their immediate area of work, or to visit family during the weekend. Staff in Villa Trompeteros had a pool of 10-15 fellow health workers to spend time with when not at work, but those in Health Posts frequently had only one or two companions from a similar social background in the same community.

Secondly, some health workers found that the situations of the local people, who they viewed generally as poor and unfortunate (see Chapter 7), evoked feelings of pity and sadness – both because of the people's situations, and because they themselves could not immediately do more to 'improve' things. For example, a 'Healthy Families' project member described the team's feelings at the beginning of the project:

> '*it was very sad at the beginning, you had to arrive at a community, and see these faces so sad.... they looked at us with hunger, and we hardly had anything small to share with them...'*
>
> (Female, Cáritas Project Staff, 3 years in Corrientes)

Additionally, local events related to conflict between communities and oil companies also caused periodic disquiet among health staff. During the fieldwork period there was a general protest called in the Corrientes basin against Pluspetrol, which involved a strike, the river being closed to boats for several days and shops and buildings in Villa Trompeteros shut. 'Healthy Families' project staff were evacuated from the region by Pluspetrol, and Health Centre staff ran an emergency only service. Afterwards staff reported that armed Achuar men had been present to enforce the strike, that they had been worried about running out of food, and relieved when the protest was lifted.

Health workers' relations with local people varied, and this variation was reflected in how health workers described their feelings about the population they worked with. Basic communication between staff and local people became more difficult moving upstream along the Corrientes, where Achuar was more widely spoken and fewer local people spoke Spanish. Two personnel who had been settled in Villa Trompeteros for several years described the '*cariño*', (affection or love) of the local people, their pleasure in working with them and their commitment to the region. The majority, however, were less positive, explaining the difficulties of work with the local population. For example a nurse based in Villa Trompeteros described 'bad' relations between upriver staff and local communities:

> *'Sometimes the people aren't very...very nice, no? Always at the* [upriver] *health post, the people complain that the staff don't want to attend to them...*[that] *they gossip,*

> *they are always talking badly* [of the health post staff]....*that they don't like working, that they put bad injections...'*
>
> (Female, Senior Medical Staff, 1.5 years in Corrientes)

Several staff presented their work in the Corrientes under sometimes difficult conditions as part of their professional role as dedicated health workers. A Health Technician, for example, recounted a story of how he had spent his birthday travelling alone on the *lancha* to his new posting, not knowing how long the journey would take, nor what his new home would be like, concluding *'but first, for me, is the work, and after the fun'* (0113). Professional responsibilities varied substantially between postings, for example a nurse then based in Villa Trompeteros who had previously spent a year running a Corrientes community Health Post described the wide range of duties she had undertaken in the post:

> *'When you are at a* [health] *Post, you have to be like the health professional because the auxiliary nurse is under your responsibility. So you take on the work of attending childbirth, supervise attention to the newborn...the auxiliary definitely has to support you. Also, you do the family planning, and everything.... all the strategies that you can. In comparison here* [Health Centre], *the work is more specific...'*
>
> (Female, Nurse, 2 years in Corrientes)

This nurse described these responsibilities as 'opportunities' to broaden her experience, but other staff, particularly those who had not worked in rural settings before, reported being daunted by the range of tasks they were called on to undertake and by how much there was to do.

Availability of resources necessary for health services to function

The availability of resources necessary for staff to go about their everyday work was a frequent topic of discussion. Staff who had been working in the region for several years noted that the situation in 2009 was better than that prior to the establishment of PEPISCO, with more staff, boats, and improvements to the health centre in Villa Trompeteros. One doctor compared the Health Centre favourably to another rural setting where he had worked previously in Loreto:

> *'Here there is greater accessibility, in that – there's light* [electricity] *all day, there's communication and it really helps in terms of health the transport that we have* [provided] *by Plus, to refer patients in emergency to Iquitos.'*

(Male, Senior Medical Staff, 6 months in Corrientes)

Despite these positive reports from those comparing the current situation in the Corrientes with other scenarios, many more staff accounts emphasised a lack of specific resources. These were given in the context of several explanations – lack of resources at the higher level of the Loreto Regional Ministry of Health (DIRESA), lack of resources or facilities at the Corrientes level, and long administrative processes necessary to acquire resources.

Missing resources at the level of DIRESA Loreto were beyond the control and responsibility of PEPISCO staff, although they had to account to patients for why supplies were not available. During 2008-09, for example, supplies of Hepatitis B vaccines were limited, and in January and February 2009 insufficient supplies of all routine childhood vaccines (Figure 5j, above) were noted in an annual report of child health services: 'At the level of DIRESA Loreto there were not the required biologicals[129] (C. S. Villa Trompeteros 2009a).

The majority of missing resources were attributed specifically to shortages in the Corrientes basin. These included both specific medicinal items and the facilities and conditions necessary to deliver health services. The former included Vitamin A and Iron Sulphate supplements for children, reported to be insufficient from January 2008 - February 2009 and exhausted by March 2009 (C. S. Villa Trompeteros 2009a), and *botiquín* supplies for communities. *Botiquín* supplies were sent from Iquitos to Villa Trompeteros Health Centre, and from there distributed to communities. Both stages of this process were reported to be subject to shortages. Supplies were used up in quickly in the communities:

> *'the Promotores give them the medicines which we've given* [the promoters] *here at the health centre, and often they run out, that is a problem...they run out, as the Promotores arrive and attend to so many people..'*

(Male, Healthcare Assistant, >10 years in Corrientes)

In addition, replacement supplies sent from Iquitos to the Health Centre for distribution were not available when needed:

> *'their botiquínes run out in six months and their* [replacement] *botiquínes don't arrive, but they were meant to be being sent..'*

(Male, Senior Medical Staff, 1 year in Corrientes)

[129] 'Biologicals' from *biologicos* referring to vaccines.

This situation prompted a health promoter from one upriver community with a telephone to contact FECONACO in June 2009, and arrange for them to write a formal letter on his behalf to the Iquitos based Director of PEPISCO, directly requesting the replenishment of his community *botiquín.*

In terms of facilities and conditions necessary to deliver health services, the transport of goods and personnel were raised repeatedly as shortcomings preventing health workers from doing their job well. For example, absence of cold chain facilities to transport and store vaccines at adequate low temperatures restricted their ability to give vaccinations at Health Posts: 'the Health Posts in the area are not vaccinating due to the absence of cold chain facilities in each of the establishments' (C. S. Villa Trompeteros 2009a).

Similarly, facilities to keep vaccines cool during *brigada* visits to communities were lacking:

> *'sometimes we can't bring much because there is no ice, and ice doesn't last long and brigadas are 14 days'*
>
> (Female, Nurse, 6 months in Corrientes)

As well as the effects of missing materials discussed above, the operation of the health system was also restricted by a lack of reliable travel facilities for personnel and patients. Travel to Health Posts and communities relied on the functioning of small motorboats, which had to be taken to Iquitos if they required maintenance. In early 2009 the Health Centre reported that 'the *brigadas* are not going out consecutively due to the boats undergoing maintenance' (C.S. Villa Trompeteros 2009a). Community members reported that the Health Centre sometimes did not respond to requests to collect ill patients from communities, for example a *Promotor* explained:

Promotor: *To send the patient, I call by radio for them* [PEPISCO] *to come and collect the patient, sometimes they don't take notice..... and what can I do* [for] *the patient? ...They don't come to collect them, they don't take notice, they* [the patient] *are just here in the community'*

Ruth: *They don't come, PEPISCO?*

Promotor: *They don't come!*

(Male, *Promotor*, 4 years in role)

A Cáritas worker explained that she would go directly to *Pluspetrol* for assistance in a health emergency in the upriver area, as they had better transport facilities and could act more quickly:

> *'If I'm in the upriver, and a child is ill, the first thing I hope to do is get to the Battery, of the company....because in many cases, I've seen that the company, seeing a child bad, acts quickly to improve the health of that child, as I see it a little more quickly than the Ministry of Health, because they have better means to do so, using their boats, aeroplanes, helicopters... If we think about the Ministry of Health, they would be lacking the purchase of aeroplanes, helicopters, speedboats so they could assist more quickly. Not that it's not the intention, but it's that, it's the reality'*
>
> (Female, Cáritas Project Staff, 3 years in Corrientes)

The physical distance between patients in communities, staff at Health Posts and the Health Centre, and those taking administrative and management decisions in Iquitos also contributed to slowing down already complex administrative processes. Purchases of materials and equipment had to be approved by the PEPISCO Directorate at monthly meetings usually held in Iquitos. The four community members of the Directorate travelled to Iquitos for these meetings (travel which in itself often entailed delays resulting in postponement of the meeting) and discussed with MINSA members agenda items sent from the Health Centre and communities. Those responsible for these items were often not present, so questions raised in discussion led to decisions being deferred to a future meeting to allow further explanations to be sought in the interim, or being refused. During one meeting in 2009, for example, a request from the Health Centre to purchase a photocopier was refused, as adequate explanation for why it was needed was not provided. Health Centre staff were frustrated to hear the request had been refused, saying they needed a photocopier to be able to keep local copies of documents sent on to Iquitos and to produce training materials, rather than have them sent from Iquitos. Community representatives, who were elected by community leaders with a clear mandate to represent and guard community members' interests, were sometimes wary of approving items such as office equipment and staff training which could appear to benefit Health Centre staff rather than to directly benefit community members. The absence of those making the requests made it difficult for Iquitos based staff to use their professional knowledge to justify these items on their distant colleagues' behalves, without appearing to be contributing to collusion against community members.

The PEPISCO budget was held by MINSA, so once items were approved there was a further process to release funds which relied on the appropriate account signatories being physically present. Despite advance planning, budgets, staff and materials for planned activities sometimes did not coincide. As a health worker discussing the provision of training workshops for *Promotores* explained, this made it difficult for staff to deliver services:

> *'One can have all the will to do it, but without the material, and an adequate budget, we are definitely not going to achieve it'*
>
> (Female, Nurse, 2 years in Corrientes)

As well as training, visits to provide basic services to communities distant from health service establishments were also delayed by approvals processes:

> *'Now that there is the PEPISCO project, supposedly they said that everything would be easy but no, I see that* [there is] *a lot of bureaucracy, much paperwork and paperwork.... we have a plan of brigadas, and this plan, it doesn't get carried out quickly, it's delayed sometimes months and months....so sometimes we go do the brigada, and afterwards the money arrives.'*
>
> (Female, Healthcare Assistant, 2 years in Corrientes)

The timing of arrival of money was important because with no banking facilities in Villa Trompeteros all consumables, such as food for workshop participants visiting the Health Centre, food supplies for travelling *brigade* staff, and boat fuel for transport, had to be paid for in cash brought from outside the region. Health workers received daily personal allowances for participation in *brigadas*, from which their food for the trip was purchased. If the money did not arrive before the *brigada* left, staff had to use their own money to buy supplies, and trust that they would later be reimbursed. This created difficulties for the senior Health Centre staff responsible for dispatching regular *brigadas*, as it reportedly led to health workers being reluctant to participate in them.

Human resources

The challenges discussed above both contributed to and were exacerbated by staff shortages. Despite PEPISCO salary levels being set slightly above the MINSA standards to attract and retain good staff, the region was viewed as a 'difficult' place to work and staff turnover was high. During 2009-2010 a number of staff from Villa Trompeteros resigned including the nutritionist, several nurses and the doctor in charge of the Health Centre. The

Director of PEPISCO, based in Iquitos, also changed three times. Senior staff reported that it was difficult to find good applicants to fill these positions, despite pay incentives, and that this resulted in staff being recruited from outside the Loreto region, for example two of the four medical doctors in post during fieldwork were recruited from Lima. In turn, staff members from outside the region were less likely to have the regional personal support networks of staff from Iquitos, or long term interest in working in the region, and were viewed as more likely to leave.

In addition, staff with experience of working in the *selva* were sought after by private sector companies providing medical services to oil and gas companies. These offered much better pay and other incentives than MINSA or PEPISCO, and were viewed as a desirable option by some staff, one of whom contacted me shortly after the fieldwork period to say they had left PEPISCO to work directly for *Pluspetrol* in another region.

Staff shortages in allocated posts were evident in two main ways. Firstly, in the chronic understaffing of downriver health facilities, with staff frequently called on to cover the roles of others. For example, an auxiliary nurse with an interest and background in child nutrition was recruited to support the nutritionist. When she arrived in Villa Trompeteros she was instead assigned to work with the triage nurse whose support post had not been filled, as this area of care was deemed more immediately urgent than nutrition among Health Centre services. Secondly, staff shortages were evident in the long term absence of staff at the upriver health posts. This was apparent from staff accounts and also in gaps in monthly monitoring records held at the Health Centre. Those in charge of collating these explained that they only received monthly reports from health establishments when the staff responsible were present to provide them, and that the frequent gaps in reporting from upriver Posts corresponded to the months when the relevant staff had not been there. For example, over the nineteen month period to July 2009, malaria reports for two and twelve months were received from the upriver health posts, compared with eighteen and nineteen from the downriver establishments (Figure 5k)[130].

[130] These reports were missing, rather than reporting no malaria cases.

Population	4 Health Establishments Corrientes River 01/2008 – 07/2009
Data source	Villa Trompeteros Health Centre Summary of Monthly Operational Reports: Malaria
Health Establishment[131]	Total months of previous 19 for which monthly malaria report was available (n)
A Upriver	2
B Upriver	12
C Downriver	19
D Downriver	18

Figure 5k Health establishments providing monthly operational reports: Malaria 2008-09

5.5.4 Impacts of challenges for health system operation

The challenges discussed here affected both day to day operation of the health system and the longer term continuity and sustainability of services. A number of specific impacts for patients were described in the section above, such as lack of vaccines and reliable transport facilities to facilitate patients to seek care. In terms of overarching impacts, two points are important to note when considering the overall operation of the regional health system: the proportion of the population that it reached, and the distribution of this coverage.

Estimating the proportion of the population which the health system reached is complicated by there not being estimates of health needs for the whole population nor consolidated records of all health consultations. However, analysis of data available for specific population groups can be used indicatively. For example, under the CREDE programme infants have a monitoring consultation at one year of age. In August 2007, 261 children aged 0-11 months, who would be expected to have this monitoring consultation the following year at age 1, were recorded in a census of the Corrientes indigenous communities (PEPISCO 2007a). During 2008, 95 children were recorded by PEPISCO as having had their one year CREDE monitoring appointment (C. S. Villa Trompeteros 2009a). There are differences between these data sources which introduce restrictions to comparison: the years run from different points[132], a small number of infants may have

[131] Four establishments are listed here and five in Table 5l because the mid-river health post had just opened at the time of fieldwork, hence no previous records existed for the new post.

[132] Census data recorded infants aged 0-11 months as born between September 2006 – July 2007, and PEPISCO recorded infants aged 1 year in 2008.

died, moved away from or into the region between birth and age 1, and PEPISCO records of monitoring appointments aged 1 included both infants from native communities and from the *mestizo* Villa Trompeteros population, the latter whom were not included in the 2007 census[133]. Bearing in mind all these uncertainties, the crude proportion completed of expected consultations at age one still appears low at 36.4%.

The distribution of coverage is also variable. According to accounts from a variety of sources, and corroborated by my experience during fieldwork, downriver communities had easier and more frequent links with Villa Trompeteros and external services than upriver communities. This was related to several factors ultimately linked to geographical position: frequency of transport passing between Villa Trompeteros and Iquitos, proximity of communities to Villa Trompeteros, and the extent to which Spanish and Achuar were spoken in communities[134].

Figure 5l shows the distribution of personnel based in each health establishment by location.

Population	Personnel of 5 Corrientes Basin Health Establishments		
Data source	Villa Trompeteros Health Centre (C. S. Villa Trompeteros 2009b)		
Location	Establishment	Total Staff Posts (n)	Total by location (n)(%)
Downriver	Health Post	2	33 80.5%
	Health Centre	31	
Midriver	Health Post	2	2 4.9%
Upriver	Health Post	3	6 14.6%
	Health Post	3	
Total			41 100%

Figure 5l Distribution of health personnel River Corrientes (2009)

The majority of staff, 80.5%, were physically based in two locations in the downriver area in the proximity of approximately 18 communities. The remaining 19.5% of staff were based in the mid and upriver areas in the proximity of approximately 16 communities. At the time of fieldwork, the mid river Health Post had recently opened, and an additional Health Post with two staff members was planned for another upriver community on a tributary of the

[133] Hence inflating the % figure.

[134] Language being related over the long term to accessibility of community to outsiders in migrating, and accessibility of external social networks to community members.

main Corrientes river. Staff at the Health Centre in theory provided services for the whole river basin, treating patients who travelled to them and also visiting communities on *brigadas*. In practice, staff reported that *brigadas* travelled to upriver communities less frequently than those in easier reach:

> *'In truth, in this whole zone here* [downriver] *in the year we've been four times, in the mid – this is what we call it, the Mid Corrientes – in the mid we've been four times, and in the upper we've only been once.....we go to the lower part and the mid part equally...but the upper part, it's more difficult for us to go'*
>
> (Female, Senior Medical Staff, 18 months in Corrientes)

As discussed above the upriver posts were also staffed less consistently than downriver establishments. The distribution of coverage of health services was therefore not the same along the river basin, with generally better coverage for members of the population living closer to down-river health facilities.

5.6 Conclusions: the local context for young children's health

Chapter 5 has discussed the conceptual models which inform understanding of child health and its relation to the surrounding environment within the domain of public health, and applied this approach to the generation and discussion of original data in the case study setting. From within this public health framing of the setting which children live in, several individual factors would raise particular concerns for health professionals about potential negative impacts for child health and well-being. These are i) low rates of access to sanitation facilities, ii) unreliable access to clean water, iii) some reliance on donated food indicating food insecurity, iv) low maternal education rates, v) limited transport facilities to access health and other services and vi) limitations in health system operation and reach.

Surveying the range of proximal and distal factors, the importance of both the natural environment and of Pluspetrol, the '*empresa*', as sources of resources and services, is evident. Food, materials for house construction, boat construction, fuel for cooking, and unprotected water for washing and sometimes cooking and drinking are obtained directly from the local environment. The *empresa* supplies electricity and pumped water, school buildings and school materials, funds for donated food, and the main opportunity for paid employment in the area. The state is notably absent, providing school teachers and, together with Pluspetrol, some contribution to health services. This role of the *empresa* providing resources for communities (albeit following disputes over damage caused to the

environment) contrasts with the direction of flow of resources described by outsiders to the region in Chapter 4.

Introduction to Part III: Young children's 'how-being'

Part III of the thesis explores both external and internal perspectives of 'how young children are' in the case study area, addressing Research Question 3:

3) How are young children according to:

i) public health measures?

ii) understandings of people living and working in the region?

Continuing the external, public health perspective of Chapter 5, Chapter 6 describes children's health in the case study communities according to public health measures. Here I draw primarily on analysis of quantitative data collected in the household survey (3.9) and secondary local, regional and national data, contextualised with observations from field notes and interview data.

Chapters 7 and 8 are based on analysis of qualitative data from semi-structured interviews (3.10). Chapter 7 discusses accounts of 'how young children are' given by people working in the Corrientes region, professionally trained individuals employed to provide services to communities. These 'outsiders'' accounts echo the public health approach discussed in Chapters 5 and 6. Chapter 8 discusses community members' accounts: here the public health approach is less prominent and other ways of understanding emerge.

Before these substantive chapters, I first explain the grouping of interviewees as 'outsiders' or 'employed professionals' and 'community members', and the nuances within these groupings. This is linked to earlier discussion of categories (Chapter 1), and forms the basis for later discussion of 'intersections and crossovers' in Part IV. This section concludes with a brief introduction to the term 'how-being' used in Part III.

III.1 *Acá* [here] and *allá* [there]

The thesis title, *acá* [here] and *allá* [there], reflects terms used by people living and working in the Corrientes region during fieldwork. *Acá* [here], was used to refer to the specific place, the Corrientes region, and *allá* [there], other places away from the Corrientes: the city, Iquitos, Lima, the sierra, my country. While talking to me, in interviews and other interactions, people drew on these terms to position themselves and others; 'I am from here', 'those from there'; 'I am from there, from Iquitos.'

This differentiation seemed to be made consistently by people on, or from, either side of the here/there distinction, reinforced by discussion of people who might have uncertain status at the centre of a here-there continuum. For example the wife of a teacher, discussing her family, stated that she is Achuar, of 'the zone'[135], but her husband (who had lived for over 20 years in the community), who she taught to speak Achuar, is *mestizo*, and their children are *mestizos* as well because of who their father is and because some of them now live in Iquitos and don't speak Achuar as well as their cousins. Reciprocally, her husband spoke about 'their beliefs' and what 'they' in the community do in 'their world', gently presenting himself and his knowledge separately from 'them'. A former teacher from elsewhere in Loreto who had lived for over 10 years in the Corrientes similarly distanced himself from practices 'here', explaining for example that his children had three meals a day like children who were born in the city[136]. In contrast, respondents describing themselves as 'from here' included themselves in responses to the same questions, using 'we' and explaining their daily practice in terms of 'we do x', rather than presenting this as part of a more abstract set of practices to which there were alternatives.

The figure below illustrates my understanding of a continuum of differentiation between community members and outsiders, from here and there, highlighting factors drawn on by people living and working in the zone when positioning themselves, in discussions with me.

Figure IIIa Outsiders-Community members continuum

In subsequent discussion, I use the terms 'outsider' 'employed professional' and 'community member', but not 'insider', avoiding this term as its use could be interpreted as implying a claim to present an internal perspective, rather than my analysis of accounts

[135] *la zona,* the [this] region, area.

[136] This distinction relates to themes discussed in Chapter 7 (7.3.1).

from people with this perspective. In the following section, characteristics of 'outsiders' are described briefly, providing background to Chapter 7. Detailed information about community members was discussed in Chapter 5, providing equivalent background for Chapter 8.

III.2 Outsiders from *allá* [there]

Interview respondents (n=22) consisted of four main, overlapping groups[137]. The majority (n=14) were health service workers: doctors, nurses, an obstetrician, a nutritionist and health technicians, employed by MINSA or PEPISCO to staff the regional Health Centre and the Health Post nearest to the case study communities. One was a teacher, living in a case study community. The remaining six were employed by Pluspetrol: two directly in the company community affairs unit and four indirectly as community development workers through the Cáritas Healthy Families project. This latter group included one nurse. One community affairs employee had previously worked as a bilingual teacher in upriver Corrientes communities for over 10 years.

None of these employed professionals had been born or raised in the Corrientes region. Some were from Loreto and some from more distant regions of Peru including the *sierra* and Lima. The majority lived temporarily in the Corrientes region during their employment. Health service workers lived in Villa Trompeteros or in community health posts, travelling to Iquitos for administration, training and holidays. Of these, senior staff spent less time in community health posts and travelled away from the region more frequently. Cáritas staff were based in Iquitos and made regular 2-3 week trips to the region, travelling between Villa Trompeteros and communities. The Pluspetrol community affairs manager travelled between the Villa Trompeteros company base and Iquitos, and junior staff rotated between living in communities and staying at the company base. Teachers lived in the communities during term time and travelled to Iquitos for holidays and training. Unlike other respondents, the teacher and former teacher interviewed here were both settled more permanently in the region and had local partners and families.

The length of time for which respondents had worked in the region varied. The shortest periods of local experience were among the health service staff, three of whom had been employed there for less than a year and five for 1-2 years, although one had worked in several different roles over 12 years. Cáritas staff had been in the region for 2-3 years, and

[137] See Appendix 4A.2 for a summary of interviews.

the Pluspetrol community affairs manager for eight years. The current and former teachers had the longest experience in the region of 11-25 years.

Respondents were not asked about their religious affiliation in interviews, but in informal discussions Health Centre staff showing me around Villa Trompeteros pointed out small Evangelist churches and indicated that they were used by local populations, complaining that there was not a Catholic church for them to attend. Cáritas, whose four community development workers were delivering the 'Healthy Families Project' is a Catholic organisation. This is of note given the importance of Evangelism in the region (5.4.2) and involvement of Evangelist Pastors in healing, discussed in Chapters 8 and 9.

The teacher and former teacher had both learnt to speak Achuar. For most other respondents, day-to-day work and communication between staff was conducted in Spanish. Some health service staff reported that it was difficult to communicate with community members because the community members didn't speak Spanish, attributing the source of the problem to community members' lack of knowledge of Spanish, while a smaller proportion focused on their own ability or not to speak Achuar. Three health service staff who had been based in the area for several years reported that they had learnt to speak Achuar to varying extents, and emphasised the importance of speaking some Achuar to communicate with women and upriver community members. Several other staff described understanding and using specific terms in Achuar such as 'child', 'fever', 'yes' and 'no'. Cáritas staff reported that they made an effort to use Achuar terms for greetings, and to speak slowly and clearly in Spanish when speaking to bilingual community members.

In summary, the heterogeneous category of 'outsiders' encompasses a range of respondents from two outsiders settled long term in communities with Achuar speaking partners and children, to the majority of respondents who had much less day-to-day contact with community members and lived among Spanish speaking colleagues during fixed term employment in the region.

III.3 Researcher's position

A further consideration related to discussion of outsiders is that of my position as a researcher. Reflexivity in relation to research has been described as involving two levels of critical reflection: firstly, on the research itself; and secondly, on the role of a specific individual in conducting the research (Green and Thorogood 2009:24). The first is addressed throughout this thesis in discussion of ontology, the boundaries of categories

and concepts, and implications for research methodology and methods (1.1, Chapter 2, 3.3, 3.11). Here I focus primarily on the second. In doing so, I aim to discuss 'the process of engaging in reflexivity' (Finlay 2002:212) as an ongoing part of research practice, rather than a temporally fixed step in production of a final report (Bolam, Gleeson et al. 2003:2.9).

To do this, I firstly describe my position in comparison with and in relation to 'outsiders', and secondly discuss a vignette concerning relations between myself and community members. These are seen as examples which help to make visible these particular forms of relation, and inform the ways in which I draw on 'different ways of knowing' in this thesis, rather than aiming to make a 'claim to authenticity' (Seale 1999:161). Methodologically, the conscious procedure of identifying and articulating these relations is based on Bourdieu's description of 'objectification of the object' (Bourdieu 1977:3) described in Chapter 2 (2.3.5).

As someone from outside the region my position overlapped with employed professionals in both practical and professional spheres. We encountered similar situations in practical arrangements such as travel to and from the Corrientes, arranging accommodation, food, and communication with distant family by telephone.[138] In a professional sense my position was also similar in some ways to theirs; we were all in the region because of our professional interest in the local population, and with health workers I shared knowledge of the parameters of public health, associated professional language and principles of epidemiological monitoring and infectious disease diagnosis and treatment.[139] The similarities and shared experiences meant that I had met and spent time with many of the health workers prior to conducting interviews. During interviews, I found I needed to problematise assumptions of shared knowledge in terms of health and other aspects of the local situation, asking respondents to explain their ideas and drawing on my lack of familiarity with the language, Peru and the region to ask for clarification and explanation.

[138] For example during a boat journey from Iquitos to Villa Trompeteros I travelled with a male doctor and female nurse taking up new posts, who had both trained and worked in urban settings outside Loreto, and were nervous about working in the *selva*, the safety of travel by small motorboat and the basic accommodation we stayed in overnight during the journey. We shared food, water and bedding which I had brought, and when I met them during following months in Villa Trompeteros and Iquitos they were keen to share their new knowledge of the context and offer advice to help me negotiate day-to-day life in the Corrientes.

[139] There were also clear differences: I was not employed to provide a specific service to the communities, was not obliged to be and to remain in the zone, spoke Spanish as a second language, was not from Peru, and looked physically different with paler hair and complexion.

In terms of my position in relation to community members, I was clearly an outsider in the ways described above (III.1), although from a more distant, in multiple dimensions, *allá* than the Peruvian Spanish speaking employed professionals, and shared cultural and physical markers with historical colonists of the region (see 3.7), as well as contemporary Evangelist and NGO visitors. The following account could easily be seen as a claim to authenticity; there was an immediate aspect of this as I felt that one layer of misfit between myself and research participants was adjusted, but I would by no means claim that later interviews then became 'an unproblematic window on the social world' (Seale 1998:215). Here the focus is on the role of this adjustment in disrupting my relation to ways of knowing, specifically those described theoretically as 'Amerindian perspectivism' (2.4.3).

Briefly: while conducting the household survey we were in a community (Community 3) with a telephone, situated in the public area of one of the community's largest houses. A group of several adult couples and children were gathered in the same area drinking *masato*. I asked to use the telephone, and when I called a family member in the UK the phone cut out and then stopped working. This wasn't unusual as community telephones were solar powered and functioned intermittently. I was unexpectedly upset and left the house quickly. The owner of the house sent the interpreter to find me, and invite me to come back to have *masato,* and use the telephone again when the sun was higher. I apologised for being upset and the interpreter said no it was good, they trusted[140] me now, which was good for our survey work. She said they had told her they were relieved to see that I was a real person, who had feelings and missed my family, even though I was white.[141]

While this incident did help to make relations easier, as the interpreter predicted, it also altered my engagement with discussions about the nature of difference between myself and community members. During this and previous visits the interpreter and others had mentioned a number of speculations about whether I was a *pela cara* (3.7), which I hadn't taken seriously, dismissing them in the way outsiders discuss 'beliefs'. This incident

[140] *tienen confianza,* have confidence/trust.

[141] I later found that Lagrou described a similar reaction to her expression of missing people during long-term fieldwork in a Cashinahua community: 'this actualisation of my relatedness and belonging somewhere else in a way similar to theirs was for them a proof of my humanity... unlike a wandering '*Yuxin'* spirit which has lost its constitutive connection with kin' (Lagrou 2000:160).

prompted me to think in real terms about the instability of bodies and potential for transformation (2.4.3) as applied to my body by people I met, as part of a 'way of knowing' rather than an externally described set of beliefs. This later made me open to theory of perspectivism and conviviality (2.4), contributing to understanding and discussion in Chapters 8-10.

III.4 Introducing 'how-being'

A final opening point to Part III of the thesis is an introduction to the term 'how-being'. As explained in the Methods chapter (3.10.4), my approach to translation of terms from Spanish involved a bias to preserving meanings from the source language, resulting in occasional use of odd terms in English, such as 'ill-being' or 'dis-care'. The translation process, together with early problematising of categories (1.1), encouraged me to be continually alert to meanings associated with terms. During fieldwork I used the term 'well-being' and phrase 'how children are', to try to avoid the boundary-drawing associated with 'health' (2.2.2). During interviews with outsiders, and later analysis of these, I found 'well-being' a poor fit with the subject matter; as discussed in Chapter 7 this was largely negative, focusing on lack, while 'well-being' inherently implies something positive. In these descriptions 'unwell-being' seemed more appropriate, similar to the Spanish term '*malestar*' [bad or ill-being, see 3.10.4]. During analysis I noted that 'how-being' would better fit with the phenomena of 'how children are' as a neutral alternative to well-being, and began to use this term in my own notes. Finding it more useful than established alternatives (the health, health status, well-being juncture) both to think and explain thinking with, I use it here in Chapters 7-9. In Chapter 10 I reflect on its use in the context of Research Question 5 (3.2).

Chapter 6: Child Health Status: Public Health measures of 'how children are'

6.1 Introduction

Chapter 6 aims to describe 'how young children are' according to public health measures. To do so, the external, public health perspective of Chapter 5 is continued. This perspective informs the nature of the data underpinning the chapter, and the methodological approach to analysis and discussion.

Primary data about 137 children were collected in the five case study communities as part of the Household Survey (2009), primarily in a specific 'Child Health' section repeated for each child aged less than five years in the surveyed households. In addition, data concerning maternal birth history were collected for 92 women. From these data, quantitative 'indicators' (5.2) conventionally used to measure and describe children's health were derived[142]. Secondary data collected by PEPISCO and the Cáritas 'Healthy Families' project are also discussed, and comparisons made to regional and national data where appropriate.[143] As in Chapter 5, quantitative data is supplemented by contextual information recorded in field notes, data from interviews and published literature, both to provide greater depth and to check the likely validity of primary quantitative data.

Section 6.2 focuses on maternal indicators of child health and child survival; physical development and morbidity indicators are discussed in 6.3. For each section the normative relationship between indicators and child health status is discussed. In conclusion, implications of these analyses for public health characterisation of young children's health status in the case study communities are summarised in 6.4.

6.2 Maternal indicators of child health

The data analysed below in 6.2.1-2 were collected as part of birth histories of 92 women during the household survey. Women's ages at the time of the survey ranged from 15-59 years, with a mean age of 32.4 years[144]. The births discussed happened between 1965 and May 2009. The pregnancies and births referred to include those which produced 127

[142] Through recoding (i.e. rearranging) the data into different categories for analysis, e.g. age-specific groups.

[143] Full details of all the secondary data sources are given in Appendix A5.

[144] Age based on women who knew their current age and their age when their first child was born (n=88).

children who were alive and aged under five years in May 2009, discussed further in 6.2.2 and 6.3, as well as 449 others[145].

In 78 of the 92 households women answered this section themselves, while in 14 households men gave answers on behalf of their partners. In 13 of these cases, the women were present and contributed to the interview, with men translating their responses or checking details with them. In one household the mother was not present and her husband provided the data. This was included in analysis as his explanation of her birth history was detailed, and corroborated by other family members.

This section does not include any information about maternal death associated with childbirth, as any women who had died would not have been included in the survey.

In addition, data collected about the birth circumstances of all children currently living and aged under 5 years at the time of the survey (n=137), in the 96 surveyed households, is discussed in 6.2.3-4.

6.2.1 Age at first becoming a mother

A woman's age at the birth of her first child is associated with both child morbidity and mortality rates, with children of adolescent mothers experiencing poorer outcomes. For example, an excess mortality rate of 51% was identified for children born to mothers aged under 18 in a large scale study of DHS data (Hobcraft 1992:2)[146], and higher rates of malnutrition identified among children of adolescent mothers in India (Raj, Saggurti et al. 2010). The pathways between mother's age and child survival and health outcomes include both physiological and social factors (Finlay, Özaltin et al. 2011).

In the case study households, women's age at the birth of their first child born alive ranged from 12–30 years, with a mean age of 17.7 years (S.D. 3.82). The majority of women, 69.9%, were aged 19 years or under at the birth of their first child (Figure 6a). Only one was aged over 29 years (30 years); she was a teacher from outside the region.

[145] 'Others' include pregnancies where i) the child was born alive and aged 5 years or over in May 2009, ii) pregnancies which did not result in a live birth, and iii) pregnancies where the child was born alive but died before May 2009.

[146] Using a reference category of overall chance of survival to age 5 for children born to women aged 20-34.

Population	5 Case Study Communities Corrientes River, Mothers	
Data source	Household Survey (2009)	
Mother's age at birth of first child born alive (years)	Frequency (n)(%)	Cumulative frequency
<15	15 16.3%	16.3%
15-19	49 53.3%	69.6%
20-24	18 19.6%	89.1%
25-29	5 5.4%	94.6%
30	1 1.1%	95.7%
Age unknown	4 4.4%	100.0%
Total	92 100.0%%	

Figure 6a Mother's age at birth of first child born alive

Discussing this question during the survey, women explained that early marriage used to be 'the custom', and several older women in Communities 1 and 2 reported being 'given to' their husbands from the age of 8 years, including the mother who had given birth to her first child at the age of 12 years. Of the 15 mothers aged 15 years or younger at the birth of their first child, five were aged 15-19 in May 2009. This indicates that early motherhood was not restricted to older women, such as those reporting first live births between 1960–80, as it included five mothers whose first child was born between 2005-2009.

6.2.2 Number of children born alive to each mother

An economic model proposed in the 1970s, described as the 'Quantity-Quality Model' associated family size (i.e. number of children) with their 'quality' (Becker and Gregg Lewis 1974), suggesting that increasing the quantity of children in a family reduces 'quality'. This approach has been discussed in relation to child health and family planning initiatives, with the rationale that increasing family size produces less healthy children as household resources such as food and medicines are spread more thinly (Desai 1995, Jensen and Ahlburg 1999). Some research supports this, for example a study finding increased family size had a negative relationship with child height, associated with per capita expenditure on food and 'crowding within the household', in turn associated with 'household hygiene' (Hatton and Martin 2008). Increasing spacing between births – which can also result in fewer births across a woman's reproductive life span, i.e. smaller family size – has also

been associated with decreasing child mortality (Hobcraft 1992), as has direct analysis of 'sibship size' (i.e. family size) (Knodel and Hermalin 1984). However a number of studies have also found inverse effects of family size on child morbidity, with children in larger families becoming ill less frequently than those in smaller families (Jensen and Ahlburg 1999), and having lower probability of specific outcomes (Wickens, Crane et al. 1999), which has been attributed to a 'hygiene hypothesis' of immune system development associated with greater exposure to infections in early life (Strachan 1989).

In the case study data, the number of children reported to have been born alive to each mother ranged from 1 to 16, with a mean of 5.8[147] children per mother. For interpretation, it is important to note that this includes women at different stages of their childbearing years, hence is not comparable with a Total Fertility Rate.[148] Restricting the analysis to children still living born to women aged 15-49[149] for comparison with national statistics, the mean number of children for mothers surveyed in the Corrientes case study area (2009) was 4.67, compared to the national mean (2007) of 2.58 and that reported in Trompeteros District in 2007 of 3.59 (INEI 2007b).[150]

Of the 17 mothers who had given birth to 10 or more children, mother's age in May 2009 ranged from 37-59 years, and of the 46 who had given birth to five or more children age ranged from 22-59 years. Figure 6b shows the numbers of live births reported for mothers by five year age category.

[147] s.d. 3.82

[148] A Total Fertility Rate is based on age-specific fertility rates calculated across a woman's childbearing years (age 15-49).

[149] Classified as of childbearing age.

[150] Note however differences in sampling methods: the 2007 national census figures included all women aged 15-49 while the household survey was oriented in each household around the mother, hence 4.67 relates to mothers only, as females of childbearing age without children were not questioned about their childbearing history.

Population	5 Case Study Communities Corrientes River, Mothers	
Data source	Household Survey (2009)	
Maternal age, May 2009 (5 year categories)	Live births reported	
	Frequency (n)(%)	Range (n)
15-19	11 12.0%	1-2
20-24	18 19.6%	1-5
25-29	11 12.0%	1-8
30-34	12 13.0%	2-9
35-39	11 12.0%	2-12
40-44	10 10.9%	5-13
45-49	9 9.8%	6-13
50-54	1 1.1%	14
55-59	5 5.4%	7-16
Unknown	4 4.3%	3-10
Total	92 100.0%	

Figure 6b Number of live births by 5 year age category

As would be expected, older women who had lived through all or more of their reproductive years had given birth to the highest numbers of children. These data also show that as well as starting childbearing during adolescence (6.2.1) some younger women aged less than 30 years at the time of the survey had given birth to up to eight children.

6.2.3 Birth arrangements: (Professional) attendance at birth

Attendance at birth by skilled health personnel is internationally recognised as an indicator of both maternal and child health. The variable was selected by the UN to monitor progress toward Millennium Development Goal 5 to 'reduce by three quarters, between 1990-2015, the maternal mortality ratio' (United Nations 2003), and is also used as an indicator of infant's access to medical care during the first 24 hours of life, when up to half of all newborn deaths occur (PMNCH 2011). Graham et al note that 'skilled attendance implies competent attendants AND an enabling environment'[151] (Graham, Bell et al. 2001), an

[151] Emphasis in original

important consideration in rural settings such as the Corrientes where attendance by medical staff does not imply ready access to hospital facilities.

Data presented here are from the individual child focused section of the household survey, in which information was collected about the birth of all children currently living and aged under 5 years at the time of the survey (n=137), in the 96 surveyed households. The births of children aged over five years, and those who had died after birth, were therefore excluded.

The majority of the 137 births were attended by someone, although 32 (23.4%) were not – i.e. the mother gave birth alone. Women explained that they were not usually alone for the birth of a first child, but that this was more common for subsequent births, and that giving birth alone was preferable for some women, described as being more private and something that 'strong' women did. In discussion during the survey about this question, some women also reported that 'strong' women were quiet during birth, because shouting and making noise would produce a noisy, unsettled child prone to crying, while a quiet birth was associated with producing a quiet, calm child.

Figure 6c shows reported details of birth attendance in the case study communities, with local data (*Cáritas)* and national and regional level data (YL Study) for comparison. In the Corrientes case study communities, the majority of attended births (93, 67.9%) were attended by family members – women's female relatives or in some cases their husband. Very few, a total of five (3.6%), were attended by health personnel. Traditional midwives attended nine births, including two which were also attended by health personnel. These traditional midwife-attended births were spread across four communities, indicating that they were not clustered around one traditional midwife located in one place. Limited data available from the Cáritas *'Healthy Families*' project based on surveys in 10 low-mid river communities[152] indicated that 33% of last born children's births were attended by health personnel (Cáritas del Perú 2006a, Cáritas del Perú 2009a). In the YL study communities both nationally and in the *selva* region, attendance by health personnel was far more common (75.0% and 66.6% respectively), attendance by family was less common, and giving birth alone was much less common, with only three cases reported out of 2052 births (0.1%).

[152] Number of mothers surveyed not specified, possibly 57.

Population	5 Case Study Communities Corrientes River, Children aged <5 years	10 low-mid river 'Healthy Families' Project Communities, Corrientes River, Last born child.		YL Study Communities, Peru, Children aged 1 year	YL Study Communities, *Selva* region, Children aged 1 year
Data source	Household Survey (2009)	Baseline Survey (2006)	Evaluation Survey (2009)	Household Survey (2002)	Household Survey (2002)
Total Births	137	-	-	2052	308
Attendant at birth[153]	Frequency (n)(%)				
Any health personnel	5 (3.6%)	- (33%)	- (33%)	1539 (75.0%)	205 (66.6%)
of which: *Doctor*	*3 (2.1%)*	-	-	*985 (48.0%)*	*132 (42.9%)*
Midwife	*4 (2.9%)*	-	-	*1187 (57.8%)*	*159 (51.6%)*
Other	*3 (2.1%)*	-	-	*688 (33.5%)*	*187 (60.7%)*
Traditional midwife	9[154] (6.6%)	-	-	-	-
Family	93 (67.9%)	-	-	484 (23.6%)	95 (30.8%)
Friend/other	6 (6.6%)	-	-	234 (11.4%)	4 (1.3%)
No-one	32 (23.4%)	-	-	3 (0.1%)	0
Unknown	1 (0.7%)	-	-	15 (0.7%)	0

Figure 6c Attendance at birth, births of children aged < 5 years

6.2.4 Birth arrangements: Place of birth

Attendance at birth is associated with place of birth; births in health facilities are more likely to be attended by skilled health personnel than those in rural communities where no health personnel are based. In the case study communities over 95% of children (n=131) were born away from a health facility. As shown in Figure 6d, these births were reported to have happened in a house or building in their community, in a relative's house elsewhere, or in the forest (n=4). Six births (4.4%), to six different mothers, occurred in health facilities. Cáritas figures indicated that a higher proportion, 31% of last births in surveyed low-mid-

[153] More than one category may apply for each birth, hence the column total is greater than the total number of births.

[154] Two of the nine births attended by a traditional midwife were in a health facility with health personnel also present.

river communities took place in health facilities. In comparison, among Young Lives study respondents 68% of births nationally and 61.6% of births in the *selva* region took place in health facilities.

Population	5 Case Study Communities Corrientes River, Children aged <5 years	10 low-mid river 'Healthy Families' Project Communities, Corrientes River, Last born child		YL Study Communities, Peru, Children aged 6-17 months	YL Study Communities, *Selva* region, Children aged 6-17 months
Data source	Household Survey (2009)	Baseline Survey (2006)	Evaluation Survey (2009)	Household Survey (2002)	Household Survey (2002)
Total births	137	-	-	2052	308
Place of birth	Frequency (n)(%)				
Hospital	2 (1.5%)	- (31%)	- (31%)	945 (46.1%)	107 (34.7%)
Other health service	4 (2.9%)			449 (21.9%)	83 (26.9%)
Home	127 (92.7%)	-	-	632 (30.8%)	115 (37.3%)
of which: *family house*	*112 (82.5%)*	-	-	-	-
house of other relative in community	*11 (8.0%)*	-	-	-	-
other building in community	*2 (1.5%)*	-	-	-	-
house of other relative outside community	*2 (1.5%)*	-	-	-	-
Other	4 (2.9%)	-	-	26 (4.1%)	3 (1.0%)
of which: *in the forest*	*4 (2.9%)*				

Figure 6d Place of birth, births of children aged < 5 years

Parents of children born at home were asked why they gave birth at home, and responses were recorded verbatim then allocated to one of 9 categories[155] (Figure 6e). For the majority of births, 96.1% of the 127 children born at home in the case study communities, parents gave responses categorised as 'custom or tradition'. These responses included statements in which parents themselves explicitly related practice to 'custom', such as '*it is our custom'*, and additionally, to being Achuar, *'it is our custom as Achuar[es]*[156]. The category also included responses which drew on 'normal practice' explanations such as

[155] Based on categories used by YL.

[156] '*así es nuestra costumbre', 'así es nuestra costumbre como Achuar'*

'*this is how it is*' and '*this is how it is here*'[157], which I then classified as 'custom or tradition'. Among YL participants, responses categorised as 'custom or tradition' were given less frequently by those who had given birth at home: 30.0% of all respondents and 23.5% of those in the *selva* (Figure 6e).

Population	5 Case Study Communities Corrientes River, Children aged <5 years	YL Study Communities, Peru, Children aged 6-17 months	YL Study Communities, *Selva* region, Children aged 6-17 months
Data source	Household Survey (2009)	Household Survey (2002)	Household Survey (2002)
Primary reason for birth at home	Frequency (n)(%)		
Custom or tradition	122 (96.1%)	190 (30.0%)	27 (23.5%)
Was at home when the baby came	3 (2.4%)		
Scared to go to health facility	2 (1.6%)		
Health facility too far		9 (1.4%)	54 (47.0%)
Did not have enough money to go to health facility		67 (10.6%)	10 (8.7%)
Service at health centre is poor		27 (4.3%)	5 (4.3%)
No time to go elsewhere		140 (22.2%)	15 (13.0%)
Other		151 (23.9%)	39 (33.9%)
Unknown		3 (0.6%)	1 (0.9%)
Total Births at Home	**127**	**632**	**115**

Figure 6e Mother's primary reason for giving birth at home

For three births in the case study communities the primary reason given was that this is where they were when the baby came (including one mother visiting family away from the community, and two who gave birth in other buildings in the community), and for two births that parents were scared to go to the health centre. Two parents gave several reasons, beginning with a 'custom or tradition' explanation and adding that the health centre was far away, or citing other barriers, for example '*it is very far, and we don't have fuel*'. Difficulties with accessing health facilities was more frequently cited by YL

[157] *'así es', 'acá es así'*

respondents, with distance to health facility given as the primary reason for giving birth at home by 47.0% of respondents from the *selva*.

Place of birth and attendance arrangements were discussed by a Cáritas staff member, who identified several reasons why women did not give birth in health centres or with health personnel in attendance:

> *'One is accessibility, because the distance is too far to reach a health centre; the other is the lack of fuel…the other is the mother, that is you know how in our training, as they say 'western', the mother is placed on a stretcher, their legs are opened and they are attended to, and they are practically undressed to give birth; and they [the mothers here] are ashamed that they are seen, so this is one of the reasons they don't want to be attended and in a health centre, and the other is the machismo, the man takes the decisions, that is the woman cannot come and be attended because the man never wants her to, he takes the decision, says 'no' and that's that.'*
>
> (Male, Cáritas Project Staff, 2 years in Corrientes)

This explanation draws firstly on practical considerations of what is physically possible, before turning to issues related to 'custom or tradition', in the opposite order of priority to those given by most community members in the household survey.

In summary, data discussed in this section show that the majority of children aged under five years in the Corrientes case study communities in May 2009 were born in the community, without attendance by skilled health professionals. This differs from children born to poor Peruvian families in the Young Lives Study several years earlier, including those in the *selva*, who were more likely to be born in a health facility, and to be attended by skilled health professionals.

6.3 Child indicators of health status

This section discusses indicators of child survival, physical development and illness, based on primary data collected in the household survey and secondary data collected by Cáritas and Villa Trompeteros Health Centre. These include indicators recorded routinely by primary care practitioners to monitor individual child health and development, and those used at the population level in public health and development studies.

6.3.1 Child Survival

The period when children are at highest risk of death is immediately after birth: 41% of all deaths in children aged under five years worldwide in 2008 were estimated to have occurred during the neonatal period (aged 0-27 days) (Black, Cousens et al. 2010).

In settings where birth and death records are routinely and reliably collected, population infant mortality rates are calculated as the number of deaths of children aged less than 1 year, per 1000 children born alive, per year. In high income settings this is expected to be <10 deaths per year; in low income settings 10-15 times higher (Young 2004:40, PRB 2014). In the Corrientes region births were not fully registered (59.9% of surveyed household members had birth certificates (5.4.4)) and deaths of children in the communities were not formally registered, so child survival based on mother's birth history was instead calculated[158].

A total of 530 children were reported to have been born alive between 1965 and May 2009 to the 92 mothers interviewed. At the time of the survey in May 2009 453 of these offspring (85.5%) were still living and 77 (14.5%) had died. A total of 41 mothers (44.6%) reported deaths of one or more children born alive. The majority reported one (n=26) or two (n=8) child deaths, however six women reported between four and seven child deaths each. The proportion who had died was similar to that reported in YL study communities: 16.4% across all study sites and 15.3% in the *selva* region. Of the 77 children who had died in the Corrientes case study communities, 64 (83.1%) were aged under 5 years and 13 (16.9%) were aged over 5 years at death[159].

6.3.2 Physical development

Height and weight are standard anthropometric measures used internationally as indices of physical development. These measures are used to calculate weight-for-height and height-for-age, in turn used to identify under-nutrition, wasting (acute weight loss) and stunting

[158] Under reporting total number of children, particularly where one or more child has died or live away from the mother's home, and including still births are common inaccuracies of this method. The survey tool included several checks (probe to include children who died soon after birth, checking number of boys and girls, probe for children living away from household) to minimise error (YL 2003b:20-21).

[159] For one child (1.3%) the mother did not know whether they were under or over 5 years of age at death. This proportion is not compared with YL data as the periods between birth and the survey point are likely to vary substantially.

(chronic restriction of growth) through comparison to international growth standards (WHO Multicentre Growth Reference Study Group 2006, Black, Allen et al. 2008).

Physical development is closely related to nutritional status, understood to be multifactorial and cyclical, 'influenced by three broad factors: food, health and care' (UNICEF 2013:3). Malnourished children are more susceptible to common childhood illnesses, take longer to recover and have an increased risk of mortality (Black, Allen et al., Pelletier, Frongillo et al. 1993, WHO 2014). A range of longer term motor and cognitive developmental effects have been identified (Martorell 1999), as well as shorter adult height, reduced economic productivity and for women lower birthweight babies (Victora, Adair et al.).

Interpretation of the prevalence of wasting in areas including Latin America for different ethnic groups based on international growth standards has been questioned (Victora 1992). Assessment of 2006 WHO growth standards published were found to 'confirm earlier observations that the effect of ethnic differences on the growth of infants and young children in populations is small compared with the effects of the environment', leading authors to conclude that ethnic differences 'are not considered large enough to invalidate the general use of the WHO growth standards population as a standard in all populations' (WHO/UNICEF 2009).

In Peru chronic infant malnutrition has been described as a serious and persistent problem (Beltrán and Seinfeld 2009), and national intervention programmes *Juntos* and *PIN* (5.5.2) have been introduced in response. Recent national prevalence estimates have varied between 18.3% - 29.8% depending on the international standards used for comparison (INEI 2009a, WHO 2010b).[160] Here 2009 demographic and health survey (DHS) figures based on the 2006 WHO growth standards are used, estimating chronic malnutrition at 23.8% nationally (INEI 2009b). Figure 6f shows the three measures of malnutrition routinely reported in Peru, disaggregated by regional population groups.

[160] Older standards NCHS/WHO based on 1977 NCHS Cohort (de Onis and Blössner 2003) or newer WHO 2006 (WHO Multicentre Growth Reference Study Group 2006)

Population group (children aged under five years)	Number of children surveyed (n)	Measure of malnutrition		
		Chronic malnutrition (height-for-age; stunting)	Acute malnutrition (weight-for-height; wasting)	Global malnutrition (weight-for-age)
National population	9113	23.8%	0.6%	4.2%
Rural population	3351	40.3%	0.6%	7.5%
Selva population	1522	28.1%	1.4%	8.0%
Loreto population	486	29.1%	2.4%	9.3%

Figure 6f Malnutrition in infants aged < 5 years by population group, DHS 2009

In the Corrientes region, height and weight of children aged less than five years was recorded between 2006 and 2009 by two sources: the Cáritas Healthy Families Project and the Villa Trompeteros Health Centre (Figure 6g) (Cáritas del Perú 2006a, PEPISCO 2008d, Cáritas del Perú 2009a, PEPISCO 2009h). Both used the data to calculate infant malnutrition rates: Cáritas figures based on NCHS/WHO growth standards; health centre figures based on WHO 2006 growth standards. Calculations of chronic malnutrition rates ranged from 18-36% among the different sub-populations over this time period, with the lowest and highest values from Cáritas surveys. These were based on very small samples (15 children across 10 communities)[161] hence the health centre data, based on larger populations, with a smaller range of rates (31.9–34.7%), is used here for comparison.

Chronic malnutrition figures were higher than the national population, and a little higher than regional *selva* and Loreto figures, but lower than the national rural population, which refers mainly to the mountainous Andes region. Acute malnutrition calculations were based on small numbers, but rates from health centre data were similar to rates recorded in DHS regional data in the *selva*. Global malnutrition rates (weight for age) were consistently higher than DHS figures.

[161] According to methods described in survey tool instructions for data collectors (Cáritas del Perú 2006b, Cáritas del Perú 2009a).

Data Source	Date child age and population	Number of children surveyed (n)	Measure of malnutrition		
			Chronic (height-for-age; stunting) (n)(%)	Acute (weight-for-height; wasting) (n)(%)	Global (weight-for-age) (n)(%)
Cáritas Healthy Families Project	**2006,** 10 communities* Children aged 3 yrs Children aged 4 yrs	18 15	- 32/31%** - 36/37%**	- 6/5%** - 6%	- 16% -
V.T. Health Centre	**September 2007,** 36 Communities Children aged < 5yrs	1058	367 34.7%	15 1.4%	144 13.6%
	October 2008, 36 Communities Children aged < 5yrs	1315	447 34.0%	17 1.3%	197 15.0%
	June - July 2009, 11 communities*** Children aged < 5yrs	304	97 31.9%	4 1.3%	33 10.9%
Cáritas Healthy Families Project	**2009,** 10 communities* Children aged 3 yrs Children aged 4 yrs	18 15	18% 25%	3% -	- -

Figure 6g Malnutrition in infants aged < 5 years Corrientes Region 2006-09

* The same 10 low-mid river communities were surveyed in 2006 and 2009

** Two Cáritas sources report slightly different figures: the first is from the project baseline report (Cáritas del Perú 2006a) and the second from the project evaluation report (Cáritas del Perú 2009a).

*** 11 mid–up river communities, five of which (mid river) overlap with those surveyed by Cáritas.

Health centre data recorded in a *brigada* trip to 11 communities in June-July 2009 included the five case study communities (Figure 6h). Amongst these communities the chronic infant malnutrition rate, based on measurements of 159 children aged less than five years, was 36.5%, slightly higher than other rates reported for the Corrientes.

Case Study Community	Number of children surveyed (n)	Measure of malnutrition		
		Chronic (height-for-age; stunting) (n)	Acute (weight-for-height; wasting) (n)	Global (weight-for-age) (n)
1	19	5	0	1
2	50	23	1	11
3	27	11	0	4
4	29	5	2	1
5	34	14	0	5
Combined	159	58 36.5%	3 1.9%	22 13.8%

Figure 6h Malnutrition in infants aged < 5 years Case Study Communities June-July 2009

6.3.3 Child Morbidity

This section discusses child morbidity based on indicators which are either symptoms associated with specific diseases (e.g. fever), or clinic/laboratory diagnosed cases (e.g. malaria). These were derived from data routinely compiled in the regional health system, and survey data collected in the case study communities. These data sources and limitations to their interpretation are described briefly below.

Within the health system counts of reported incident cases of specific diseases were routinely compiled from consultation records. These were used at a local level by health centre staff in Villa Trompeteros to identify and monitor outbreaks of vector borne disease such as dengue and malaria, and to monitor counts of acute respiratory infections (ARI) and acute diarrhoeal disease in infants. They were also reported to regional Ministry of Health authorities in Iquitos. As counts were largely based on cases reported to health facilities, they are likely to represent partial incidence because as discussed above (5.5.3) health facilities were not easily accessible to populations in all communities, therefore it is unlikely that all cases would have been reported. Data from the household survey for example showed that for 82 reported cases of serious illness or accident[162] in children aged under five years in the case study communities, children were taken to health facilities for fewer than half of these (n= 40, 48.8%). Attendance is likely to have been lower for less severe cases. These counts are therefore likely to significantly under-estimate the number of cases.

The cross-sectional household survey recorded prevalence of specific illness symptoms in children aged under five years in the case study communities, based on reporting by parents. This approach also has limitations, particularly the possibility of inaccurate reporting, and of bias if families with ill children were more or less likely to be present in the community at the time of interview. From observation during fieldwork, such bias could plausibly act in either direction: in Community 2, where a number of families were away from the community '*al monte*', these 'missing' families may have been less likely to travel if young children had been ill. Conversely, of the families who were present, two families with ill young children (subsequently diagnosed with malaria) were also 'missing' from the survey, because they were evacuated from the community to Villa Trompeteros Health Centre without completing the survey.

[162] Survey question: '*Has 'child' ever had any serious illnesses or injuries when you really thought he/she might die?*'

In the following section, data from these sources are discussed thematically by illness category, which reflect the groupings used by regional health authorities.

Gastro-intestinal illness

Diarrhoea was widely reported in the case study communities. Parents of 28 children (20.74%) reported that their child had (ever) been seriously ill with diarrhoea (where they thought the child might die). In fewer than half of these cases (n=11, 39.28%) the child had been taken to a health facility.

For each child surveyed, parents were asked about symptoms in both the previous two weeks (period prevalence) and the past 24 hours (point prevalence) to enable comparison with other data sources (Figure 6i).

Population	5 Case Study Communities, Corrientes River, Children <5yrs, 2009	Sample of national population, Children <5yrs, 2009		YL Study Communities Children 6-17 months, 2002	
		Peru	*Selva*	Peru	*Selva*
Data source	Household Survey	DHS Survey		Household Survey	
Symptoms		Frequency (n)(%)			
Diarrhoea in last 2 weeks	45 (33.3%)	649* (14.0%)	325* (22.5%)	-	-
3 or more loose / watery stools in last 24 hrs	22 (16.3%)	-	-	291 (14.2%)	56 (18.2%)
Blood in stools in last 24 hours	1 (0.7%)	-	-	17 (0.8%)	5 (1.6%)
Vomiting everything in last 24 hours	6 (4.4%)	-	-	92 (4.5%)	10 (3.3%)
Total Surveyed	135	9088	1446	2052	308

Figure 6i Prevalence of gastro-intestinal symptoms

*own calculation from % and total

Reported two week prevalence of diarrhoea was 33.3%, higher than that in both national (14.0%) and regional *selva* (22.5%) DHS samples in children aged 0-4 years in 2009. Two week prevalence among children aged under 3 years was also recorded by Cáritas in 10 low-mid river 'Healthy Families' Project Communities (not shown in figure), as 75% in 2006

and 23% in 2009[163] (Cáritas del Perú 2009a:33). This large reported difference of 52% over 3 years was attributed by Cáritas to various Project related activities including improvement to water systems carried out by Pluspetrol and education activities (Cáritas del Perú 2009a:33).

Reported point prevalence of diarrhoea in the case study communities was 16.3% (n=22), within the range reported in Young Lives Study communities nationally (14.2%) and in the *selva* region (18.2%). In a survey carried out by Cáritas in February 2009 in 21 Corrientes communities among children aged under 5 years (n=648 children), prevalence was 17.9% (Cáritas del Perú 2009b). It was not stated whether this was period or point prevalence, but given the similarity to the household survey point prevalence data, point prevalence is likely. This survey included all five case study communities. Restricting analysis to these communities prevalence was 15.9% (n=22), similar to 16.3% recorded in the household survey three months later[164].

Prevalence of blood in the stools, an indicator of dysentery, was very low at 0.7% (n=1) similar to the Young Lives study survey population (0.8%, n=17). Of incident diarrhoea cases in children under five years from all the Corrientes communities reported to health facilities in 2008 (Figure 6j), (likely to reflect more severe episodes (Schmidt, Arnold et al. 2011) and those in communities close to health facilities), 19.5% (n=136) were diagnosed with dysentery. Twenty-eight percent of reported cases (n=196) were accompanied by dehydration, and 7.2% (n=50) were kept for more than 24 hours in the health facility for treatment/observation, although this does not reflect all severe cases. Health staff reported in 2009 that during previous epidemics of acute diarrhoea there had not been space in the health centre to accommodate all the patients who needed hospitalisation.

[163] (n) not reported; likely to be children aged under 3 years of 57 surveyed mothers (rationale for 0-2 year age group not provided) (Cáritas del Perú 2009a:17 and 33).

[164] Within this consistent overall figure there was large variation, for example in Community 1 Cáritas recorded 0 cases and the household survey recorded 8 cases.

Population	Cases reported to Corrientes River Health Centre and Health Posts, Children aged 0-4 years, 2008	
Data source	Villa Trompeteros Health Centre Records[165]	
Variable		Frequency (n)(%)
Total reported diarrhoea cases 2008	**699**	**100%**
Type of diarrhoea		
Acute watery	549	78.5%
Suspected cholera	0	0
Dysentery	136	19.5%
Persistent Diarrhoea	14	2.0%
State of hydration		
Acute diarrhoeal illness/disease without dehydration	501	71.7%
Acute diarrhoeal illness/disease with Dehydration	184	26.3%
Acute diarrhoeal illness/disease with dehydration and shock	12	1.7%
Cases hospitalised (patient kept for >24hrs in health establishment)	50	7.2%
Deaths	2	0.3%

Figure 6j: Cases of diarrhoeal disease in infants aged <5 years reported to Health Facilities, January-December 2008

Two deaths in children aged under five attributed to acute diarrhoea were recorded among cases of diarrhoea reported to health facilities in 2008 (Figure 6j). In 2009, Cáritas recorded two deaths among children aged under five attributed to 'fever, diarrhoea and vomiting' and one attributed to 'diarrhoea and vomiting' (Cáritas del Perú 2009a).

Respiratory illness

Point prevalence of respiratory illness, indicated by cough in the last 24 hours, was reported in the household survey as 40.7% (n=55) (Figure 6k). This is slightly lower than prevalence recorded in the YL study communities among younger children (aged 6-17 months) in 2002, of 41.8% (n=858) in all communities, and 45.5% (n=140) in the *selva* region. Very fast or difficult breathing, associated with acute cases, was reported in 11.1% (n=15) of children in the case study communities, a higher prevalence than that in YL data of 5-6%. This may be associated with complications of malaria, discussed below.

[165] (PEPISCO 2008b)

Population	5 Case Study Communities, Corrientes River, Children <5yrs, 2009	Young Lives Study Communities, Children 6-17 months, 2002	
		Peru	*Selva*
Data source	Household Survey	Household Survey	
Symptoms	Frequency (n)(%)		
Cough in last 24 hrs	55 (40.7%)	858 (41.8%)	140 (45.5%)
Very fast or difficult breathing in last 24 hrs	15 (11.1%)	110 (5.4%)	18 (5.8%)
Total Surveyed	135	2052	308

Figure 6k: Respiratory Illness

Health centre staff recorded consultations with children diagnosed with 'acute respiratory infection', reporting 2018 consultations between January 2008 - February 2009, of which 97.8% (n=1974) were described as non pneumonia, and 2.2% (n=203) pneumonia (C. S. Villa Trompeteros 2009a). Interpretation of these data is limited as children's ages are not specified, and the consultation data do not differentiate between incident cases and repeat consultations for existing cases. The recording of these data do however indicate that acute respiratory infections were recognised as a priority for monitoring, and the volume of cases suggest a substantial burden of disease.

Fever, lethargy and appetite loss

The Corrientes region is recognised as an endemic zone for mosquito-borne malaria parasites *p. vivax* and *p. falciparum* malaria, which cause acute febrile illness, characterised by initial symptoms of fever, headache, chills and vomiting. *P. falciparum* is particularly virulent, associated with rapid progression to severe symptoms, and death. *P. vivax* can cause relapses after recovery from the intial period of symptoms, as dormant forms of the parasite lodge in the liver. Children, who have little or no immunity to malaria, are particularly at risk of malaria and children with severe malaria can develop severe anaemia, respiratory distress and cerebral malaria (WHO 2015). Malaria is preventable through protection from exposure to the mosquito vectors and chemical prophylaxis, and treatable with medication.

Fever and lethargy are key indicators of malaria, and lethargy is also associated with malnutrition. Reported rates of lethargy in children aged under five years were higher in the case study communities (14.3%, n=19) than those in the Young Lives study (3.2%/3%),

although this indicator may be affected by the age difference between the children in the two groups[166].

Fever in the previous two weeks was reported in 33.3% (n=45) of children in the household survey (Figure 6l), a higher prevalence than 22.0% (n=1999) reported nationally, and slightly higher than that reported in the *selva* (29.6%, n=419) in 2009 DHS data. Point prevalence, however, of fever in the past 24 hours, was the same (10.4%, n=14) as that reported in younger children in all YL study communities (n=213), and a little lower than YL data from the *selva* (13.3%, n=41).

Population	5 Case Study Communities, Corrientes River, Children <5yrs, 2009	Sample of national population, Children <5yrs, 2009		Young Lives Study Communities, Children 6-17 months, 2009	
		Peru	*Selva*	Peru	*Selva*
Data source	Household Survey	DHS Survey		Household Survey	
Symptoms		Frequency (n)(%)			
Fever in past 2 weeks	45 (33.3%)	1999 (22.0%)	419 (29.6%)	-	-
High fever in past 24 hours	14 (10.4%)	-	-	213 (10.4%)	41 (13.3%)
Serious loss of appetite in past 24 hrs	12 (8.9%)	-	-	212 (10.3%)	32 (10.4%)
Lethargy/very weak in last 24 hours	19 (14.3%)	-	-	67 (3.3%)	10 (3.2%)
Total Surveyed	135	9088	1446	2052	308

Figure 6l: Fever, lethargy and appetite loss

A newly established diagnostic microscopy facility was available for patients attending the Health Centre, and one staff member was responsible for monitoring reported cases of malaria. Figure 6m shows laboratory verified cases among children aged 0-9 years recorded between January 2008–June 2009, grouped into three six month periods. A total of 283 cases were recorded. The data available did not allow calculation of whether any of these were recurrent cases.

The majority (77.7%, n=220) of verified cases in this 18 month period were identified as caused by *p. vivax* and 22.3% (n=63) were identified as *p. falciparum.*

[166] Lethargy may be easier to identify in older children.

Population				Children aged 0-9 attended by Health Centre/Health Post Staff
Data Source				Health Centre Records[167]
6 Month Time Period	**Malaria parasite species**	Patient Age (years) [168]		Cases by malaria parasite species
		<1	1-9 (1-4) (5-9)	
		Cases (n)	Cases (n)	Cases (n)
January - June 2008	*P. vivax*	1	27 (15) (12)	28
	P. falciparum	0	1 (0) (1)	1
	Total cases	**1**	**28** (15) (13)	**29**
July – December 2008	*P. vivax*	5	40 (23) (17)	45
	P. falciparum	1	10 (3) (7)	11
	Total cases	**6**	**50** (26) (24)	**56**
January – June 2009	*P. vivax*	9	138	147
	P. falciparum	1	50	51
	Total cases	**10**	**188**	**198**
	Total Cases Recorded	**17**	**266**	**283**

Figure 6m Laboratory verified malaria cases in children, January 2008 – June 2009

The number of reported cases of malaria by age increased each period, with the greatest increase evident during 2009. The greatest increases in reported cases were in May 2009 (n=57, 28.9% of cases in 6 month period) and June 2009 (n=92, 46.7% of cases in 6 month period). This increased reporting of cases coincided with a change in health service practice triggered by reports from communities of increasing malaria incidence. Prior to May 2009, figures reflected cases reported to Health Posts and the Health Centre. Between 14 May and 7 June a malaria *brigada* visited 18 low-mid river communities to screen for new cases, identifying far more cases than would otherwise have been likely to report to health services.

[167] (PEPISCO 2009d)

[168] Age categories used in Health Centre records changed in 2009 combining ages 1-4 and 5-9 years into one category.

6.4 Conclusion

In this chapter indicators derived from primary and secondary data have been used to describe 'how young children are' in the case study communities, according to public health measures. Reliability and limitations to interpretation of the data have been considered, informed by discussion of challenges for health system operation in Chapter 5 (5.5.3). The key factors from this chapter which inform a public health characterisation of child health status are:

1) Childbearing began when mothers were young, with 69.9% aged 19 years or less at the birth of their first child. Five mothers whose first child was born in 2005-09 were aged less than 15 years when it was born, indicating that young age at first becoming a mother is not confined to older generations.
2) Family sizes were large, with a mean of 5.8 children per surveyed mother, and 4.67 children still living per woman aged 15-49 years.
3) Attendance at birth by health professionals was rare in the case study communities. Of 137 births of children living and aged less than five years in May 2009, 5 births (3.6%) had been attended by one or more health professionals, and for 32 births (23.4%) women reported having given birth alone. Access to health care in the neonatal period is therefore likely to be very low.
4) Infant or child mortality rates were not available. Eighty-five percent of all the children born alive to surveyed mothers were alive at the time of the survey.
5) Rates of chronic malnutrition (stunting) in the region ranged between 31-35%, and in the case study communities in June-July 2009 was recorded as 36.5%. Acute malnutrition rates were much lower, between 1.3-1.5%. Diarrhoeal disease, associated with malnutrition, was widely reported, with a point prevalence of 16.3%. Point prevalence of fever was 10.4%, and both *p. vivax* and *p. falciparum* malaria were recorded in the region.

Discussion of these factors reappears in Chapter 7 in analysis of employed professionals' characterisations of 'how children are', which draw substantially on public health approaches.

Chapter 7: Lack and the need to improve: outsiders' accounts of how young children are

7.1 Introduction

This chapter presents analysis of accounts of 'how young children are' given by people employed to provide a service to communities which in some way related to children. These included health workers employed by PEPISCO, Cáritas staff specialising in health and community development working on the 'Health Families' intervention project (5.5.2), teachers and Pluspetrol Community Relations staff. The Introduction to Part III situated these individuals in a continuum of outsiders-insiders, reflecting local characterisation of people from *acá* [here] and *allá* [there], which highlights the differences in place of birth, language, and appearance between outsiders who have come to the Corrientes, and community members who are from the Corrientes.

Data discussed here were drawn primarily from semi-structured interviews, described in Chapter 3 (3.10). Outsider's accounts included very little positive characterisation of 'how young children are' (7.2), drawing instead on discussion of 'lack' (7.3). This was tightly bound with explanations of *why* this situation arose (7.4), and how it could be improved through guidance and 'development' (7.5).

7.2 Good or normal (but)...

Few of the outsiders interviewed were positive in their assessment of 'how young children are' in the communities. One of the twenty-two respondents, a Health Technician, gave an overall positive description without negative caveats, comparing local children to 'any child' in terms of both temperament and health:

> *'Like any child, some are calm, some restless….I see them healthy, good'*
>
> (Male, Health Technician, 5 years in Corrientes)

No other outsiders described children in the communities as generally 'healthy', and all of the other positive comments were tempered by discussion of some sort of problem. Several respondents described the 'liveliness' of children, their agility and their enthusiasm for activity, for example a male teacher (>20 years in Corrientes) explained '*they like to do everything'*, but in each case this was presented as being in spite of specific shortcomings. For example a member of Pluspetrol Community Relations staff discussed the great potential for improvement to children's nutrition, commenting *'but...it's incredible how they can climb a tree or be in the river'*. One health worker commented positively on the

children's intelligence, tempering their description with reference to need for a little assistance:

> *'Those in the communities are mostly intelligent, although they are poor it is not that they are not intelligent, mostly they are intelligent…they pick it up just like that… they only lack a little help… a little guidance'.*
>
> (Female, Health Technician, 2 years in Corrientes)

This situating of children in the communities in terms of lacking things and needing help was echoed repeatedly in outsiders' accounts of 'how children are'.

7.3 'Lack' and the need for assistance

As described in Chapter 3 (3.10.1) the question of 'how young children are' was phrased openly and neutrally to encourage respondents to give positive or negative views, and avoid restricting responses to health issues. Nevertheless responses from employed professionals were phrased in terms of health-related issues; lack of good health, lack of the conditions necessary for good health, and the need for outside intervention to improve these conditions. The term '*falta*' – lack, as in deficiency or shortage, was used by 18 of the 22 outsiders interviewed. Descriptions of 'how young children are' concerned malnutrition, illness, and, in contrast to the comment above about intelligence, being 'behind' in terms of child development.

7.3.1 Hunger, malnutrition, lack of feeding and lack of food

The primary way in which young children's well-being was described by outsiders was in relation to malnutrition. This was approached in several ways. Firstly, children were characterised as actively being hungry, for example:

> *'I have noticed that they're hungry, the children are hungry….'*
>
> (Male, Health Technician, >10 years in Corrientes)

Observing children being hungry prompted an immediate response in some outsiders to want to provide them with food. As food was not available to buy in the communities this involved in the short term sharing the food they had brought with them for themselves, and in the longer term pursuing various changes discussed below.

Secondly, children were widely described as being malnourished or having chronic malnutrition. Descriptions of prevalence, not sought in interviews but offered by a number of respondents, included 'many', 'the majority' and 'ninety percent of children'. Chronic malnutrition rates calculated by the Villa Trompeteros Health Centre and the Caritas

Healthy Families project in 2006-2009 for children aged less than five years in the case study communities ranged from 18-36% (6.3.2). Malnutrition was attributed by interview respondents to several factors. It was seen as directly associated with parasitosis, and also discussed by some respondents in relation to wider issues of general care for children, responsible parenting and socio-economic factors (7.4). Primarily, however, malnutrition was discussed in relation to how children were fed; as a female nurse (2 years in Corrientes) described '*a badly fed child, [means] we will have a malnourished child'*. How young children were fed was seen as a very important issue. A Pluspetrol Community Relations officer declared '*there is a very serious problem in the feeding of these children*'. This included both how much children were fed – the volume and frequency of food provision - and what they were fed. Opinions varied as to whether problems related to how much food was provided begun before or after birth. For example a health technician (Female, 2 years in Corrientes) reported: *'when they are little babies... they are well, their weight and their height are correct for their age…but the rate at which they grow is different'*. A senior medical staff member reported that of the babies they had seen at or shortly after birth:

> '*the majority were born at a good weight...over the course of their development in their life they become malnourished...they become malnourished because of the poor feeding'*
>
> (Male, 1 year in Corrientes)

Others described women's practice of restricting their diet during the final trimester of pregnancy in order to control their baby's birth weight, for example:

> '*they don't eat much because otherwise they say "the baby grows too much, and I will suffer giving birth" and this goes against the baby*'
>
> (Male, Cáritas Project Staff, 2 years in Corrientes)

These respondents saw children as being disadvantaged before birth by their mother's restricted food intake during pregnancy.

Frequency of feeding young children was widely commented on. Families were reported not to eat frequently enough, for example:

> *'When we arrived our first impression was how little they feed the children in the communities. Some families eat once a day, and some families don't eat even once'*
>
> (Female, Cáritas Project Staff, 3 years in Corrientes)

As well as eating infrequently, meals were seen as irregular and haphazardly planned:

> *'they don't have a common schedule, we know that it is morning, afternoon, evening, we eat dinner in the evening, we have a schedule, but they don't have a schedule, they eat once a day, or twice a day…sometimes they don't eat'*
>
> (Female, Health Technician, 2 years in Corrientes)

> *'here for example they have a pumpkin, they have yucca, they have fruit, but they eat them in a manner…how they find them, no? without a regime, without for example [thinking] this will feed us now, this for lunch, this for dinner…'*
>
> (Female, Cáritas Project Staff, 2 years in Corrientes)

In each aspect of how food was provided to children, families' practice was compared with that outside the communities and found lacking. Similarly, the content of families' diets was reported to be inadequate. The main problem was consumption of '*mainly pure carbohydrates'* (Female, Nurse, two years in Corrientes), and little protein. This was partly attributed to the consumption of *masato* which was seen to replace important aspects of a nutritious, balanced diet. A number of respondents expressed concern that children were fed mainly *masato* and supplemented this with whatever other foods they could find, reporting that children sometimes only had *masato* and green, unripe fruits. For babies, *masato* was reported to be given too early, *'from being tiny'* (Female, Health Technician, <6 months in Corrientes) when babies should be exclusively breast-fed:

> *'Athough we tell them, we explain that they should not give them masato, because it is harmful, but still, because it's their custom, from birth, they* [give]...*in place of milk, masato'*
>
> (Male, Senior Medical Staff, 6 months in Corrientes)

Among older infants *masato* was seen as replacing, instead of supplementing, solid foods:

> *'here the typical drink that they usually use to feed themselves is masato, and they also give their children masato, without thinking about whether they have any solid foods, some rice, some meat '*
>
> (Female, Senior Medical Staff, 18 months in Corrientes)

As illustrated in these examples, these respondents described deficiencies in dietary composition and balance as problems associated with parents' lack of knowledge or customs, discussed below (7.4). Others, rather than parents' lack of knowledge, identified lack of availability of foods as the reason for insufficient amounts or variety of foods they observed being offered to children, pragmatically concluding *'they eat what they have'* (Female, health technician, <6 months in Corrientes). For example a senior medical staff member explained:

> *'they don't eat three times a day...when they have food they eat, when they don't they don't eat'*
>
> (Male, 1 year in Corrientes)

As well as a general shortage of food, specific food groups were identified as lacking from children's diets because they were not available, particularly proteins:

> *'malnutrition – for the lack....there is no milk, meat, beans..'*
>
> (Male, Senior Medical Staff, 6 months in Corrientes)

Meat and fish were widely reported as *'difficult to find'* in the communities. Some respondents associated this situation with the families' wider socio-economic conditions, and several with the ownership of specific items which provided the means for catching animals and fish to eat, for example relating ownership of a rifle and fishing equipment to quality of the diet:

> *'it depends a lot on whether the head of the family has a rifle, so that they can eat any wild animals, or has their fishing net, hook, to fish, any type of fish….but predominantly it's carbohydrates'*
>
> (Male, Senior Medical Staff, 1 year in Corrientes)

As discussed in Chapter 5 (Figure 5c), 95.2% of 84 surveyed households owned some sort of fishing or hunting equipment. The majority of surveyed households (Figure 5b) (n=95) reported recent consumption of fish/shellfish (89.5%), *Suri* insect larvae (86.3%), bird meat (77.9%) or red meat (60.0%). Interview respondents noted that when meat was available it tended to be eaten by adults rather than children, for example:

> *'when they bring the animal to the house, the meat is more for the adults than for the children....they mainly feed the children with masato, less fermented masato, this is what they give to the children..*'
>
> (Male, Pluspetrol Community Relations)

In the households I stayed in and visited, male adults, visitors and female adults were offered portions of meat before adolescents and children, but children were given mouthfuls of some types of meat while adults were eating, and helped themselves to some types of cooked meat being smoked over the fire. As will be discussed in Chapter 8, some types of animals were not seen as appropriate food sources for young children.

7.3.2 Presence of infectious disease

After discussion of food and malnutrition the next most widely mentioned issue in relation to 'how young children are' was the presence of infectious disease. Intestinal parasites

were reported to be very common '*they always have these...until adulthood'* (Male, Health Technician, 4 years in Corrientes), and to contribute to malnutrition. Acute respiratory infections such as pneumonia and bronchitis, and gastric infections, were also reported. Unlike discussion of food and malnutrition respondents went into little detail about infectious diseases, tending to list them and briefly discuss causes before moving on to other topics.

A number of respondents commented that children were particularly vulnerable to infectious diseases due to malnutrition, for example *'because of this their defences are a bit low, so they get ill all the time'* (Male, Senior Medical Staff, 3 years in Corrientes). Infectious disease transmission was attributed to lack of hygiene, the use of river water and lack of appropriate drinking water. Additionally some respondents explained that parents' practices in caring for their children, seeking medical help and complying with treatment put their children at risk of infection or very serious illness (7.4).

7.3.3 Deficiency in intellectual development

Of more interest to respondents was discussion of children being of *'a low intellectual level'* (Male, Senior Medical Staff, 6 months in Corrientes), *'not so alert'* (Male, Health Technician, 4 years in Corrientes) or having *'a lot of retardation in their psycho-motor development'* (Female, Nurse, 2 years in Corrientes). This contrasts with the observation reported above (7.2) that, despite being poor, children in the communities were intelligent.

Deficiencies in development were noted by health centre staff in relation to poor performance of children according to national psycho-motor development test standards of language, social, motor and coordination skills for two to four year olds. These involved for example asking children to give their full name, to button up clothes and to draw a circle or a cross with their hand. Children's responses were described as 'very deficient'. This was attributed to two factors; 'lack of stimulation' by parents, and malnutrition. For example, a Cáritas Project Staff member (female, 3 years in Corrientes) explained:

> *'I think that the children here in the communities, they are like any other children who grow up in the district, or grow up in any other city, the pointed difference is the stimulation that they can have'*

One respondent noted that this issue of stimulation was a problem in the *selva* in general *'the majority of the selva is like this, all the selva'* (Male, Senior Medical Staff, 6 months in Corrientes). 'Stimulation' was not clearly described by respondents, beyond explaining that

it was the parents' responsibility and it was lacking, which one respondent attributed to parents' lack of education, language and reading skills. None of the respondents discussing this topic directly considered the use of language in the tests. Tests were observed to be conducted in Spanish, whether or not the child or their parent spoke Spanish, and children not answering when they didn't understand the question or who were shy about speaking to the health worker were recorded as not completing the task adequately. Therefore the tests appeared to be assessing ability to understand instructions in Spanish as well as ability to carry out tasks if the instructions were understood.

The effects of malnutrition were described by a health worker as affecting the brain's development so that children could not learn quickly:

> *'We know that malnutrition is an illness that you don't see, it affects the brain, it kills the neurones, the development of the neurones. Therefore, if* [these] *don't develop, the child won't learn quickly either'*
>
> (Female, Nurse, 2 years in Corrientes)

A teacher[169] in Community 4 gave a shorter term explanation of the relationship between food and learning, describing children arriving at school fed on only *masato* as easily distracted and not concentrating during lessons. She found that the '*desayuno escolar'* programme (providing rice cooked with milk for breakfast to schoolchildren before classes), made a big difference to children's attentiveness and learning, noting that in periods when the milk and rice supplies had run out and she could not provide breakfast 'only 3 out of 10 children were alert' in class.

In summary, 'how young children are' was described negatively by outsiders, with primary emphasis on what children lacked, particularly in terms of their diet. As explained above, some outsiders gave specific explanations for some of the problems they identified, such as limited availability of protein rich foods such as meat and fish contributing to poorly balanced diets. However, many explanations were given in wider terms such as 'custom' and 'neglect', and factors such as education and employment. These are discussed in the following section.

[169] This teacher was absent during the interview period but discussed this issue at length during the household survey visit.

7.4 Why are young children like this?

In addition to specific causal factors raised to account for children's 'negative' status, such as problems with a range of aspects of children's diets causing malnutrition, more general explanations were also given. These were presented by respondents in terms of 'lack of knowledge', 'custom' and 'neglect'. These wider, sometimes overlapping concepts are explored here.

7.4.1 Lack of knowledge

Again raising the issue of lack or deficiency, parents' 'lack of knowledge' was frequently offered as an explanation for why they did not do things which respondents identified as necessary to care for children well. This was particularly evident in descriptions of shortcomings in the provision of children's food. Parents were described as not knowing what a good diet should include, for example:

> *'there is no awareness of good nutrition in children'*
>
> (Male, Pluspetrol Community Relations)

and as not knowing how to prepare appropriate foods:

> *'many mothers don't know how to prepare meals. They are experts in the preparation of masato, but meals, porridges, purees...no, they don't know how to prepare them'*
>
> (Female, Cáritas Project Staff, 3 years in Corrientes)

For some respondents this lack of knowledge about how to care for their children was sufficient explanation in itself for parents' behaviour. Others in turn attributed lack of knowledge to lack of education, either formally in school or as part of community development programmes. Many had suggestions to improve this through interventions such as workshops; these suggestions are discussed below (7.5). Lack of knowledge was also associated with behaviour related to community 'customs'. Some respondents used the term 'custom' directly, other described lack of knowledge as customary behaviour repeated through generations, for example:

> *'the parents really don't know how to feed their children. Because...imagine, an Achuar is born in the furthest community, they have been raised on this* [food], *so they will give the same to their children'*
>
> (Female, Nurse, 2 years in Corrientes)

'Custom' was also used as an umbrella descriptive and explanatory term for many aspects of parents' behaviour which respondents saw as problematic.

7.4.2 'Their own customs'

The term 'custom' was used to describe a range of community members' practices, which were different to outsiders' own practices, and which they saw as detrimental to children's well-being. Some were related to aspects of community members' living conditions and lifestyles and others to specific behaviour in relation to caring for children. Community members were seen as 'conserving' their customs, indicating that outsiders saw community members as having some agency in deciding to do this rather than to alter them. The customary practices discussed included domestic and childcare arrangements, participation in community activities and responses to illness.

Children were seen as exposed to increased risk of contracting disease due to specific physical living conditions. Overcrowded houses, with *'everyone just in one room'* were '*harmful for the health of children, especially those under 5 years*' (Female, Cáritas Project Staff, 2 years in Corrientes). Exposure of children to the elements, outside the house, could also cause illness. Harmful practices included young children being taken to the *chacra* by their mothers while they worked cultivating food, when they could be exposed to sun, wind and rain, and taking them '*al monte'* on hunting and gathering trips. Very young children were particularly vulnerable, for example:

> '*the mothers themselves do not cooperate*, *there are times when the mothers with newborns go al monte with their husbands, and this affects them...because they are newborn, they get colds.'*
>
> (Female, Nurse, 6 months in Corrientes)

Parents' behaviour in relation to seeking treatment for children's illness was also identified as problematic, making it difficult for them to be treated in a timely and effective manner by health services personnel. As a health worker explained, community members did not share outsiders' biological explanations for disease causation, which informed their behaviour:

> *'They still have the custom, or have the belief, that they call "daño"....that is they still have the custom of thinking that illness has been provoked by someone, or made by someone...'*
>
> (Male, Health Technician, >10 years in Corrientes)

Because of this 'belief', parents were reported to use plant remedies at home, or visit traditional healers, or Evangelic pastors for prayer, before bringing their children to health posts. They were criticised for seriously endangering their children by not seeking medical help early enough:

> *'they wait until they have a strong, strong illness before they come…..when they see that the baby is seriously, seriously* [ill] *only then do they worry and come to ask that you make them better…crying – but it's late sometimes…you do what you can, to make them better…it is difficult to prevent them dying, to make them better'*
>
> (Male, Health Technician, 1 year in Corrientes)

Discussion of harmful practices included occasional mention of prayer as a form of healing. In itself this is not historically traditional, having been introduced from the 1960s (5.4.2), but has since become a customary practice.

The treatment parents sought from *curanderos* not only delayed children receiving medical attention but additionally in itself was sometimes described as harmful. A health technician explained how a healing practice involving tobacco smoke could worsen the child's health status and associated such treatment with child deaths:

> *'usually you see this in the case of deaths of children...sometimes the father makes the mistake of taking them to the curandero when the child has bronchitis, the father takes them to the curandero and what do they do? What they do is, they blow on the child with tobacco, and this is one of the factors that brings the child to death, tobacco and more tobacco, tobacco and more tobacco, they make them take tobacco as well I think, and their lungs, they begin to die of poisoning, like a soup of pneumonia, they die with pneumonia'*
>
> (Male, Health Technician, 6 years in Corrientes)

When they did seek medical help, parents were also described as not complying well with treatment by failing to administer full courses of medication to their children, or removing them from inpatient treatment prematurely. For example, a Cáritas worker recounted a recent case in which a child was brought to a health centre but discharged by his parents when they thought he didn't improve, and then died:

> '*just recently....there was a boy with respiratory problems, they had been treating him with medicinal plants, they had brought him to the health centre, the parents didn't see an improvement, they said that the boy wasn't getting well, they were going to take him away. They took him back to the community and in two or three*

days he had died.'

(Female, Cáritas Project Staff, 3 years in Corrientes)

These examples all describe serious cases involving death, and are illustrative of the strong negative terms in which the majority of respondents drew associations between community members' customs and young children's well-being. A minority displayed some tolerance for traditional practices and suggested that a mixture of approaches was needed. For example one health worker explained how they encouraged community members to first seek medical help and then supplement this with their own traditional medicines:

'if this is what they believe...you have to tell them that they can also use medicine, and traditional medicine....but to go in stages, first the medicine here of EsSalud, and after that they can give their traditional medicine'

(Female, Senior Medical Staff, 3 years in Corrientes)

This more tolerant approach was unusual; it is discussed further in Chapter 9 (9.6).

In addition to behaviour associated with treatment for illness, the cultural practice of participating in *mingas* was frequently raised in relation to young children's well-being. It was seen as problematic in two main ways; firstly because it took parents away from the household and appropriate care of their children, and secondly because it involved consuming *masato*. Respondents described children being left alone in the house while parents attended *mingas,* for example:

'another problem is many mingas, the mingas mean that the children stay alone in the houses, alone, in the care of a little brother or sister, so that these children are not fed as they should be, they aren't cared for as a child should be cared for…'

(Female, Cáritas Project Staff, 2 years in Corrientes)

Taking children to *mingas* was also given as an example of how community members' *'own customs'* prevented them from '*developing themselves'*, when children were at *mingas* rather than being at school learning to read and write. The consumption of *masato* at *mingas* was a further source of concern; the 'owner' or host of the *minga* provides sustenance in the form of *masato* for participants, sometimes complemented by solid food. If a lot of *masato* is consumed respondents described parents returning home late in the afternoon *'many of them now drunk'*, (Female, Cáritas Project Staff, 3 years in Corrientes) and any children that went with them also only having *masato* if there is nothing else available. Participating in a *minga* was also seen to interfere with seeking treatment for children's illnesses, as parents prioritised going to the *minga* and only took their child to

the health post afterwards:

> *'they prefer sometimes to go to the minga; in the afternoon finally, at the end of the whole day, they bring their child, sometimes we have this problem with the population, that first they go to the minga, and finally when they return they bring their child to the health post, after* [waiting] *the whole day – very ill'*
>
> (Male, Health Technician, 4 years in Corrientes)

These respondents consistently saw *mingas* as detrimental to young children's well-being, in contrast to the way community members explained their role (Chapter 8). They were seen as something parents chose to do rather than other more necessary activities around the home caring for children or household level productive activities. Again, this varied from community members' interpretations discussed in Chapter 8 of the *minga* as essential communal work to complete tasks one household unit could not do alone.

The majority of outsiders associated *mingas* and other 'customary' practices with a lack of care for young children. For example a Pluspetrol Community Affairs officer explicitly drew a comparison between traditional practices in the communities and parenting in the city, identifying practice in communities as amounting to neglect of children:

> *'what I see is neglect...they don't give much importance like...if we compare with a mother in the city, they care for them, no? They wash their little hands, before they give them their food...but here no, little importance, the mother mainly neglects them, she dedicates herself to making masato, going to the minga...so the children stay without being under anyone's responsibility'*

This comparative approach commonly taken by outsiders is discussed further in Chapter 10. The issue of 'neglect' is explored below.

7.4.3 Neglect

The term 'neglect' – in Spanish *descuido,* which would translate directly as 'uncare' or 'discare' if such a term existed in English – was used repeatedly by outsiders in relation to young children in the communities. It arose both in discussion of customary practices and in response to a prompt during interviews asking what parents did to care for young children. Outsiders frequently responded that parents didn't care[170] for young children, and that children were neglected; *'they barely care for them'* (Male, Healthcare Assistant, 5 years in Corrientes); *'they don't care for them much'* (Female, Nurse, 6 months in

[170] 'Care' as in to look after

Corrientes); '*they are neglected*' (Female, Nurse, 2 years in Corrientes). Illness was attributed directly to this neglect, for example:

> '*they* [children] *get ill sometimes because of the neglect by their own parents*'
>
> (Female, Health Technician, < 6 months in Corrientes)

Neglect was associated by respondents with parents prioritising their customary daily activities like hunting, *mingas* and going to the *chacra* over looking after their children, and with children being dirty, not fed well or dressed well. Specific consequences such as late presentation of ill children at the health post, described above, were seen as a by-product of a general situation of neglect.

As well as providing a background explanation for children's unsatisfactory state, neglect was drawn on in discussion of lack of responsibility on the part of community members. Neglect was not generally seen as an active choice by parents, but more something that happened by omission as parents' attention was elsewhere, going about their daily activities. Neglect was also seen as related to a lack of responsibility. Similarly, respondents commented that community members lacked responsibility – that they did not actively take responsibility for things such as caring for their children and planning for the future. For example several respondents were troubled by community members' apparent lack of planning and concern regarding whether to have children and how many to have. A Cáritas worker explained:

> '*Having many children is because they come, because they come naturally, but they are not responsible like about how they can raise them adequately... here in the selva, there are so many things they can do to raise their sons and daughters well, especially in nutrition, but that's not what happens*'
>
> (Male, Cáritas Project Staff, 2 years in Corrientes)

Echoing earlier discussion of resources or attributes 'lacking' in the communities, an almost casual, unintentional lack of responsibility is seen as resulting in neglect of children and contributing to a range of specific and very real problems in terms of young children's well-being. Respondents' reaction to this is to suggest changes in the communities to promote 'development', educate community members and change their behaviour in order to improve young children's well-being. The kinds of changes they suggest, some of which were underway through intervention programmes (5.5.2) would help to align community members' daily practice with what outsiders see as more appropriate parental behaviour, as they themselves are accustomed to in their own home environments.

7.5 Improving how young children are: the need for guidance and 'development'

In sections 7.2 - 4 I explored the ways in which outsiders describe 'how young children are' in the communities, finding that children were generally seen as more unwell than well. The underlying factors identified by outsiders as underpinning 'how children are' drew on aspects of the communities' lifestyles which outsiders saw as problematic. Some respondents attributed these to lack of knowledge which they associated with parents' education level; others to communities' '*own customs*', including particular practices such as *mingas*. Neglect of children was seen as a product of customary lifestyles. Respondents saw changes in customary practice as necessary and important in order to improve 'how young children are'.

In addition to the content of what people said, throughout interviews and in other discussion of the communities during fieldwork the tone used by most outsiders indicated disapproval. Exceptions to this were a small number of interviewees who were all themselves longer term residents of the area with local partners (see III.1). A disapproving tone is evident in many of the interview excerpts given above describing community members and their practices, both in overt criticism describing community members as '*not responsible'*, and in phrases such as '*we have this problem with the population*'. This resonates with both the dynamics of relations between majority and indigenous populations in Peru, and the purpose of the professional roles held by respondents. Health workers, Cáritas staff, teachers, and Pluspetrol community affairs staff were all in the Corrientes region to provide services which would not otherwise exist there, and which introduced practices and ways of thinking which may differ from those otherwise held by community members. Respondents were asked, at the end of interviews, how they thought that their ideas about young children's well-being compared with parents' ideas. They saw an unambiguous difference, explained clearly by this health worker:

> '*There is definitely a separation of thinking, or of ideas, with reference to the well-being and health of children; maybe for the father yes it is good, but for us it is not good. Like sometimes for example in their nutritional state, for the father they are healthy, but for us they are not.'*
>
> (Female, Nurse, 2 years in Corrientes)

Their response to this difference was to work to change parents' ideas so that parents understood why they should behave differently, and would therefore accept outsiders'

interventions and change their own practices. For example a health technician explained that parents thought *'an 'ampollo'*[171] *would leave them lame, that a vaccine would leave them an invalid*' and they therefore needed training and workshops in order to *'explain to them, that the vaccines, the medicines...are for their own good*' (Male, 1 year in Corrientes). These kinds of necessary changes were described repeatedly in terms of '*improvements*', mirroring the language of disapproval associated with the existing situation, and reinforcing the sense that outsiders saw their approaches as superior to existing practices. A Cáritas worker for example explained that through their project they had been working to increase the number of meals which children were fed per day, an example of encouraging community members to *'change and improve behaviour'* so that they can '*improve their lifestyles'* (Female, 3 years in Corrientes).

Associated with improvements were frequent discussion of the need for '*development*' and '*education'*. Development was used broadly to encompass changes ranging from fundamentally altering lifestyles through changing modes of food production to adding exterior walls to houses. Education was sometimes described as a prerequisite for development, and sometimes as part of the process of development. It was used to refer to both formal schooling provided by the state, associated with reading and writing and the subsequent ability to enter 'professional' employment, and to smaller scale public health education in hygiene practices and food preparation. Formal schooling in the region was seen by outsiders as deficient, both because of limitations in provision (5.4.3) and, echoing themes discussed above, because parents did not support their children to be committed to school learning, for example:

> '*The parents have little interest, they don't worry much about whether their child is going to school, if they are getting good reports, or if they are learning'*
>
> (Female, Health Technician, <6 months in Corrientes)

This lack of support was perceived to hamper teachers' attempts to '*develop*' children who attended school, resulting in teachers '*not knowing what to do'* with the children and children *'being formed just like their parents'* (Male, Senior Medical Staff, 6 months in Corrientes). For those who saw development as associated with children successfully completing secondary school and undertaking a different occupation to their parents, education was seen as very important *'so that the children will be professionals, and move forward...for their future children as well'* (Female, Health technician, 2 years in Corrientes).

[171] Medicine given by injection.

Education in terms of 'guidance' and 'training' in public health matters was also widely discussed and recommended. Several programmes including or dedicated to this were underway in the region (5.5.2). Respondents were particularly interested in talking about the process of delivering guidance. One health technician who had been working in the region for six years suggested guidance should be given to families in each community '*by megaphone....by speaking* [with a] *megaphone, we cannot give it by television because the signal doesn't reach*'. Most were very focused on giving workshops, demonstration sessions and educational talks on topics such as personal hygiene and food preparation, and discussed these with enthusiasm, for example:

Health Technician: *'I think...what they need, really, is a little advice, a small, what's it called?'*
Ruth: *'like.....mmm....?'*
Health Technician: *'An educational talk! Don't you think?!'*
(Female, <6 months in Corrientes)

The need to continually repeat these interventions, and provide follow-up support was also emphasised:

> *'demonstration sessions...these have to continue, to continue, to continue...repeatedly, repeatedly, until tiring point – this is the work, that never stops'*
>
> (Male, Senior Medical Staff, 1 year in Corrientes)

Cáritas staff focused on the need to proceed gradually and get to know communities, explaining that their work progressed very slowly and results would not be seen overnight. One health worker described how she used every interaction with community members as an opportunity to give guidance: *'one gives guidance little by little... I say –'you have to take care with your children, just now you don't need to have more children...look how little your baby is still, how are you going to dress them, how are you going to feed them? I say*' (Female, Nurse, 2 years in Corrientes). Another described the difficulties in influencing parents who did not want to change, suggesting that children were easier to influence:

> '*because the parents won't change, because they don't want to change, they are rooted, they will die like this, they themselves say 'I was born like this,* [like this] *I will be' but the children, who just now, are forming themselves in the college, there, one can work a lot, so that these children become aware, and through them, one can reach the parents'*
>
> (Male, Senior Medical Staff, 6 months in Corrientes)

In all these interactions the professionals' aim was to align community members' ideas and practice with how things are done elsewhere – in the city, in the social and physical environment outsiders are from and themselves accustomed to. A Cáritas staff member reported recent success in beginning to change mothers' ideas:

> '*the mothers now are aware that their children are lacking – are lacking care, are lacking nourishment*'
>
> (Female, Cáritas Project Staff, 2 years in Corrientes)

For her this awareness of lack was a sign of encouragement, signifying the potential for change in local practice and improvement in young children's well-being.

Having explored outsiders' descriptions of 'how young children are', and the changes which they suggest in order to improve the situation for children, I now turn in Chapter 8 to discuss community members' accounts.

Chapter 8: *Vivimos así* [We live like this]: Community members' accounts of 'how children are'

8.1 Introduction

This chapter moves from a focus on 'outsiders' reported perspectives to examine 'how young children are' in the case study area according to community members' accounts. As discussed in the Introduction to Part III, 'community members' were not homogeneous in terms of their experiences, preferences and approaches to daily life, but there was a strong sense of group identity characterised by the majority of residents through both their daily practice and their frequently stated position in relation to people from outside the communities.

The chapter begins with discussion of parents' descriptions of how each of their own children are. The majority of children were described positively, as 'normal' defined by an absence of illness (8.2.1), while a minority were described as 'living with' illness (8.2.2). I then discuss parents' explanations of how children come to be normal or unwell, focusing firstly on the ways in which parents work to 'maintain' children through day-to-day care, and then on dangers to young children which periodically disrupt their 'normal' status. Dangers take several forms. Identifying the most serious dangers to young children, community members discussed two clusters of illness which sometimes 'catch' their children (8.4). Each cluster is described and characterised based on community members' reported experiences of and concerns about them. An analytical step back is then taken to examine the separation of these clusters by community location (8.4.3).

In addition to dangers posed by periodic serious illnesses, children must also be protected from the day-to-day influence of powerful beings which can harm them in various ways (8.5). Potential harms are a product of relations between children, their families and a range of powerful beings that may be encountered in everyday life and enter children's bodies. These encounters can be very dangerous for children, but parents can take measures to avoid them, and can cure children of harm by getting rid of the powerful being from the child's body.

8.2 *Bien* or *mal*

The starting point for interviews with parents was to discuss how they saw their own children in terms of general welfare. Parents were asked directly about each child in turn *'How is [name]? Could you tell me about how he is?'* Where respondents asked for

clarification we rephrased the question asking how they were in general, and if necessary asked was the child strong, how they ate, slept, and how their health was[172].

In their responses parents quickly dichotomised each child as well or unwell. Where a child was considered well, discussion was very short – an affirmative indication of health, or negation of illness, and little more to say. Where a child was considered unwell parents spoke much more, recounting histories of symptoms and treatment. In both cases children were often summoned to demonstrate how they were through their bodily appearance - '*look, you see?*', with round faces and chubby stomachs pointed out in well children, and skin rashes and thinness in unwell children. This both expanded descriptions of children in an immediate, actual sense, overcoming the need to articulate taken for granted physical attributes through a sometimes protracted translation process, and invited the interviewer and interpreter to collaborate in and affirm parents' descriptions.

Prompted by the dichotomy emerging from parents' accounts in how children were seen, descriptions of each of the 68 children discussed were grouped as good/well/normal or bad/ill, reflecting the terminology used by parents and interpreters in Spanish, *bien* and *mal*. Within each group a mixed section was identified, reflecting accounts that included a range of *bien* and *mal* elements over the child's life so far but emphasised one or the other. For example the following description was grouped as mainly *bien*:

> *'Just when he was a baby he got ill, but now he lives like this, normal, very healthy...when he was a baby he was ill, since then he has got healthy and now he doesn't get ill.'*
>
> (Father describing son, aged 3 years, Community 4)

This sense of a life history, including discussion of either change or constancy in the child's condition over time, was characteristic of parents' descriptions of how their children were, indicating that they were considering the child's state in general rather than solely the present period of the interview.

The numbers of children in each group were counted and proportions compared to give an indication of the balance between wellness and unwellness among the children discussed, according to parents' descriptions. This helped to quantify the extent of the sense emerging from parents' accounts that most children were seen as well or 'normal', and a

[172] These prompts were developed in discussion with the interpreter during interview piloting in Iquitos (3.10.1).

minority as ill[173]. The majority of children were described positively (n=57, 83.8%), with a ratio of approximately 8:1 *bien*:*mal* descriptions.[174] This contrasts with outsiders' assessments of young children (Chapter 7), in which children's welfare was consistently described negatively.

8.2.1 Being normal: healthy and well without illness

Parents' positive descriptions of 'how (their) children are' were usually brief. Two main elements characterised parents' discussion of their children as well or healthy – firstly the sense that this was a normal, unremarkable state, and secondly the definition of wellness as the absence of illness.

Most children were described primarily as well/good (*bien*) or 'healthy' (*sanito*), and for many this was the extent of the description. A small number of children were described in actively positive terms, conveying a strong sense of the child's wellness and vitality. For example a father described his two year-old daughter and five year-old son as healthy and happy:

> *Ruth: Can you tell me how Rosa[175] is, in your opinion? Is she well, is she healthy?*
> *Father: She is very healthy, she doesn't have anything, she's healthy, happy...*
> *Ruth: And how is Pablo?*
> *Father: As always he also [has] a happy life playing with his little sister, doesn't have any illness, nothing...*
>
> (Father, Family 29, Community 3)

This overtly positive description was unusual as the majority were more neutral, stating that a child was well/good or healthy without elaboration. Sleeping and eating satisfactorily or well were mentioned by some parents in association with being well, usually in response to prompts from the interviewer or interpreter. For example a mother described her one month old son:

> *Ruth: Can you give me your opinion of David? How is he? Can you tell me...about him?*
> *[translation to and from Achuar]*
> *Interpreter: '...that is, that, her son is well, feeds, sleeps, is very tranquil'*
>
> (Mother, Family 4, Community 4)

[173] These groupings are not intended to be further equated with externally derived categories.

[174] A table of groupings in subcategories with examples is attached in Appendix B 3.1.

[175] This and other names used in Chapters 8 and 9 are not participants' real names.

Being 'tranquil', calm, quiet and content, was associated with being well. To be well or healthy was to be 'normal', the default or expected state for a child – neutrally satisfactory rather than overtly positive. This was stated directly in some accounts, for example a father in Community 3 concluded discussion of his three year old son stating that he was [just] normal:

> Father: *'that is... you want to know how he is? He, we find him well, yes, he is well*
>
> *Ruth: Does he eat well, sleep well?*
>
> *Father: Yes, sleeps, eats well, sleeps....normal, that's all'*
>
> (Father, Family 24, Community 3)

The sense that to be well was the usual, normal and expected situation was reinforced by descriptions of wellness or healthiness given in terms of the absence of illness. The presence of illness was an unusual occurrence to be remarked on and explained, as discussed further below. Not having illness, catching illness, suffering from illnesses or being ill characterised a normal, well child and prompted little comment. Absence of illness was a usual state for well children, such as a three year old boy in Community 4 described by his mother as '*very healthy'* not having '*any class of illness'* (Family 6). Some well children were described as generally not getting ill:

> *'he is healthy, he is well, he doesn't get ill'*
>
> (Mother of one year old boy, Family 25, Community 3)

Others who had had a previous period of illness were now described as well if it had been something discrete which was now gone, for example a 13 year old girl who had previously had malaria but now had no illness:

> *'She doesn't have anything, she has had malaria but then we gave her her treatment'*
>
> (Father, Family 29, Community 3)

Children could also catch occasional illnesses when they were present in the community, such as the 'mainly *bien*' example given above, but remain growing up '*like a healthy boy'* if these were occasional occurrences. According to parent's brief descriptions of each of their children, being well or healthy was the usual, expected state. This contrasted with outsiders' characterisations of children as routinely lacking the constituents of good health (Chapter 7), and external representations of the communities (4.6).

8.2.2 Living with illness

In contrast to this majority of well children who may occasionally suffer illness and recover,

there was a small group of children for whom illness was the normal state. Eleven of the 68 individual children discussed (16.2%) were described in this way. These children prompted more discussion from parents during interviews; they were unusual and there was more to say about them than their 'normal' siblings.

These children had specific histories of chronic illness which were associated with particular symptoms. Most were described as 'living with' their illnesses which did not go away. When asked how these children were, parents described both the symptoms the children experienced and the effects of these on the child. For a five year old boy described by his mother as having asthma, his illness made him '*shake when he picked up any cough*'. A two year old girl with a rash associated with fever was prevented from sleeping tranquilly by her illness. Fever, skin rashes and pain in the bones were described by several parents. Four children described as *'growing up ill'* (Family 28, Community 3) were from one family, where only one child of five aged ten years and under was described as 'well'. One of the four was described as having bronchitis, the other three recurring bouts of diarrhoea with blood, vomiting, fever and headaches.

Being described as not well could include being prone to illness. One eight year old boy was described as getting ill very easily:

> *'it seems that whatever virus comes here is going in his nose, and this...makes him ill, sometimes he spits blood, this is how he lives, he gets ill, and skinnily lives'*
>
> (Parents, Family 5, Community 4)

For this child illness was associated with being thin; similarly other parents commented that illness affected their children's appetites, so that they didn't eat well, and their growth so that they were thin and small.

Some of the ill children had been ill since birth, such as a baby '*born half ill'*, and others had been '*caught*' at a particular point, and since then not recovered to be well. Three babies of one year and under were described as being ill, and unlike the other children described as generally 'ill' or 'bad' this was not seen as such a fixed condition. Having fever and diarrhoea was described as part of being a baby, for example:

> '*he gets fever, diarrhoea sometimes. He's a baby*.'
>
> (Mother of boy aged 1 year, Family 6, Community 4)

There was some expectation that these babies would stop being ill as they got older, unlike

older children who were '*growing up*' with their illnesses.

8.2.3 Why are young children like this?

So far in this chapter I have discussed 'how young children are' as described by their parents. The majority were seen to be generally normal, well and free of illness, while a small proportion were unwell, living and growing up with 'their' illnesses. The rest of the chapter considers how young children come to be well or ill. It begins with discussion of the ways in which parents care for their children day to day to maintain a well or normal state. I then discuss the factors which parents identify as being the most dangerous to their children, and the ways in which they are avoided. This leads to discussion of the role of powerful others in influencing young children, and the ways in which parents mediate these influences to protect their children.

8.3 'Maintaining' children: well-being and day to day care

Young children's normal, well state was seen as being actively maintained by parents through their day-to-day care of their children. Community members identified three main specific aspects of care. Providing food obtained from the local environment was seen as the primary way in which parents cared for children. Secondly, parents provided manufactured goods such as clothes for their children when they were able to. Thirdly, physically carrying young children around was also identified as a way in which mothers took care of their children, supervising them and keeping them close by. These three aspects of care to 'maintain' children are discussed in turn.

8.3.1 Providing food

Providing food was the main way in which community members reported that parents cared for children: *'we feed them*' (Family 3, Community 4), '*we give them food'* (Family 6, Community 4), as several parents noted '*like any parent*'. The term in Spanish '*darle de comer*' usually translated in English as '*feed them'* literally translates as '*give them to eat'*, lending more emphasis to the giving or providing part of the process than the term 'feed'. During fieldwork, I observed mothers giving children prepared food roughly twice a day, in the morning and late afternoon, often being away from the house working in the *chacra* in between.

Feeding children was frequently described in terms of the daily activities which parents undertook in order to obtain food and the way in which food was prepared. '*Searching*' to

find food was commonly reported, and was seen as a habitual, daily process, for example *'we always search to feed our children'* (Father, Family 30, Community 3). Fishing, hunting and collecting *'al monte*', tending the *chacra* and making *masato* were all discussed as ways in which parents provided food to '*maintain*' and care for their children every day. This could involve travelling far away, for several days on foot or by canoe. As the *Apu* of Community 4 explained:

> *'....for example they search far from here so that they can raise their children, for chonta [palm heart], this they take...and this [in] patarashaca they give to their children to eat'*

Carrying out these daily productive activities was seen as a necessity to be able to provide food. A mother with responsibility for four children aged six years and under described going fishing as part of what she needed to do to 'maintain' them: '*if you don't go you don't have then [food] to give them to eat, to maintain your children'* (Family 28, Community 3).

Activities carried out in order to obtain food were not always successful. The father of four children aged 5-13 years described his concern when he did not have food for them:

> *'I go to search for something to feed my sons and daughters...sometimes when they don't eat I am worried about my children'*
>
> (Father, Family 29, Community 3)

Not finding or having food was a familiar situation. A father of four children aged 3-11 years explained:

> '*if sometimes we don't have, then sometimes we don't eat, because...there isn't any'*
>
> (Father, Family 23, Community 3)

Community members described strategies to respond to not having food as part of their discussion about caring for children. A Pastor explained that when parents didn't find food they gave their children hen's eggs to eat, and a mother described using fungi growing on wood in her chacra together with manioc to make *patarashca* to give to her children to eat so that they could '*resist'* when she didn't have anything else to feed them. A couple described alternative morning routines to feed their son, explaining that if they did not have food to eat they gave him *masato*:

> *'We care for him, sometimes making tacacho*[176]*, and this giving him to eat, then*

[176] Cooked plantain mashed and rolled into balls.

send him to school, and sometimes we go fishing, and bring this [fish], and our son eats this, and sometimes we drink masato - sometimes when we have nothing - and like this, no more, without eating he goes to his school'

(Parents, Family 5, Community 4)

Not having food was reported as happening 'sometimes' by a number of parents, and the matter of fact manner in which it was discussed indicated that it was not an unusual occurrence. The use of donated food to feed children was not mentioned by parents in their discussions of caring for children; this is considered further in Chapter 9.

As these examples demonstrate, the provision of food was described by community members as central to parents' practice in caring for their children. Household survey data discussed in Chapter 5 showed that adults' main daily activities were directly associated with providing food. From community members' perspectives, therefore, much of their daily practice was oriented toward caring for their children through searching for and producing food to feed them. At the physical level, this caring was embodied in parents' actions to find, catch, gather, tend and harvest foodstuffs from the local environment, transforming plants and animals into edible food for consumption through their actions.

8.3.2 Providing manufactured goods

In addition to widely discussed provision of food, the provision of other goods was also suggested by some community members as a way in which parents cared for their children. These were manufactured goods not available from the local natural environment, such as clothes for '*dressing them nicely*' (Mother, Family 3, Community 4), mattresses for children to sleep on and mosquito nets to protect them while they slept. These discussions were qualified by mention of limitations to parents' abilities to provide these goods, for example:

'*we care for them, giving them their clothing, what we can'*

(Father, Family 23, Community 3)

As in the case of providing food, the provision of these goods was discussed in conjunction with the means for obtaining them. Goods were purchased using cash in trips to Villa Trompeteros or Iquitos, or purchased in cash/exchanged for local products from occasional travelling traders on boats. Caring for children therefore did not only involve having the necessary objects, but undertaking a process of earning money in order to be able to buy them:

'*when I work I have my money, with this I bought a mattress for my children'*

(*Promotor* and Pastor, Community 4)

Money was earned by working directly for an *empresa* to earn wages, which entailed first searching for work and then doing the work:

> *'we support [them] when there is work, we buy their clothes, but it's not that much really that we have work...stable. Once in a while, eventually, when we find it..'*
>
> (Father, Family 25, Community 3)

As discussed in Chapter 5 (5.4.6), the process of finding paid work was not straightforward as opportunities for employment were not widely available and there were limitations to entry. Parents also obtained goods for their children by producing local agricultural goods to trade or sell:

> '*Ah..the fathers, the mothers, to care for the children...they are in their houses sometimes, and sometimes they go al monte to work, growing some things, growing plantain, growing manioc, when these produce they have [something] to sell, and to buy then some little things for the children'*
>
> (*Madre Indígenas*, Community 3)

All of these processes obtaining foods, clothing or bedding for children, involved much more then than the act of giving children the food or goods. The means or practices through which parents obtained them were seen as an intrinsic part of the process of caring for children.

8.3.3 Carrying children

In addition to providing for their children, community members explained that mothers cared for their children by keeping them with them, taking them with them '*wherever they go'* as they went about their daily activities. Infants were carried tied in a sling made from a piece of fabric on their mothers' backs: '*We walk like this carrying them on our back, this is how I have raised my children'* (Mother, Family 20, Community 3). While the child's mother worked in the *chacra*, clearing, planting and harvesting, the sling was tied as a hammock in the shade, covered to keep the infant safe (Figure 8a).

Figure 8a Infant sleeping in a *chacra*

Mothers described taking their children with them as they participated in a range of everyday activities in the household, community, *chacra* and beyond the community:

> *'where ever I go I take them, to my chacra, to the minga, sometimes staying in the house. Sometimes I go to do fishing, and I take them there. It's me that they accompany. Like this I am raising them*'
>
> (Mother, Family 17, Community 3)

A mother of four children aged 1-11 years described taking them all with her to the chacra, emphasising that she did not leave them alone:

> *'We care for them, when there is no-one [in the house] we take them to the chacra, there together with us we go to the chacra, with my children, all my children...I don't leave them, in the chacra there we go all together'*
>
> (Mother, Family 12, Community 4)

Carrying children was constant physical work for women. Walking to and from taps and streams carrying water or washing, up and down steep river banks to get in canoes to travel to *chacras*, to a *minga* carrying *masato*, returning home from the *chacra* with a basket of manioc, small children were a constant accompaniment '*pariñado*', kept close tied to their mother's backs. Keeping infants with them, women sang and talked to them, fed and supervised them while carrying out necessary daily tasks for the family. While this was described by some respondents in relation to 'maintaining' children, it also enabled

mothers to protect them from danger. Community members identified a number of dangers which needed to be avoided in order to keep children well, characterised as two 'clusters' of illnesses, and a range of powerful entities which could cause children to become very unwell or die. These are discussed in turn.

8.4 Two clusters of illness

Community members identified two clusters of illness which posed serious danger for young children. Both moved from one house to another '*infecting the children'* and causing young children to be very unwell and sometimes to die. These illnesses were described as '*diarrhoea, fever and vomiting'*, usually listed together, and malaria, sometimes listed in conjunction with dengue and yellow fever. These are described as 'clusters' reflecting community members' descriptions, which consisted of bundles of terms which would be seen in biomedicine as distinct symptoms or diseases. The two clusters occasionally overlapped: for example one father reported: '*The strongest illnesses are vomiting, fever, diarrhoea, malaria'* (Family 21, Community 3) and there is inherent overlap as malaria '*gives a very high fever*' (Mother, Family 17, Community 3). Although these intersections blurred the edges of the groupings, most accounts described one or both clusters distinctly.

8.4.1 Diarrhoea, fever and vomiting

Diarrhoea, fever and vomiting were identified by parents as being a recurrent and serious danger for children. Children were described as '*living ill'*, '*living with the diarrhoea, vomiting*' (Parents, Family 5, Community 4). Diarrhoea was described as sometimes coming with blood, and fever with headaches. The cluster of illness could have very serious effects, worsening quickly and causing young children to die. A *Promotor* (Community 3) explained:

> '*the vomiting, fevers and diarrhoea...sometimes diarrhoea with blood as well... when they are like this the child can last two days no more*'

The previous year a baby in Community 4 had died with this cluster of illness, as her grandmother explained:

> *'The illness that affects us the most that comes here is this fever, vomiting, the diarrhoea, that comes, because the other...her little daughter, the daughter of my daughter, she has died with vomiting, fever, with the diarrhoea, this attacks the most here'*
>
> (Grandmother, Family 11, Community 4)

This baby girl died overnight while her father was away working for an *empresa* and her mother was alone with her two young children in an isolated house over the river from the main community. Since her death the family had moved to stay with the mother's mother in the main community while they built a new house. The *Apu* of Community 3 also associated vomiting and diarrhoea with the deaths of young children, describing the deaths of 'many' children in Community 3:

> '*many small children they are dead, some swollen, some with vomiting, some with the diarrhoea...they are dead*'

The illness cluster of diarrhoea, fever and vomiting was widely attributed by community members to children drinking or bathing in river water. A mother with two young children aged under five years (Family 3, Community 4) explained that drinking '*raw*' water from the river made them ill with diarrhoea: '*this water is bad*'. A number of families from Community 4 reported that they cooked or boiled water before using it to drink, to avoid getting ill with diarrhoea, fever and vomiting. One family explained that when they travelled *'al monte'* on foot hunting and gathering away from the community, they carried boiled water with them:

> '*when we go a week al monte we take boiled water to offer to the little baby'*
>
> (Mother, Family 8, Community 4)

Families also used water from public pumps and taps installed in the communities, '*this they tell us is good, we use this water*' (Father, Family 18, Community 3), but reported that this was not reliable (see 5.3.2), the pumps sometimes broke and '*when there is water it doesn't extend to everyone'*[177] (Mother, Family 3, Community 4). It was hard for families to avoid river water, as it was used daily for washing clothes, utensils and bathing. The *Apu* of Community 4 explained that although his family boiled water before drinking it *'many times the children when they bathe drink water, and this gives them diarrhoea and fever*'.

One family suggested that diarrhoea could come from fruit which fell to the ground and children collected and ate without washing it first, and one of Community 4's *Promotors* similarly explained that when children were away from the house they sometimes picked up food to eat without washing their hands first. This route was not suggested by other people.

[177] i.e. there is not enough for everyone.

Diarrhoea, fever and vomiting was also seen as being '*very contagious*'. Several respondents commented that it came from other places, for example '*when someone goes to Iquitos, from there they come infected with an illness'* which from them '*infects everyone!*' (Mother, Family 11, Community 4). Similarly '*if someone goes to another place, from there they bring the illness, and infect the children. This illness comes from another community...one house, another house, all the houses'* (Father, Family 10, Community 4).

Several respondents could not explain where diarrhoea, vomiting and fever came from, commenting that it just appeared unexpectedly to catch children, for example *'we don't know what it must be that produces this, sometimes it catches the children just like this anytime, it catches them...*'(Father, Family 21, Community 3). Diarrhoea, separately from fever and vomiting, was also attributed to *cutipa*s, discussed below (8.5.4).

8.4.2 Malaria and dengue

Like diarrhoea, vomiting and fever, malaria was also identified as a serious danger for young children because it brought incapacitating illness and death. It was often discussed together with dengue and sometimes with yellow fever (also mosquito borne diseases associated with fever). These were described as spreading very easily between households:

> *'when one house has it, when there is one house that is with malaria, sometimes with dengue, all the children are like this, it spreads between them...if it is here, another day it will be there, like this...all the community sometimes like this, ill'*
>
> (*Madre Indígenas*, Community 3)

It was dangerous because of the severity of its symptoms, which for both children and adults '*puts you in the bed*' (Father, Family 18, Community 3). A 'strong' illness, it visibly altered patients' physical states:

> *'This is the strongest illness that can catch you, shivers and it makes you very pale*'
>
> (Father, Family 25, Community 3)

It was seen as difficult to treat. Some families used plant medicines, including purgatives, to treat malaria, but it was hard to get rid of: *'it comes again this illness, it continues coming'* (Mother, Family 11, Community 4). Intervention was sometimes sought from outside the communities to treat severely ill patients. A father in Community 3 (Family 18) described being evacuated from the community with his young daughter when she was '*almost dead'* with malaria:

> *'...from here, they evacuated us to Battery 5, then to Battery 7, and then to Trompeteros and Iquitos they evacuated us. Then she was almost dead. When she was three years old. This child has had three illnesses; malaria vivax, malaria falciparum and severe anaemia*[178]*. This she has had*.'

As well as causing severe unwellness malaria was widely reported to cause death in children: *'sometimes, mainly, the children they die with this'* (Parents, Family 27, Community 3). A Promoter and Pastor[179] in Community 3 explained that the community '*had fear'* of malaria and associated anaemia in children, because '*when it catches the child it quickly kills them'* . Unlike diarrhoea, fever and vomiting it could also cause adults to die, as a father explained:

> *'they* [malaria and dengue] *are dangerous because they can take the children and the adults as well equally'*
>
> (Father, Family 30, Community 3)

Similarly, the *Madre Indígenas* of Community 3 discussing malaria and dengue reported that they had caused deaths of both children and adults:

> *'they die here the children...of three years of five years of two years (old)...to six years...to the oldest (residents)...an awful lot they have died here...they have died like this'.*

While a few respondents said they could not explain the source of malaria and dengue illnesses *'we don't know, from where it comes, the malaria and dengue'* (Mother, Family 20, Community 3), most associated them with '*coming from*' mosquitoes. Some presented this knowledge about mosquitoes as information originating from and owned by others. For example a father in Community 3 (Family 30) explained:

> '*we hear that, the malaria is transmitted, they say, by the medium of mosquitoes'*

Here the respondent separates himself from the information he reports having heard. Another father aligned knowledge about mosquito sources with health promoters, whose health promotion information came from outside the community. This knowledge was presented as being in contrast to his own lack of knowledge as a '*nativo*':

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[178] His terms.

[179] One man holding two roles, discussed further in Chapter 9.

> *'according to those that know it comes from the mosquitoes, as we the natives we don't know, this they tell us sometimes the promotors, from the mosquito'*
>
> (Father, Family 27, Community 3)

Others took ownership of the knowledge, stating firmly '*malaria comes from mosquitoes*'. There was consensus among community members that it was important to protect children, and themselves, from being *'sucked'* by mosquitoes in order to avoid illness, and that sleeping under bednets was an important means of protection. Some families reported that they were careful to '*cover ourselves well, at the time of sleep'* (Father, Family 25, Community 3) to avoid being bitten, while others explained that they did not have bednets or did not have enough for their whole family. Some residents of Community 3 discussed the need to remove or change two specific aspects of the local environment which '*produced*' mosquitoes, both of which were recent man-made alterations. One was a large pool dug for fish farming (*pisigranja*), which '*had not been treated as it should have been*' and was then covered over and '*closed*' when people saw that it produced mosquitoes. On a smaller scale, discarded tins from tinned fish donated through the food assistance programme were identified as collecting water and accumulating mosquitoes.

Insecticide spraying, *'fumigation',* was carried out intermittently in the communities by visiting contractors to kill mosquitoes. This happened once in both Community 3 and Community 4 during fieldwork. Community members in Community 3 were sceptical about the effectiveness of this program. The *Madre Indígenas* explained:

> '*One day! One day there are none, then they come again. This day they fumigated, until the afternoon there were none, none. The next day again now they were there...We cannot work out why. Before it wasn't like this...not one mosquito. Tranquil. Although we could be resting, sleeping, nothing. But now...now there are so many mosquitoes.*'

A neighbour suggested that fumigation should happen at night, when all the mosquitoes came out, rather than during the day when they were 'hiding in corners'.

Although most respondents associated getting malaria with being 'sucked' by mosquitoes, and mosquitoes with water, there was also discussion of other transmission routes involving water. One respondent explained that malaria came from a mosquito sucking, *'from this malaria catches us'* (Father, Family 29, Community 3) and also that the river water which was '*contaminated*' with chemicals was a source of malaria:

Father: *We say not to drink this [water] from the river, because from there it gives you the malaria because they say the river gives it...when you drink it, and from this malaria catches you.*

Ruth *When you drink the water?*

Father *When it's from the river. Because of this we don't drink this big river'*

Here malaria was understood to come from ingesting river water, as well as from being sucked by mosquitoes. Similarly, another father from Community 3 described drinking boiled water to avoid malaria, as well as mentioning mosquito transmission:

> *'the mosquito transmits malaria. We drink boiled water to kill malaria, as the nurses say. Drink water like this boiled, to not have malaria. But, despite all this, malaria catches us*'
>
> (Father, Family 18, Community 3)

This could reflect use of the term 'malaria' to refer to a wider group of symptoms than the biomedical use of the term, or a misunderstanding between health workers and community members about transmission routes of different types of illness.

8.4.3 Stepping back: Identifying clusters by community

Throughout this project interview data from the two communities (Community 3 and Community 4) where interviews were conducted was combined, but identifying codes were retained during analysis to enable any emerging patterns associated with particular family groupings or communities to be noted. A clear difference was evident in the clusters of illness identified by members of each community. Diarrhoea, fever and vomiting were discussed mainly by residents of Community 4 and malaria and dengue by residents of Community 3. As most interviews (24/29) were translated wholly or partly between Achuar and Spanish and a different translator was used in each community the translations were checked to see whether the translators were suggesting, adding to or otherwise influencing responses, which could account for the consistency within each community and differences between them. Back translation paying careful attention to discussion between the respondent and translator showed that when respondents in Community 3 raised malaria the translator several times prompted them to consider dengue and yellow fever as well, which they agreed with and incorporated in their responses, but the translators were not otherwise found to have influenced responses. The four interviews conducted directly in Spanish without a translator showed the same pattern by community, further indicating that the pattern was not related to the translator.

In each community the *Apu* and most other individuals with positions of community responsibility - the Pastor, *Promotors* and *Madre Indígenas* - reported the same cluster of illness as being the main problem for young children in their community as the majority of other respondents. The *Apu* of Community 3 reported that '*dengue, malaria are the strongest* [illnesses] *that come out here'* and the *Apu* of Community 4 that '*diarrhoea and fever'* were the most serious problem for small children. In order to explore this difference, data from several sources were reviewed.

The household survey, carried out two months before interviews, included several questions tangentially related to the illness clusters. Parents were asked whether children aged under 5 years had had diarrhoea or fever, amongst other symptoms, during the previous two weeks. In Community 3 and Community 4 the same number of children were reported to have had diarrhoea (7/24, 29.2%) and similar numbers, 8 and 6, fever. Parents were also asked whether their children had ever had serious illness during which the parent had thought they might die, and asked to briefly describe the incident. Twenty of 24 children in Community 3 (83.3%) and 15 of 25 children in Community 4 (60.0%) had; of these 7 in Community 3 and 11 in Community 4 included diarrhoea and/or vomiting. None made specific reference to malaria, although 2 in Community 3 were described as having fever without mention of diarrhoea or vomiting. These data only refer to specific time periods and events, and were collected and analysed under different assumptions to interview data, but broadly support the conclusion that diarrhoea and fever were a significant and frequent presence in both communities.

The opinions of potentially influential individuals in both communities were also considered. In each community the *Apu* raised the same illness cluster as other community members, as did the majority of other individuals with formal roles which included responding to illness. In Community 4, the baby girl who had died the year before with vomiting, fever and diarrhoea was the granddaughter of a long established couple in the community, who had moved there 18-20 years before, shortly after the community was founded. Although they did not currently hold formal leadership roles they were very involved in community life and the grandmother had previously acted as a FECONACO *dirigente*. In Community 3, no specific recent deaths associated with malaria were

discussed, but the *Madre Indígenas* of Community 3 reported that malaria and dengue had caused a number of deaths in recent years:

> *'malaria, dengue, these you cannot cure yourself of...[...] ...an outbreak, all the time, they die here the children...of three years of five years of two years (old)...to six years...to the oldest (residents)...an awful lot they have died here...they have died like this'*

She also described two children in the community as currently or recently having malaria:

> *'this lady...her baby is like this with malaria...she is with fever, like this trembling...she was like this, I don't know now how they have got rid of it...they were giving her this to stop it, with this they have got rid of it I think...and also the son of the Teniente[180], he is also with this, with malaria...'*

One of the *Promotors* in Community 3 also explained that someone had come recently to the community to take blood, and two people had been diagnosed as having malaria. As discussed above, Community 3 residents were concerned about mosquitoes and had recently covered over a large pool dug to breed fish after observing that a lot of mosquitoes were breeding there. In both communities Pluspetrol-funded insect spraying happened while I was visiting, before most interviews were conducted in each community. In Community 3 the sprayers were followed by adults and children, who were interested in what was happening and arguing that the visitors should stay until evening to spray when the mosquitoes came out. In Community 4 there was less interest in the visit, with community members largely staying away as directed.

Finally, I considered how both communities were talked about by FECONACO *dirigentes* who visited them but did not live there, and my own experiences in each place during fieldwork. Community 4 was smaller and described as a quiet, tranquil place with more natural forest close by. Community 3 was bigger, and seen as busier, with more river traffic stopping and a more 'organised' community experienced in negotiating with Pluspetrol to obtain building materials and other goods. It had a telephone, and covered a larger cleared area than Community 4. It also had a disused *pisigranja*, discussed above. As Community 3 was bigger more of the houses were distributed in small clusters backing onto tall plant undergrowth, where clouds of mosquitoes rose in the evenings, whereas in Community 4 more of the houses were in a main central grouping around a cleared grassy area. During

[180] *Teniente Gobernador,* see 1.3.

my visits I was aware of biting mosquitoes in the evenings in Community 3, writing in my field notes that going outside the house to urinate after dusk in the undergrowth felt like a malaria exposure risk, whereas in Community 4 I didn't notice mosquitoes.

Residents of Community 3 were clearly more concerned about malaria and dengue than diarrhoea, fever and vomiting, and those in Community 4 the reverse. Community 3 was more connected to other communities and Villa Trompeteros, with more stopping boat traffic and a telephone, so ill community members may have been more likely to be taken to Villa Trompeteros for treatment, making malaria diagnosis more likely. Residents may also have been more likely to know about recent cases diagnosed from other communities. One father in Community 3, recently returned from Villa Trompeteros, discussed his worries about the swine flu epidemic, of contemporary international concern, and what would happen if it came to the Corrientes, indicating awareness of and interest in events far beyond his community.

Together, these sources of information suggest that there may have been more malarial mosquito vectors present in Community 3 than Community 4, and that Community 3 residents may also have been more aware of malaria transmission than Community 4 residents. The following section returns to the main thread of this chapter, to discuss other forms of danger to young children described by community members.

8.5 Powerful others

In addition to powerful diseases/illnesses, which were in general – although not by everyone – seen to come from raw water and mosquitoes, the influence of powerful entities (spirits, beings and objects) was also widely seen to cause unwellness in young children. This type of unwellness was the product of a specific relation between the powerful source and the child, a different kind of aetiology to that given to explain the 'diarrhoea, fever and vomiting' and 'malaria and dengue' clusters, consistently described as contagious illnesses which moved between children without specific reason to do so.

In contrast, unwellness caused by a powerful source was produced by a combination of the characteristics of the child and a powerful entity, and the nature of the relation between them. Unwellness ranged from being an intentional to incidental outcome, but was consistently explicable, and appropriate steps could be taken to avoid or treat it. Four main

types of powerful entity with distinct forms of relation to young children were identified from community members' accounts.

8.5.1 The Lord

The first was 'the Lord', the Christian God. Unlike other powerful influences, he was seen to influence people of all ages, rather than specifically young children. The main Pastor in Community 4, who had been established in the community since it was founded and had a regional reputation as a powerful healing practitioner, listed diarrhoea, fever, bronchitis, hepatitis and malaria as dangerous illnesses which were intentionally produced as '*the punishment of the Señor, of God, to become ill...because we do not obey him and sometimes commit crime'*. One mother in Community 4 (Family 12) explained that Christ '*is coming soon and is sending every type of illness in this world,'*[181][…] *it is the hand of God that is sending it to the whole world*'. Illnesses were not primarily attributed to 'the Lord' by other respondents in their explanations of where illness came from, but the majority reported seeking healing for children's illness through prayer with Pastors in their own or neighbouring communities.

In contrast, influences of other powerful beings specifically affected young children. A female interpreter, herself a mother with an infant son, explained that this was because young children are '*very delicate'* as they have a '*very pure spirit'*. She likened caring for a young child to carrying a clean, flimsy white sheet of paper around in the street – you must carry it very carefully and not wave it around, to protect it from damage. Because of young children's '*fragile*', '*tender'* condition, powerful beings were described as being able to affect children in three different ways: through the bad wishes of other people (witchcraft), through invasion by the spirit of a dead or almost dead person (*malaire*), or by incidental, accidental exposure to a powerful being or object (*cutipa*).

8.5.2 *Brujeria*

Brujeria [witchcraft], used here to describe intentional harm to the physical body, caused by the actions of a powerful *brujo*[182], was discussed by community members in several

[181] In Evangelical Christian teaching God first became incarnate in the world through Jesus Christ, and his second coming is imminent. At his second coming 'the righteous dead will be resurrected, and together with the righteous living will be glorified and taken to heaven, but the unrighteous will die' (Seventh-Day Adventist Church 2013:11).

[182] Here I use the term *brujo* as used by community members/interpreters, which is likely to correspond with the term 'chaman' [shaman] used by some outsiders in interviews, and in

contexts during fieldwork. It was described interchangeably as '*brujeria*', '*mal de gente'* (bad or illness from people) and '*hacer daño'* (make damage or injure), with both community members and interpreters drawing on a mixture of terms to help me to understand what they were referring to. It was not a comfortable subject to discuss; powerful *brujos* were feared, sometimes very much disliked by particular communities or factions within communities, and discussion of *brujeria* was reported to be strongly disapproved of by Christian Evangelical preachers. A *brujo* had been implicated in the death of a teenage boy in Community 2 just before we visited conducting the household survey, and the event and risk of further conflict was discussed anxiously and covertly between community members and the small team I was travelling with.

In interviews and other discussions during fieldwork, *brujos* were described as sending powerful *virotes* [darts] to lodge in the body of an enemy, causing them harm. Children, particularly very young children, could be harmed by acts of *brujeria* motivated by revenge or punishment for the actions of their adult family members:

> '*sometimes they are annoyed with the family...then they virotear* [shoot with a dart] *the little one...it won't catch you*, [adult] *but it will catch our children that are wandering round, it catches them and like this they die'*
>
> (Mother, Family 28, Community 3)

The boy who had died in Community 2 was the son of the *Teniente Gobernador*, and his death was reported to be retaliation for his father's involvement as *Teniente* in a civil prosecution for rape. The accused man had been found guilty and recently been released from prison, reportedly not returning to the community but travelling upriver to seek the assistance of a powerful *brujo*. Specific cases reported in interviews were rare; although the general practice of *brujeria* was frequently mentioned, only one parent identified it as a real danger to her own young children. She explained that her youngest child had been a victim of *brujeria* motivated by other people's jealousy of a family member's position as a FECONACO employee. Together with an interpreter, she explained the physical effects of a *brujo*'s darts on young children:

> Mother: '*sometimes in their neck...and then they don't last, when it's well lodged, in a moment they die. Crushed, caught, the little creature feels, and when they die,*

Amazonian literature, but I did not explore this with respondents and am wary of conflating terms and associated meanings (see 9.6.2).

when you see them, it looks just like they've been beaten, very blackened it makes them...'

Interpreter: '...*as if they are suffocated'*

Mother: '*yes if it's in their neck, if it's their...anywhere, if it's their arm...'*

Interpreter: '...*that is depending on where they're caught, it's the same, blackened'*

Here it was unclear whether the darts were sent generally toward the family and incidentally caught the youngest member because they were the weakest, or whether they were deliberately targeted at the youngest member as they were the easiest to harm.

Children suffering the effects of witchcraft were described as *'crying, because it hurts, they scream, scream*' (*Madre Indígenas*, Community 3). To make them better they were taken to another powerful person (described as *médico, médico brujo* and *brujo;* see 9.6.1*)* to calm the body and remove any darts lodged in it. This person used blowing and sucking techniques with tobacco, and other strongly scented plants or commercial liquids, together with ayahuasca, to extract the darts. Some families also reported themselves using 'strong' plants, such as Amasisa (*Erythrina fusca)* to make infusions for the child to drink. These treatments were similar to those described below for *malaire* (8.5.3). Treatment of unwellness related to *brujeria* is also discussed in Chapter 9 (9.6.1).

8.5.3 *Malaire* [bad air]

The term *malaire* [bad air] was used to describe unwellness caused by the spirit of a dead or almost dead person. Community members explained that when a person dies, their *'lost'* spirit looks for a new, healthy body or '*home'*.[183] Young children can receive a very strong shock, a '*negative air'*, if one of these lost spirits sees them, which can cause sudden acute vomiting or diarrhoea, fainting, and death if the spirit succeeds in invading their body. This was described as being '*airado*'. After contact with a spirit a child may be very pale, like a dead person, and clammy. Young babies were seen as being at greatest risk, and *malaire* was described as being able to cause death in children up to two or three years old. Adults could also be affected to a lesser extent; a young father explained that this '*other form'* of

[183] Community members mentioned *malaire* frequently but did not readily give explanations when asked in interviews, hence some of the explanation described here draws on follow up discussions with interpreters and community members. I initially thought people were uncomfortable talking about *malaire*, but when an interpreter asked 'don't you have *malaire* in your country?' realised that while I saw it as an unfamiliar local phenomena respondents probably saw it as tacit shared knowledge which I would be aware of.

influence from spirits of dead people was known as '*malagre*' and could leave adults faint and pale.

Malaire was described as being found close to dead people, so young children were kept away from burial sites. Dead community members were sometimes buried in cemetery areas situated away from the main community, and sometimes under the family house.[184] During fieldwork infants who needed to be carried past a recent burial mound under a house in the centre of a community were covered with a cloth, which was explained as so that the spirit could not see them, and sprinkled with scented '*Agua de Florida'*[185] to help keep the *malaire* away. Similarly, a father (Family 30, Community 3) explained *'we always wrap them up [otherwise] they can have shock of air, malaire...'* Spirits of the recently dead were described as most likely to be dangerous, but those of very ill people already looking for a healthier body in anticipation of death could also cause *malaire*:

> *'[it] can enter in another body, more healthy, [it] can airar it, and it can die as well...'*
>
> (Mother, Family 1, Community 1)

Looking at the bones of a dead person, or being in the wind which has passed by them could also enable *malaire* to 'catch' someone (Mother, Family 5, Community 4). Spirits could also unexpectedly seize children while they were *al monte*, in the forest. There was a strong sense that spirits were constantly searching for young, healthy bodies, and parents needed to be vigilant in protecting their children. Spirits were most likely to roam around in darkness, so parents described keeping young children safe inside the house between 6pm (dusk) and dawn, for example:

> '*There is a corpse that is my uncle who is buried. Because of this, at six in the evening when you take them [infants] out there, the aire catches them. But if you don't take them out there, after six you don't take them out of the house, nothing happens – just when you take them out'*
>
> (Father, Family 25, Community 3)

A mother explained you couldn't keep a baby sleeping in a very dark place, because spirits were more likely to find them in the dark. Parents of a young girl who had been constantly

[184] Cemeteries were reported to have been established following encouragement by the Evangelists to stop the practice of burying under houses.

[185] [Florida Water] A commercially produced cologne scented liquid, see Glossary.

unwell during her first twelve months reported changing her name so that she was more difficult to find.

When a child suffered from *malaire* it was necessary to *limpiar* [clean] them to get rid of it. Families reported several ways of doing this, depending on how unwell the child was, and the knowledge of family members. Milder cases could be treated at home using plants or *Agua de Florida*, if parents or other family members had the knowledge to do so. Otherwise the child was sent to *'someone who knows* [how to] *limpiar* [clean]'. These were often older people, '*los antiguos'*[186]. The cleaning process involved covering the child in something strong smelling, either through blowing smoke over them or rubbing plant material, infusions or liquids over their body, and afterwards washing them in clean water. Smoke was made from burning rolled combinations of tobacco, ground cow horn, shavings of *irapai* wood (which houses were constructed from), and harvested cotton, in cigar form. Plants included papaya leaves, heated over the fire and rubbed directly over the body, Mucura (*Petiveria alliacia*) a garlic scented plant, and Rosa Sisa (*Tagetes erecta*) [Marigold] flowers, which were soaked in water to make scented infusions[187]. Commercially produced liquids with 'strong, sweet smells' (Beyer 2009:126) were also used – *Agua de Florida*, *Timolina*, produced as an alkaline antiseptic mouthwash, and *Creolina*, produced as a disinfectant[188]. The child was sometimes given a small amount of the liquid to drink, as well as it being rubbed over their body. After this they were washed in clean water *'to get out the bad smell'* (Mother, Family 20, Community 3). Several families mentioned that children who were '*aireado'* had a bad smell, of the *malaire*, which was cleaned away when they were bathed after treatment.

8.5.4 *Cutipas*

The final way in which powerful beings affected young children was a function of the imbalance between their strength and a young child's delicate state. When unborn or very young children were exposed to powerful beings, usually through their parents' physical contact with them, characteristics of that powerful being could be passed on to the child.

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[186] A term also used to refer to *médicos* or *médico brujos.*

[187] During analysis I compiled records of reported use of plants and other materials in cleaning/healing practices, not discussed fully here as it was beyond the planned scope of this project, and ownership of knowledge about use of plants was a sensitive topic with some community members, who were uncertain about the outcomes of previous research conducted in some of the case study communities about species diversity in *chacras* (Perrault-Archambault and Coomes 2008).

[188] Beyer (ibid.) describes the use of these by *mestizo* shamans.

This process was referred to as to '*cutipar*'; an affected child was '*cutipado*'. This term is widely reported in the Peruvian Amazon, reportedly derived from the Quechua '*kutichiy*' meaning to return or give back ((INS 2014), cited in (Beyer 2009)). Victims of *cutipas* are in this sense receiving a form of 'revenge or retaliation' (Beyer 2009:59) for the actions of their parents towards powerful beings.

Powerful beings encompassed a range of animals, birds, trees and what outsiders see as objects – boat motors, shotguns and footballs. Young children could also be '*cutipado de hombre'* [*cutipado* of man], if their father had sexual relations with a woman who was not their mother. Because of this latter meaning the term was described by an interpreter as being '*both serious and funny...often the point of a joke, because of cutipas from men*'.

The effects of a *cutipa* were described as ranging from mild, temporary to very serious changes, depending on the age of the child, the strength of the powerful being encountered and whether it could be successfully got rid of. Newborn babies, '*when the mother is in the bed*' (Mother, Family 20, Community 3), experienced the strongest effects, and were most likely to die. Effects were usually some form of physical unwellness, often but not always mimicking a physical characteristic of the powerful cause.

Very powerful animals, *boa*[189] and *tigre* [jaguar], were described as being able to *cutipa* a child without the parents necessarily having physical contact with the animal – through the father catching sight of it *al monte*, or alternatively killing or touching the dead animal, then returning home and touching his baby. During fieldwork in Community 2 mothers with babies stayed away from the river shore where a dead *boa* was floating until it was washed away downstream. A boa was reported to cause children to cry and twist, like a snake, while the jaguar affects children's eyes. Children cry and their eyes become swollen, with mucus covering the eye *(chucñiento)*, leaving the child '*not able to see well'*, a condition which a father (Family 27, Community 3) explained '*looks like conjunctivitis'*. The *anguilla*, [electric eel], which gives a powerful electric shock, could also *cutipa* a baby and cause it to die with shock '*the father kills it, returns, touches the baby which gets a shock'* (Mother, Family 27, Community 3). Parents killing or eating *pelejo* [sloth] could result in the child's *'little hand, its little foot*' being affected, and the child '*wanting to live all bent over (agachadito) like the sloth'* (Mother, Family 28, Community 3).

[189] Referred to as 'boa', described regionally as *boa amarillo* (*Boa constrictor*) or *boa negra* (Anaconda, *Eunectes murinus*).

Eating *lagarto* [caiman] was one of the most widely described causes of *cutipa*s. A baby *cutipado* following their parents eating *lagarto* was reported not to be able to breastfeed, to have diarrhoea, and to be *shepleco;* thin, weak and defenceless against illness[190], '*their little body is weak, like a doll without strength'* (FECONACO *Dirigente)*. Children don't put on weight, becoming fragile and trembly: *'a child that was born fat, it goes very flaccid'* (Mother, Family 20, Community 3). They are also described as having problems walking, like the caiman who cannot walk well, sometimes not walking properly until they are three or four years old.

Several types of *'carne del monte'*, forest animals hunted for meat, described by one mother (Family 1, Community 1) as being *sangriente*, 'bloody' or '*having lots of blood*', caused babies to have bloody diarrhoea when eaten by parents. These included *sachavaca* [tapir], *sajino* [collared peccary] and *huangana* [white lipped peccary]. *Huangana* was described as affecting a child's behaviour, making them eat raw plantain, (usually eaten by humans cooked), like the *huangana* eats, and then having diarrhoea with blood (Father, Family 23, Community 3). Similarly, some types of fish, also described as *sangriente,* were dangerous: *'they have a lot of blood, and this when you* [the mother] *eat cutipas the little ones and they have diarrhoea with blood'* (Mother, Family 1, Community 1).

Other types of fish including the *mota* and *maparate*, species of catfish with unusually soft, smooth skins, and the *bocón*[191] and *arahuana*[192], were described as having similar effects to *lagarto*. The *bocón, 'when it cutipas, it makes the body very soft, it is not normal, very thin'* (Father, Family 24, Community 3)*;* catfish make the baby '*apriechito*', fragile. Regionally '*apiacho*' is used to describe over-ripe fruit which is very soft. This fragility or softness, the quality of the animal transmitted to the child, was an important feature in distinguishing soft-skinned fish from those which did not *cutipar* children. The *Madre Indígenas* of Community 3 explained how they were different from other fish:

> '*Because...different because it is apiecho [fragile]...there are other fish good, these you eat, for example you eat liza, palometa, vagre...these yes you eat when you are in the bed, laying down, when you are with your little baby, these yes you eat, these don't cutipa... this mota though they cutipa, they leave him apriechito, they give diarrhoea...because of this you don't eat them.'*

[190] Explanation from interpreter; also has second meaning as 'cowardly'.

[191] Fish with a big mouth, described as being like *maparate.*

[192] Name in Spanish/English not identified. Described as being like the *bocón.*

Figure 8b below shows the form of the soft skinned *maparate*, sketched by an interpreter to show how it looked different from a fish with scales.

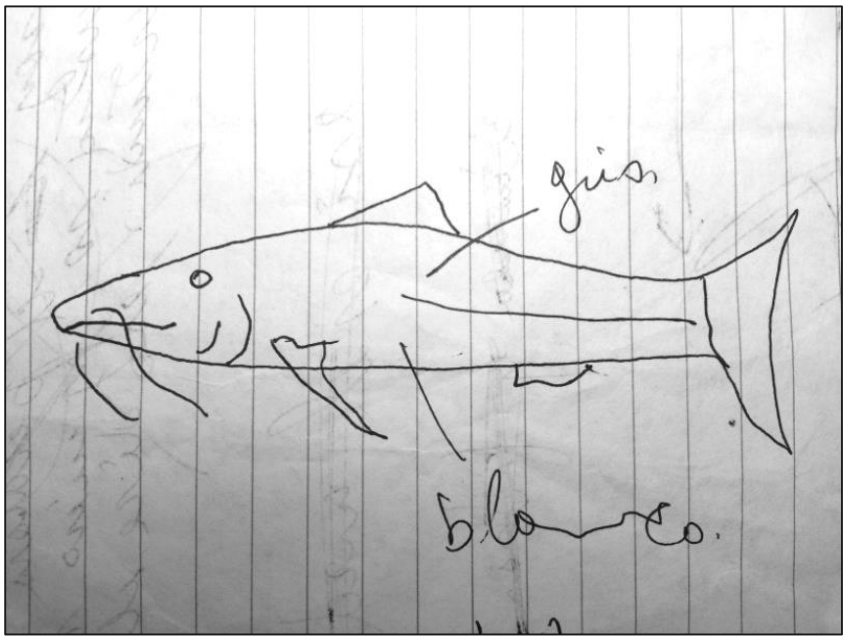

Figure 8b: Soft skinned *maparate*, grey and white catfish, sketched by interpreter.

Tortoises, *motelo/tortuga*, could *cutipa* a child when eaten by the child's mother. Several respondents explained that eating the tortoise's intestine, or intestine[193] containing eggs was particularly dangerous. The tortoise caused diarrhoea with blood, and could '*bring out'* the child's anus from its body when the child defecated, resembling the condition biomedically described as haemorrhoids:

> '*it cutipas the child...it takes out its little anus, its little anus, when it poos, like this it comes 'ploc' like this...When you don't eat it, the tortoise, the child grows up healthy, poos normally...its little bottom doesn't come out.'*
>
> (*Madre Indígenas*, Community 3)

This was associated with the child using a lot of force to defecate, expelling faeces as the tortoise expels eggs. The '*little anus coming out'* resembles the female tortoise laying eggs, as the tortoises' cloacal opening, the single posterior cavity through which the intestine, reproductive and urinary tracts open, extends outwards from the body as eggs are laid.

Other animals which could *cutipa* young children when eaten by their parents included the *hualo* [giant frog], and several types of bird. The *hualo* causes the child to be very thin and

[193] Intestine used here to refer to part of internal organs/entrails, as gut does not contain eggs, but opens to the exterior through the same cavity as the reproductive organs.

weak, and *'just sit there'*, without walking (Father, Family 10, Community 4). The *pinchilla* [toucan] and *guacamayo* [macaw] were described as causing diarrhoea, and the *piapia,* a species of small parrot '*the little bad one'*, can '*give bronchitis to the child*' (Mother, Family 6, Community 4).

Strong trees, such as those used for medicinal purposes, or felled to construct houses, could also *cutipa* children when their fathers cut or fell them; *'there are big trees that affect the children a lot, this can kill them'* (Mother, Family 3, Community 4). A father in Community 3 (Family 30) described how men avoided contact with such timber, even if it has already been felled by someone else, in order to 'take care' and protect their baby:

> '*they take care, that is they don't come close to this wood, they don't use the machete on it, they don't use the axe on it, neither do they pick it up...and so like this they protect...*'

Similarly, some respondents reported that fathers must also avoid touching other powerful objects like motors, rifles and footballs until their baby was several weeks old. The father of a three day old baby had played football, and his child had been *cutipado* by the football so that '*their little stomach swelled up'*, round like a football (Apu, Community 4). The *Madre Indígenas* of Community 3 explained that a baby's father must avoid most activities for the first few weeks of his child's life, relying on family members to bring food:

> *'When there is a little baby, the father cannot pick up a rifle, can't do anything because the little boy or girl, will cutipar...because of this when the mother is in bed with the baby, the father doesn't do anything, doesn't do anything so the baby doesn't cutipar...sometimes they twist, sometimes they go 'eh eh', push...so they don't do this, father cannot work'*

Once the baby is a month old it is a bit stronger and more '*resistant*', and by two months old its father can behave as normal. Fathers were also associated with *cutipas* through *'cutipado de hombre*' [*cutipado* of man], caused by the father having sexual relations with a woman other than the mother of their young baby, as one mother described '*when her husband has done bad'* (Family 19, Community 3). This was described as causing the child to have severe diarrhoea: *'the diarrhoea runs...sometimes the child doesn't walk, is very thin, so much diarrhoea...*' (Mother, Family 8, Community 4).

With the exception of very powerful jaguar and boa, in all of the examples discussed above physical contact between parents and the powerful being was a necessary part of the

cutipar process, through touch, after killing or by accidently treading on an animal, manipulating timber, or by consuming meat. Physical contact between the parent and child, through an infant feeding on breastmilk, parents holding or kissing a child, completed the tactile link between the powerful being and the child. In discussion of the *anguilla* [electric eel], respondents explained that the child was not affected immediately when the father killed the animal, but later when he returned home and touched the baby. A mother discussing *cutipa* of *lagarto* [caiman] explained that if you have eaten *lagarto* meat and kiss the baby '*with its smell you touch her'.* As described in discussion of *malaire*, the powerful entity is associated with a smell physically transmitted into and via the human body.

Although *cutipas* can make children very unwell or in extreme cases cause death, they are seen as curable, and therefore more manageable than the clusters of illnesses discussed above (8.4). The Madre Indígenas of Community 3 explained:

> '[from] *cutipas you can make* [the child] *healthy, you can cure them, but not malaria, dengue,* [with] *these you can not make* [the child] *healthy*'

Cutipas caused by a very powerful being, *'when the papa kills an animal, for example big, like the jaguar, or say snake, boa'* need to be cured by someone who has *'experience of curing this type* [of *cutipa*]' (FECONACO *dirigente*), rather than the parents at home '*because you yourself alone cannot'.* Similarly to treatment discussed above for *mal de gente*, this involved sucking with tobacco, and - for the jaguar which affects children's vision - sucking the eyes with water. Other types of *cutipa* caused by less powerful beings could be cured at home. The most widely discussed form of curing involved using a small part of the physical form of the being to create smoke or infused water, and then passing the child through the smoke or bathing it with the infused water. For *cutipas* from animals this involved making smoke '*with the bones of what you have eaten'* (Father, Family 10, Community 4), or with the shell of a tortoise or feather of a bird. A father in Community 4 (Family 7) explained how to cure a *cutipa* from a tortoise:

> *'Cure with its shell, burn it, when it is smoking, hold the child and pass it through, then bathe the child nicely, and dry it and put it in its hammock'*

It is important for the child to '*receive the vapour*' as it is passed through the smoke. Similarly, to cure *cutipas* from powerful trees parents use '*its own splinter'* or bark of the tree that was felled, singeing or burning it to create smoke to pass the child through, before bathing the child with clean water. A *cutipa* from a football was cured by soaking

the football in water, and pouring this water over the swollen stomach of the affected child. One approach to curing *cutipa de hombre* [of man] was to collect drops of the baby's diarrhoea and secretly put them in the father's *masato,* made by the mother, which he then drank:

> *'the baby poos in its cloth, from here you put drops in his drink, four drops 'tak tak', the man takes* [drinks] *it, he that has cutipado, and with this they heal cutipado....the mother gives to the man, the father..'*
>
> (Mother, Family 16, Community 3)

In the cases of smoking with vapour the effect of the powerful being was rebutted using a product of the transformation of its own physical body: a small part of its body is burnt and the smell of the burning bone, feather or shell passes into the child's body, to make the cutipa '*go away*'. Soaking the football in water creates an infusion from the ball itself, which although not destroyed in the process is a means of transferring qualities of the ball to the liquid, and then to the child's body. The *cutipa de hombre* cure also involves a return of something physical to the man's body – in this case the product of the *cutipa* he has caused[194].

As well as these forms of cure some parents also reported using plants to make infusions to wash the child in or for them to drink. These were mainly suggested to cure *cutipado de hombre*, and included bark of *Ubo*[195] which has strongly scented fruits, '*baruntza'/'paruntz'*[196] whose grated bark makes a bitter tea, which '*stops the diarrhoea, this bitter'* (Mother, Family 17, Community 3), and a tree referred to as '*yacuruna'*[197]. A mother with four children explained that all her children had been *cutipado de hombre* and she had cooked the skin of *yacuruna,* making a liquid like tea, and with this '*made them all healthy*' (Family 19, Community 3).

Cutipas were recognised by all community members I spoke to and most offered examples and explanations based on their own or family members' experiences. Several said that their own children did not experience them, for example *'our children don't grow up*

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[194] Discussion elsewhere suggests that the effects on a baby of *cutipa de hombre* come from the power of the woman the father has sexual relations with – she is the 'powerful other'.

[195] Probably *Spondias venosa, Spondias mombin*.

[196] Recognised by two interpreters but not identified further.

[197] Regional term for 'people of the water', related to a myth involving a young man who seduces women. Tree species not identified further.

cutipado. Nothing of food, nothing of women' (Father, Family 10, Community 4). Some younger respondents said they didn't know much about them, as this was something that old people knew about, or gave very general explanations about needing to be careful. A young mother with two young children (Family 1, Community 1) complained that you always had to be careful of whatever you did or ate, because '*whatever little thing'* could *cutipar* a baby.

8.6 Conclusion

In Chapter 8, discussion of how young children's how-being has moved gradually from themes superficially aligned with public health categories of wellness and illness to explore unwellness associated with relations between young children and powerful entities. This suggests underlying ways of knowing resonating with 'approaches to beinghood' (Santos-Granero 2012:203) explored in theory of Amazonian perspectivism and conviviality (Chapter 2.4). These include the inherent instability of bodies (2.4.3), their formation through appropriate social practices and processes (2.4.4), and the fluidity and movement of power between beings. In Chapter 9, intersections and crossovers between these trajectories of understanding are explored.

Introduction to Part IV: Intersections

> *'Now, as in the past, the most interesting problems and research are almost always situated at the intersections between disciplines, which are often abandoned territory.'* (Bourdieu 1996 [2010]-a:256)

Part IV of the thesis moves from the focus in Part III on understandings and measures of 'how young children are', to examine where and how these approaches intersect. Bourdieu's theoretical constructs of *field* and *habitus* are drawn on to help explore these intersections. In the quote above, Bourdieu refers to intersections between academic disciplines: in Part IV, I find this analogy corresponds with intersections between ways of understanding in the Corrientes, which if not 'abandoned territory' in terms of people's practice, are sometimes not seen, or not seen as something of interest, by those within distinct fields. Drawing on analysis presented in Parts II and III of the thesis, I argue that recognition and analysis of these intersections is crucial to trace the production of knowledge about children's how-being.

In Chapter 9, I aim to address Research Question 4:

4) How do people accommodate and manage these understandings [of how young children are] in daily practice?

This question is approached in two ways. In first part of Chapter 9 I examine two related themes which emerged in Chapters 7 and 8; 'food' and 'work' are each seen as points of intersection, where sometimes dissonant trajectories in understanding overlap at specific objects and practices. The second half of the chapter discusses how people negotiate 'crossover' positions in the centre of the *acá-allá* continuum (described in the Introduction to Part III), in relation to treatment of illness or 'ill-being'.

In Chapter 10, the final chapter of the thesis, I aim to address Research Question 5:

5) How can 'how children are' be discussed in a way which speaks to and informs concepts of 'health' and 'well-being', but does not restrict discussion only to factors associated with these concepts' ontological foundations?

To address this question I discuss three persistent, related themes which emerged in and wind through the thesis: problematising categories, 'boundary-work', and the interface and interchange of knowledge. These shed light on the ways in which knowledge about 'how young children are' is produced and understood. In conclusion, I discuss the

possibility of a wider application of a concept of 'how-being', developed through a relational analysis, to talk and think about 'how children are' at the interface of different ways of knowing.

Chapter 9: Intersections and Crossovers

9.1 Introduction

In Part III situated qualitative and quantitative data were examined to draw out understandings of what constituted and influenced young children's how-being in the mid Corrientes communities. The first part of this chapter (9.2-4) concentrates on two related themes, food and work, which emerged across these accounts. Food and work are each seen as points of intersection (9.2), where sometimes dissonant trajectories in understanding overlap at specific objects and practices. The origins and nature of particularly strong trajectories are explored in order to inform understanding of what happens at these intersections. Section 9.3 discusses the ways in which food and feeding emerged as central components of children's how-being across different accounts, drawing together themes arising in Parts II and III of the thesis. Food from 'here', *masato*, is contrasted with donated food from 'there'. This is followed by discussion of work (9.4) and its intimate relation to food, with a focus on the *minga*, a site of tension across accounts.

The second part of the chapter (9.5-7) examines the accounts of respondents who move between the common emic categories of people of *acá* [here] and *allá* [there], to explore how they negotiate this 'crossover' position. Particular attention is paid to the theme of treatment of illness or ill-being, which arose as an aspect of children's how-being in which individuals practically and visibly draw on knowledge, practices and objects from different sources (8.4-5). The first account (9.6.1) is of a community member who holds formal roles as both a Health Promotor and Pastor, incorporating knowledge from 'there' in daily life 'here'. The second and third (9.6.2-3) are of two Health Technicians from outside the communities who have lived for extended periods in upriver health posts and describe a process of 'accustomising' themselves to life in the Corrientes. Both health technicians carefully position themselves in relation to community members and other health staff; this positioning is explored to highlight ways in which their relations with others inform their practice of treatment.

9.2 Intersections: Food and work

As described in the introduction to this chapter, this section is based on the concept of intersecting trajectories, which do not necessarily share common origins, overlapping at specific sets of objects or practices. This concept arose during analysis, initially as a way of thinking about relations between groups of respondents to recurring themes across the data. It is informed by Bourdieu's relational analysis (2.2.3), particularly the concepts of position-taking (practices) and *habitus*.

9.3 Food

Food was framed as a problematic issue in the Corrientes from the beginning of my involvement in the region. In Iquitos while planning a short initial trip to downriver communities I was warned that I must take with me all the food I would need as '*there, there is no food*'. I interpreted this to mean that there would not be food that the nurse advising me thought I would want to eat, and failing to persuade her that I would prefer local food to tinned cheese and sausage reluctantly added a stock of tinned and dried goods to my luggage. Another nurse, who met me from the boat and staffed the community health post where I stayed during this first trip, received the food with interest. During visits to nearby communities I was fed fish, manioc and plantain in people's houses, and people refused the bags of dried noodles and tins of tuna I tried to give them in return.

To my eyes food seemed plentiful in the first downriver communities I visited, where people were often eating, or drinking *masato*, carrying baskets of manioc or buckets of fish, or the machetes or nets used to cultivate or catch food. During subsequent visits to Villa Trompeteros and the case study area I began to appreciate that daily household food availability depended on a combination of factors, of which the existence of food sources was just one part.

9.3.1 The daily practice of feeding young children

Examining accounts of what constituted and contributed to young children's how-being in Part III, food and feeding emerged as central components for both 'outsiders' (Chapter 7) and community members (Chapter 8). At a superficial level, this intersection appears to form a point of cohesion in perspectives, with a range of respondents raising the same

terms[198] – food (*comida*) and feeding (*dar de comer*). Behind this similarity, however, the practices which these terms signified related to dissonant social and physical processes and concerns. The idea of an 'intersection' is helpful here in indicating a temporary joining point of trajectories with different origins and directions.[199]

An initial indication of discordance arose early in the interview process as outsiders repeatedly discussed food and feeding negatively, relating it to hunger and malnutrition, with a Pluspetrol Community Affairs officer for example stating that there was '*a very serious problem'* in the feeding of children in the communities (7.3.1). In contrast, providing food was described positively by community members as the main way in which parents cared for children (8.3.1). This is not to say that the provision of food was always straightforward; providing food could be difficult and was not always possible, but it was presented as an integral part of a positive, nurturing process.

Outsiders and community members related to food in quite different ways. For outsiders, educated in western derived, internationally recognised frameworks as professional medical, educational or development practitioners (see Introduction to Part III), food is a physical building block of children's bodies. It provides protein, energy, and nourishment necessary for children to live and to grow and develop optimally. Eating too little food, eating irregularly, eating the wrong types of foods or foods contaminated with agents that cause disease, will cause ill health. This is consistent with the role of food in the field of public health (5.3.4, 6.3.2).

In the following section I draw together findings discussed in Chapters 7 and 8. My summary is in italics, based on interview data, presented in this format to avoid repeating quotes already discussed in detail in Chapters 7 and 8, and to work at the level of an overall story built from but a step away from individual accounts.

The majority of outsiders suggested that *the food which children in the case study communities are fed is not sufficient, and they are not fed the right things for a nutritionally adequate diet. They are fed too much masato, not enough protein, and they are not fed frequently or regularly enough* (7.3.1). *This leads to children being malnourished and prone to disease, developing poorly and slowly* (7.3.2-3). For these respondents, applying their

[198] In Spanish, when translated from Achuar.

[199] This concept of 'intersections' arose from the data and is not used here in reference to intersectionality theory, concerned with the intersection of multiple inequalities (Walby, Armstrong et al. 2012).

knowledge derived from formal education and time spent living in other, mainly urban areas of Peru to what they see in the Corrientes communities *parents don't know how to feed their children properly, and need to be taught* (7.4.1). Outsiders recognise that parents' knowledge and practice is derived from their upbringing and experiences: *this is not surprising, as they live in the forest and have, themselves, been raised this way,* and that they can be reluctant to change, *some parents are uncooperative and hold strongly to their customs* (7.4.2). *The situation needs to be improved through development so that parents feed and care for their children as things are done in the cities* (7.5). Outsiders see practice outside the region, in more developed cities, as superior, providing better nutrition for children and producing healthier children. The food fed to children in the Corrientes communities is a marker of lifestyles in need of alteration, embodied in children's physically malnourished bodies.

For the majority of community members, the food fed to children is the product of families' daily practice which is continually oriented to the provision of food. The processes of acquiring food, which involve *growing, fishing, hunting and gathering, searching far in the forest*, are an intrinsic part of *caring for children* (8.3.1). Knowledge about how to do this is gained through living as part of the community, being raised *as Achuar*.

Individual plants and animals eaten as food are part of a dynamic everyday world, shared by Achuar people and 'parent spirits' of plants and animals. *It is important for Achuar people to maintain good relations with parent spirits of plants and animals eaten as food and used in healing*, for example by disposing of unwanted harvested plant material respectfully in the river rather than throwing it away. *Masato*, a staple food (5.3.4) is produced jointly by Achuar women and manioc plant parent spirits[200] to nourish women's families.

Accumulation of power can be a two way process, as *the parent spirit of powerful animals consumed as food by humans can influence weak young Achuar children, transforming the child's behaviour or physical form to resemble that of the animal* (8.5.4). The nature of foods which come from outside the Corrientes region is different to that of Achuar foods. *Outsiders don't eat Achuar foods which form Achuar people; they eat food from their own lands in the cities.*

[200] Explained below in 9.3.3.

These different perspectives can be understood as products of largely separate processes of learning and being taught how to live in and understand the world, rooted in physically distinct places and the daily practice associated with these places: in Bourdieu's terms, the system of dispositions which form *habitus*. To most community members, the physical food consumed is inseparable from the spiritual world it and they inhabit and the daily process through which this food is acquired. To most outsiders, the physical food is a collection of necessary ingredients, acquired transactionally through a process of exchanging professionally oriented work, money and food, and the type and frequency of food consumed determines the health status of the body it feeds. Both groups believe in the value of their distinct fields and associated practices for the well-being of community members, and work to maintain them.

9.3.2 Food from there: donated food

In the context of these understandings of food and feeding young children it is informative to consider the role of donated food received by the Corrientes River communities. This is food originating from outside the communities, different in appearance, form and content to foods produced and gathered locally, which is distributed to community members.

As part of the 2006 Acta de Dorissa agreement between Pluspetrol Norte, FECONACO and Loreto Regional Government (4.7.4) financial provision was made by Pluspetrol Norte for 'food assistance' to be provided to the communities, because food sources available to the communities were seen as depleted or contaminated due to oil extraction activities. As explained in Chapter 5 (5.3.4), donated food included dried rice, beans, tinned sardines and vegetable oil. Separately, through the national 'Glass of Milk' programme, families with young children received tinned condensed and powdered milk.

The process of acquiring these food supplies and getting them to the communities was complex. Each year community leaders were asked to update their written list of community residents and submit it to the FECONACO office so that distribution volumes could be planned. FECONACO staff then had to negotiate the release of funds held by the regional government to the national food assistance programme (PRONAA), and negotiate with PRONAA staff about which specific foods would be provided. They also arranged boat transport, staffing and fuel for each delivery trip, which took two to four weeks and could only reach upriver communities when the river was high enough.

Data reported in the household survey suggested that most surveyed households received some form of donated food, with 92 (95.8% of those surveyed) reporting receipt of at least one sort of donated food. Rice and vegetable oil were the most widely reported, each in 90 households (93.8%), and powdered milk the least in 61 households (63.5%) (Chapter 5, Figure 5d). Most surveyed households also reported having eaten these types of food in the previous fortnight: 94 households (99.0%) having eaten rice and 93 households (97.9%) vegetable based cooking oil (Chapter 5, Figure 5b).

These foods were not mentioned at all by community members during discussions of providing food and feeding their children. The only times they were raised in discussions of children's how-being were to voice doubts about the quality of tinned fish sent to the communities, which were reported to have made children ill, causing itching and swelling. Some community members were suspicious of the kinds of foods sent to the communities, suggesting they were inferior to others available in the city[201]. One father explained '*we need them to send other types of conserves, but better, good conserves, not these that they don't want to eat in the city, that they send here. It's just because we who live here, because we don't know, they send them to us'* (Father, Family 23, Community 3). Tinned fish were frequently discussed unfavourably and sometimes discarded.

This suggests that although rice and vegetable oil were widely consumed, donated foods were seen as a supplement to community members' normal diets, rather than replacing the kinds of foods from the Corrientes region which community members usually acquired and ate. This is despite vocal indignance from communities about the erratic nature of deliveries of donated food. Similarly to discussion of water supply, food supplies were described as something the communities had fought for, and achieved promise of through the *Acta de Dorissa*, but now the company was seen as not fulfilling its agreement to provide them properly. In this sense food supplies had a symbolic role in the relation between community members and the *empresa*, as material traces of an ongoing negotiated relation. Unlike the foods from the Corrientes region, which donated food was proposed to replace, the nature of the food itself was unknown and mistrusted, but

[201] Similar concerns were raised about the quality of pharmacy medicines sent to the communities by PEPISCO.

importantly it represented a receipt of something by communities in exchange or compensation for perceived damage to their place and livelihoods.

9.3.3 Food from here: *masato*

In contrast to donated food, *masato* is at the opposite end of the social scale. It is produced by, of and for the community, by women engaged in a continual process of cultivating manioc, harvesting, cleaning, cooking, chewing and storing it to ferment, before mixing it with water and serving it by hand (5.3.4).

The manioc *masato* is made from is grown and tended in women's *chacras,* and this is an important part of the process of production. During fieldwork an interpreter travelling with me expressed an urge to make *masato*, saying it was a long time since she had done so because now she lived in the city. I suggested she could make some while we were there in the community, and she looked puzzled saying she didn't have her *chacra*. We were staying with her mother-in-law, and had been sharing foods from her mother-in-law's *chacra* cooked together with onions and rice we had brought with us. I asked whether her mother-in-law would perhaps lend her some manioc to use, and she laughed, saying yes but then it wouldn't be *her masato*. This illustrated to me the difference between acquiring ingredients to prepare something, and the process of raising them as part of a personal cycle of production.

Manioc plants were treated carefully, '*you have to respect them*', and some respondents explained that women have their own plants in their own *chacras*, which they care for themselves with their own songs sung for the plant *madre* (mother), to make the plants grow well. They use these to make their own *masato*, for their family and visitors, and to take to *mingas*. The manioc plant mother was described as a white woman with black hair, who has a little child, a large white grub that you find sometimes in manioc, which cries like a little baby. When harvesting the manioc roots you have to make sure you dig out the while root, peel it, and use it, otherwise the plant mother will be annoyed and in future the manioc roots won't grow well. Seymour-Smith, who conducted anthropological research in the Corrientes case study area in the early 1980s, described the myth of '*Nunkuí Núwa*, Earth Woman', who introduced manioc and other edible crops to the Achuar through her child, and was the '*mistress of gardens and garden magic*' (Seymour-Smith 1984:125-7). She noted that there were '*a series of magical songs which heal plant diseases and promote healthy growth*' (ibid.:127). Fast (1978:4-11) an ILV missionary, recorded a similar

myth of 'The woman named *Nuncui*' told by a man from the Corrientes River, and variants are discussed by anthropologists working with other Achuar, Shuar and Aguarana groups (Harner 1973, Berlin 1979, Descola 1994, Uriarte 2007). Descola notes that the myth of *Nunkuí* is very widely known among Jivoroan groups: *'if the social importance of a myth to a culture were judged by the number of people able to tell the story, there is no doubt that the myth of Nunkuí would be the Jivaro Creed*' (1994:192). Community members did not directly discuss the story of *Nunkuí* in their accounts to me, and I would not assume that this story necessarily underlies discussion of a manioc plant mother and child, and songs sung to her by women to make plants grow, but it would be a plausible explanation given Seymour-Smith's discussion of *Nunkuí* and magical songs in the region three decades earlier.

As well as cultivating and harvesting their own manioc, women were intimately involved in the process of transforming it from the plant tuber dug out of the ground to *masato* served in the home. After washing, peeling and boiling, cooked manioc was stirred and mashed while raw pieces of manioc were chewed and spat into the mixture, which gradually became thick and frothy. This was then stored in sealed containers for several days to ferment. To serve it, women mixed a portion with water in a large container, stirring it with their hand then scooping out a bowlful. Before offering the bowl to a family member or guest they stirred and scooped their hand through the liquid, removing fibrous residue and squeezing liquid out, back into the bowl.

All of the 95 surveyed households reported consuming *masato* in the last two weeks. As one father described: '*our custom is....here we always take masato, if we have food we eat, if not nothing'* (Father, Family 30, Community 3). As explored in Chapter 7, *masato* was discussed by most outsiders as a harmful aspect of Achuar culture, filling children's stomachs when they should instead be given food, distracting parent's attention as they dedicated themselves to producing *masato*, and causing adults to become drunk at *mingas* (7.3.1; 7.4.2). In contrast, community members described it as an integral part of daily life which could always be relied on to 'maintain' their families if other food was not available. It was also an important part of social and productive community life, discussed below in 9.4.1.

9.4 Work and daily production

Closely related to food and feeding, work was the second point of intersection which arose across accounts. The term *trabajo*, 'work', was widely used across the spectrum of respondents to refer to paid activities which community members engaged in, generally men employed by the *empresa*. As discussed in Chapter 5 (5.4.6), almost half of men surveyed in the household survey (55 men, 47.0% of those whose daily activities were reported) had been engaged in a period of formal paid employment for an *empresa* during the previous twelve months.

The same term, work, was also used by some community members to describe to me their own daily activities - cultivating, hunting, fishing. This work was consistently explained in terms of obtaining food: '*we work in the agriculture, we work in the chacra, to give these foods to our children'* (Father, Family 24, Community 3). The community members who used the term work in this way were generally men who had worked for an *empresa* outside their community, and spoke with me directly in Spanish without a translator. A father who had worked for several *empresas* and was clearing a new *chacra* after recently returning to his community asked that when I go back to my country I tell people about the situation of native people in the Corrientes: *'how people live [here] in this community, working in the chacra for food so we can eat...it is a hard labour'* (Father, Community 3).

Through their employment for the *empresa* these men had experienced different ways of living to the everyday practice in communities which was tacitly normal for their families. In their use of the term 'work' to describe their productive daily activities they framed community daily practice in terms which would be recognisable to me as someone from outside the communities, communicating across our different fields of knowledge and practice.

In contrast, health and development workers, teachers and oil company staff, applying ideas of what constituted 'work' based on the field with which they were familiar and themselves operated within, (see Introduction to Part III) did not tend to characterise community member's daily activities as work. Instead they talked about the lack of work, in the sense of paid employment, available to community members, suggesting that stable work opportunities were needed in the region so that instead of living '*as* [best] *they can'* from the natural environment community members could improve their houses and '*have a better life'* (Female, Technician, <6 months in Corrientes). The paid employment currently

undertaken by men was described as unsatisfactory, as it was not available to all men, and was irregular and short term: '*sometimes they work, but little time, one month...and this isn't sufficient to maintain their family*' (Male, Senior Medical Staff, 3 years in Corrientes). As discussed in Chapter 5, the majority of surveyed men who had been employed in the previous 12 months (39 men, 70.9% of the 55 employed) had worked for a 1-3 month period. This lack and instability of employment was seen by outsiders as related to parents' provision of food to their children; a Pluspetrol Community Affairs officer explained *'I think this is at the root of malnutrition*'.

In contrast, in their discussions of caring for children, community members did not focus on paid employment as a means to provide food for their children, but instead related paid employment to the provision of manufactured goods such as clothes and mattresses (8.3.2). Food was occasionally discussed in terms of money, but as something which could be produced by families to sell to passing traders, in order to obtain money to buy manufactured goods for their children, rather as than something bought with money.

These overlapping dialogues, drawing on similar factors but interpreting them in different ways, were particularly notable in relation to discussion of *mingas,* 'communal work', explored below.

9.4.1 *Minga:* 'communal work'

During fieldwork, discussion of *mingas* provoked almost as wide and emotionally charged a range of responses among respondents as discussion of feeding young children. The term was explained to me by interpreters as referring to '*trabajo comunal'* [communal work], carried out together by a group of people, usually but not exclusively community members. They explained that community leaders could invite community members to participate in community oriented tasks, and that families could also initiate *mingas*, inviting others to join them in a task that they needed help with. When recording household survey data (Appendix A3.3), communal work for the community and for one household were differentiated, based on whether respondents/interpreters used the term *trabajo comunal* or *minga,* but I later found they were used interchangeably, and that the event and the manner in which work was done seemed more important than who arranged it or for what purpose.

The work was mainly carried out by men, and women sometimes joined in, depending on what the task was, and supplied refreshment and food. I observed a number of *mingas*

called for different purposes, including clearing areas of forest for new *chacras*, repairing and refurbishing a teacher's house; constructing a new house for a young couple with a baby; weaving palms to make a replacement roof for a house; and cutting and clearing vegetation in the communal central area of a community. I was invited to participate in *mingas* clearing areas of forest, and cleaning out a disused building for a proposed new health post. Participants ranged from seven adult family members to more than fifteen adult couples. *Masato*, served regularly as refreshment, was an important aspect of each *minga*. It was not just about getting a task done, but about sharing the process of doing it together, enjoying each other's company, joking, laughing and taking *masato* together. When I was involved people spent a lot of time explaining jokes to me, often made about me, and questioning me about where I was from, my family, and what I was doing in the Corrientes. Doing something together – however ineptly I approached the task – provided an opportunity for a different kind of conversation to those which arose during other day-to-day tasks.

A health worker who had worked for a long time in the region (see 9.7.2) explained that one of the things he liked about how people lived in the communities was '*the custom of mingas*', because '*each one they help between themselves, and in a minga you see their unity, the joy/satisfaction between them...lovely*'. This pleasure in working together emerged in community members' accounts of *mingas* as part of living well, and has been described among other Amazonian groups in this context, for example (Belaunde 2001, Cunningham 2010, p.55). Descola, describing communal land clearing, notes the importance of manioc beer, *masato*, and the social, joking atmosphere it helps to foster: 'When the clearing is part of a communal project, the working day always starts with generous libations of manioc beer provided by the head of the household who organised the clearing. The brush cutting is thus most often done in a slightly drunken state, spiced with jokes or ironic remarks'(Descola 1994:154).

Similarly, Passes (2000), discussing work among Pa'ikwené (Palikur) people of the Arawak language group, explores the 'daily and very ordinary process of people speaking and working together; the interaction of, and value placed on, these twin behaviours' finding that this 'joint practice can be said not only to generate sociality but sociality of a very particular type, namely conviviality' (Passes 2000:99). A focus on the 'aesthetics of conviviality', in the sense of collective sociality, which as Overing and Passes note can overlap with but is not restricted to nor always including the English sense of 'a festive,

hearty jovial, and usually inebriated, good time in the company of others' (2000b:15), has been proposed by British anthropologist Joanna Overing as an approach to understanding Amazonian societies (Chernela 2003).

The health worker quoted above was unusual among respondents not from the communities in his recognition of and pleasure in the importance of shared work and *masato* in *mingas.* The majority instead were concerned with what was not seen to be done while adults were participating in *mingas* - supervising and feeding children, taking ill children to a health post - and with negative effects of drinking *masato*. Drawing on Bourdieu's concepts of habitus and field, these concerns could be seen as a product of the disjuncture between most outsiders' understanding of what constitutes a 'well child' (Chapter 6, 7.2); the conditions, processes and goods necessary to enable, create and maintain them; and the context of life in the Corrientes communities (Chapter 5). If this understanding is seen as formed through each individual's own history; including the familiar physical, social and professional environments which have shaped their adult selves, it is not surprising that work would be understood as linked to a monetary economy and alcoholic drink to pleasure, separate from and mutually excluding work.

This is considered further in Chapter 10. First, the second part of this chapter moves from examining points of intersection to explore what could be seen as a step beyond intersection: what happens when after meeting dissonant trajectories begin to cross over and exchange. This idea stems from a process mentioned many times by a range of respondents, a reflexive term '*acostumbrarse*': make oneself accustomed to. To explore this idea, I focus on accounts of three individuals, including the health worker quoted above who had worked for a long time in the region, concentrating thematically on discussion of treatment of illness.

9.5 Crossovers in treating ill being: accommodating and accustomising

This second part of Chapter 9 draws on the accounts of respondents who move between the common emic categories of people of *acá* [here] and *allá* [there], to explore how they negotiate this 'crossover' position. It is based on the overall topic of treatment of illness, which arose as a domain of children's how-being in which individuals practically and visibly drew on knowledge, practices and objects from different sources (8.5), and, according to my public health understanding, distinct and apparently conflicting epistemologies.

Accounts of three individuals, who were unusual because of the range of roles they encompassed and the way in which they positioned themselves in relation to others, are discussed in turn. All are situated in the middle of the outsiders/community members continuum diagram (see III.1). The first is one individual who incorporates roles from 'there' in his daily life 'here': an Achuar man holding formal roles as a Health Promotor and Pastor in the community where he was born. The second and third are *mestizo* men from 'there', Health Technicians who have worked for varying lengths of time in upriver communities and consciously reflect on the process of 'accustomising' themselves to life in the Corrientes. Each account, based on data collected in 2009, is discussed in the present tense to bring their stories to the fore, and pseudonyms[202] are used to obscure individual identities.

Thematically, analysis focuses on discussion of treatment, seen as a 'fruitful area of interplay' between different fields. Treatment practices are inherently related to understandings of illness, wellness and how-being, and often entail some sort of concrete action which can provide a physical trace of understandings and an initial cue for discussion. Not all approaches to treatment involve visible or observable actions, or actions which participants necessarily want to discuss, and it would be potentially misleading to assume that observed practices necessarily correspond to specific understandings, but treatment practices were instead seen as a possible marker of engagement with specific approaches and as a prompt for discussion.

[202] In place of the (gender, role, length of time in Corrientes) descriptors used elsewhere, which are not conducive to the flow of discussion.

9.6 Using knowledge from 'there' in daily life 'here'

This section firstly describes how 'Juan', who is both a Health Promotor and Pastor, presents his everyday practice within these roles, and the approaches he uses to treat illness within his own family. This is followed by discussion of how others describe these roles, situated in the context of regional literature which emphasises the transmission and incorporation of knowledge as associated with power to both heal and harm. It concludes with consideration of the ways in which he practically manages the combination of knowledge and practices acquired from different sources.

9.6.1 *Promotor*, Pastor and Father: Juan's account

Juan is in his early thirties and lives with his wife and young children in the community where he was born. As a child he spoke Achuar with his mother, and completed primary school in Spanish. He reported speaking with his children in Spanish, and his wife speaking with them in Achuar. He chose to speak to me in Achuar, with an interpreter. His main daily activity is going *al monte* to search for food, which his wife prepares for the family. She tends the *chacra* and makes *masato*. In the last 12 months he has worked for two months for an *empresa* subcontractor. He is the community Pastor and the younger of two *Promotors*[203] in his community.

Juan described his Pastor role as '*a Pastor to the people'*, who come to his church for teaching, prayer and song. As *Promotor*, his description of his role emphasises learning and studying - attending workshops, where he '*has been taught, and has learnt'* - for example that mosquitoes increase in puddles and pools. He describes having been taught to keep an eye on children, so that they grow up healthily, washing their hands and drying them on a cloth before they eat, and keeping the local environment clean to deter mosquitoes. Juan's explanations are prefaced by who has taught him the information he is passing on: *'the Doctor says to us* [Promotors], *that to protect from malaria...'; 'Cáritas, when they come they say...',* and he describes the how-being of children in the community in terms of what health professionals have told him about them, for example *'Cáritas come and they see that some of the children are anaemic, some are underweight...this is what Cáritas say'.* This emphasis on learning and information from others may be associated with him being the younger and less experienced of two *Promotors* in his community; his older colleague, who looks after the *botiquin* in his own house, also describes learning in workshops but

[203] Lay Health Promotor, see 5.5.

puts more emphasis on his own activities administering medicine and passing on information gleaned in workshops to fellow community members.

When an ill patient comes to him, Juan is able to use methods from both religious and biomedical practice to make them better. First, before he sees the patient, he prays for them, *'for God to put His power there*'. He explained that this is for two reasons – so that biomedical treatment, such as giving an injection, does not *hace daño*, harm the patient, and also so that '*with this power, this ill person is healed.* Then he administers biomedical medicines, if they are available in the *botiquin*, '*if there are tablets, if there are ampollos* [ampules, injectables]*...with ampules, with tablets we treat them'*. Juan also routinely attends to children initially identified by Cáritas as anaemic/underweight who have poor appetites, assisting in getting them to take laxatives provided by PEPISCO to get rid of parasites. Cáritas '*leave them in his responsibility'* to monitor their weight, height and blood and administer vitamins, visiting monthly to check on progress.

Juan uses religious practice to help protect children from harm. As Pastor he prays for everyone in the community, including specifically '*for the children, that where they are going*[204] *nothing [bad] happens...that they are not bitten by a snake...'*. He also discusses practices that he has been taught as a *Promotor* to protect children - supervising them, washing their hands, but talks about these in terms of his own children, rather than all the children in the community, although this may be an artefact of reporting in translation[205].

As well as practices associated with his roles as Pastor and *Promotor*, Juan discusses his own use of plants, prayer and '*people who know'* to treat illness in his family. He describes an instance when his wife had pain in her stomach and bladder, diarrhoea and was screaming in pain, and he used ground ginger, grated manioc and little drops of lemon, to soothe and heal the diarrhoea and stomach pain. He uses *chiricaspi* and *chirisanango*[206] to calm fever, leaving you '*very cool, fresh'* when the fever passes. To protect his children from *malaire* (8.5.3) he prays, and if they are affected he takes them to '*people who know'* how to treat them, who use *Agua de Florida* and *Timolina* as part of their curing practice.

[204] As in whatever they are up to, wandering around.

[205] Some of his account is complicated to translate into English as there is a lot of reported speech, ('he says, they say to him that...') and the interpreter sometimes seems to confuse the subject or the sentence is not specific.

[206] Both Brunfelsia sp. (Solonaceae Family) (Beyer 2009:389).

The practices which he describes generally coincide with those discussed by other community members who hold similar roles. The Pastor of Community 4, for example, who is older and well established – he has been practicing since the community was founded 18-20 years ago and has a reputation in neighbouring communities as having very good and effective communication with the Lord – similarly reported combining the use of plants and prayer in treating his own children. Unlike Juan he performed cleaning practices himself, with menthol and *Agua de Florida*.

9.6.2 Powerful *médicos* and agents of change: Pastors and health promotors

Evangelist Pastors were described by other community members as a kind of '*médico*' [literal translation 'doctor'][207]. They explained that there are two types of *médico* – one type, described as *brujos* [sometimes translated in regional literature as 'witches' or 'sorcerers'] can use their knowledge both to kill and cure, and are not associated with the church; the other, Pastors, *'brothers of the church',* only cure or heal, and do not cause harm. The most powerful *médicos* are old people, *los antiguos*; younger people are also becoming *médicos* but are usually less powerful. *Médicos* who cause harm can do this through various powerful animals, such as snakes, boas and jaguars, who they can '*dominate'*, and transform themselves into, for example causing *daño* through a snake bite.

The suggestion from community members that *médicos* associated with the church only cure or heal, unlike other *médicos* who can both cure and kill, contrasts slightly with widely discussed descriptions in Amazonian anthropological literature of shamans as necessarily being in an ambiguous position because they manipulate power which can be used to heal or harm (Gow 1991, Rubenstein 2002, Beyer 2009). Hugh-Jones describes three explanations for this ambivalence: the first socio-political, related to how the shaman chooses to use power: the second concerning his relation to the power; whether he controls it and uses it to cure, or is controlled by it and uses it to harm; and the third that the abilities to cure or kill are by nature inseparable (Hugh-Jones 1994:35-6). Concerning

[207] The term *médico* was used by outsiders in the region to refer to medical staff employed by PEPISCO, but was not used in this context by the community members I interviewed. They used the terms '*Sanicho*' [9.7], '*enfermera*' [nurse], or most commonly referred to the place or organisation where these people could be found – *ellos de* [those of] the health post/centre, PEPISCO, the hospital, the Pluspetrol installations (*Baterias*).

the relation to power, Scazzochio described 'aspirant shamans who have failed to acquire the power to send their spirit-darts and therefore can only act as curers' (Scazzocchio 1979:179), as well as those who deviated from their training and become sorcerers unable to cure (ibid.), suggesting that each shaman may not always have the power to both cure and harm.

Juan's positions as Pastor and *Promotor* are complementary parts of his role as a *médico*, providing knowledge and access to the power of the Lord, as well as to biomedicines from clinics, to help avoid and treat illness. The older Pastor in Community 4 has additional skills, as he is also someone '*who knows*' the use of scented commercial preparations in curing. This collection of knowledge resonates with anthropologists' descriptions of the role and acquisition of knowledge in the region. Seymour-Smith discussing the Corrientes thirty years before described knowledge 'in the native system' as 'a kind of power source: a means of obtaining control over natural and supernatural forces, control of which may then be channelled and translated into influence, prestige and power in the domain of economic, political and social relations and activities' (Seymour-Smith 1984:77). She suggested that 'in actively pursuing mastery of new domains of non-traditional culture and knowledge' inhabitants were 'in fact following an orientation which is entirely traditional – they are simply incorporating new content into the pre-existing form of their search for knowledge as part of the search for power' (Seymour-Smith 1984:78). More widely in the Amazon region, studies of shamans describe ever evolving and extending networks of shamanic practice, operating through 'longstanding paths of interaction' (Barbira Freedman 2014), in which knowledge from elsewhere is continually incorporated. Taylor, discussing the phenomena of 'missionisation' among the Achuar of the Pastaza, noted that products from 'outside' (*afuera*) the territorial group or tribe were more highly valued, relating this to the derivation of shaman's power from external sources, which in parallel are seen as having greater power the '*more remote the source'* (Taylor 1996a:233,254-5).

The role of a shaman as incorporating knowledge from elsewhere also resonates in some ways with the role of a health promoter in communicating between different fields. The health promoter was formally described in PEPISCO training documents as *'a mechanism of articulation between the communities and the health services and health care institutions, allowing the population with few resources better access to them'.* Promoters were described as needing to *'link themselves up with different social actors, both within and*

outside their community' (PEPISCO 2007b:1-2). Juan's discussion of his health promoter role situated the information he had gained from training sessions at its source in the health services, while relating it to the context of the community. Beyond the transmission of knowledge, PEPISCO documents also described the health promoter as an '*agent of change'* in *'social development'*, expected to use knowledge in a specific way and direction. This relates to the role of biomedical health services in changing community members' understandings and practice (7.5), discussed further in Chapter 10.

9.6.3 Accommodation and management

For Juan, the combination of knowledge and practices acquired from different sources did not seem to disrupt each other. Although he reported drawing on some knowledge acquired from biomedical health services, this did not mean that he stopped other practices which health service staff would not see as compatible with biomedicine. As described above, he used prayer first, before administering biomedical medicines, to avoid causing harm to the patient. Other respondents explained that *ampollos* could be dangerous if used to treat ill-being caused by witchcraft, causing the patient to die more quickly. To avoid this, they reported that *médicos* touched the patient, '*like taking a pulse but looking for other things'*. If they didn't find these other things, associated with witchcraft, they would refer the patient to hospital. This suggests that active strategies, such as prayer, and '*touching like taking a pulse'*, were needed to help manage the intersection and avoid disruption between knowledge and practices from different sources.

There seemed to be general agreement about some categories of ill-being which different types of treatment could safely be associated with, for example that malaria (8.4.2) could not be treated by *médicos* or with plants, and that patients needed to be referred to health posts.[208] *Brujeria* was widely reported to be treated by *médicos*/Pastors, through prayer and/or other means. The use of prayer suggests that the power of the Lord may be one of the sources of power drawn on to repel or remove the powerful 'darts' sent by an enemy *médico/brujo*. The Apu of Community 4, where there was a well established Pastor with a strong reputation, reported that practice in treating children affected by *malaire* had changed; previously they were taken to a *brujo*, now to the Pastor. This could reflect

[208] Although there was agreement about treatment following diagnosis, there was less certainty about the process before this, i.e. patients with symptoms which could indicate or overlap with malaria were not necessarily referred for diagnosis.

change in underlying practice, change in the way roles were described, or a combination of both of these.

9.*7 Mestizos* from 'there' accustomising themselves to life 'here'

This section focuses on the accounts of two *mestizo* Health Technicians from outside the region who have to different extents accustomed themselves to life in the Corrientes. The term 'accustom oneself' – in Spanish the reflexive '*acostumbrarse*' – was frequently used by outsiders to describe the process of becoming familiar with working and living in the region, in reference to themselves and also to me. The common use of this term highlights quite consciously the differences noted by outsiders in the Corrientes, in contrast to their work in other places, and the notion of an active process of change to be undergone by visitors. For the majority becoming accustomed was described primarily as being about learning practically how to negotiate the day-to-day terrain – coping with insects, obtaining and eating local food, learning a few words of Achuar. The two respondents discussed below described a deeper process which extended beyond managing their own affairs day-to-day to learning about and participating in community members' daily lives.

Both health workers position themselves quite consciously in relation to others around them. They are each referred to locally as '*Sanicho*', roughly an all encompassing term for 'health worker', used both to address and to refer to someone[209]. Both have worked in community health posts, living in mid/upriver communities, and show knowledge of and interest in the daily lives of community members, reflecting on how the situation which they live in affects their everyday practice.

9.7.1 *Sanicho* Raúl's account: little by little we understand each other

Sanicho Raúl is a male health technician from Iquitos who has been working in the Corrientes for a little over a year, employed by PEPISCO and based in a community health post upriver from the case study area. There are two other staff positions at the health post, a nurse and obstetrician, but the postholders are often away. At the time of the interview the obstetrician post was vacant and the nurse resigned the following month.

[209] The Spanish verb '*sanar*' means 'to heal'; to be '*sano'* is to be 'healthy': see Glossary.

Raúl described his role as primarily administrative. He is the first point of contact for patients before they see a nurse or obstetrician. He takes their history, examines them, and for children measures their height and weight. If a nurse or obstetrician is available the patient then sees them for treatment; if not he can administer some treatments including those in the form of syrups, injections and intravenous drips. In his description there was no discussion of diagnosis. Patients come to the health post every day, and some days they have attended as many as 24 patients. Patients come from the community the health post is based in and surrounding communities, as well as occasionally people travelling up and downstream, including from Iquitos and Villa Trompeteros downstream, and from the Pastaza region upstream in Ecuador.

Raúl positions himself quite consciously as one of '*us, the mestizos',* who '*know castellano'* [Spanish]. He notes that the children are sometimes scared of *'us' mestizos* because of *'our'* physical appearance, and also because as health workers or '*health personnel'* '*they know that we will give an injection'*. He consistently refers to community members as a separate grouping, '*ellos*' [them/they], noting that '*they are stubborn, these people'*. He also describes them as '*like little animals*', a pejorative term which in Spanish has a slightly more affectionate sense than the English translation[210], immediately tempering this with an explanation '*but speaking with them they understand us'.*

While Raúl maintains a clear separation from community members, he describes a process of change through which he has become accustomed to them and they to him. For new people arriving in the region it is difficult, a '*shock*'. He explains that he has overcome this by learning to communicate with community members in their own language, so that *'little by little, we understand each other'.* He plays an active role in learning to understand and speak to community members, rather than expecting them to learn to speak and understand Spanish in order to communicate with him. This sense of a mutual, active process differs from that described by most staff adapting themselves to tolerate living and working conditions in the region.

Raúl covers similar topics to other health workers in his discussion of children's well-being: food, *masato* and infectious disease, particularly diarrhoea, bronchitis and pneumonia (see Chapter 7). However, his understanding is deepened by his observations of the detail of

[210] Given by the use of the diminutive 'animalitos' [little animals] rather than '*animales*' [animals].

everyday practice, the point of interaction between the place and people living in it, which give context and logic to surface descriptions. Discussing meal patterns, for example, he notes that most families eat once a day, supplemented with masato throughout the day, because they don't have more food, *'but also when they have fish, they don't eat like we eat, a little, no, they eat in quantities...*'. Similarly, in his discussion of treatment for children's illness, Raúl has learnt about parents' preferences and practices, and although he finds these frustrating, he has some sympathy with their imagined perspectives. For example '*here the mothers, the people who are from here, they don't like you to put in drips. I think they must think that they will kill them, no, this needle...*'. He notes that mothers don't believe that medicines in the form of tablets or syrups will help their children, noting that the mothers only relax and quieten when they have seen him give an *ampollo* [injection], saying *'now my child will get better'*. This effort to understand community member's perspectives, although not necessarily agreeing with them, gives a sense throughout his account of an openness to exchange of knowledge.

This is particularly evident in discussion of illness causes and treatment. In many areas such as hygiene and diarrhoea, exposure to the elements and pneumonia, Raúl's explanations correspond with those of other health workers, following the 'lack of knowledge' route (7.4.1). In contrast to other health workers, however, he is much more interested in and open to non biomedical explanations for harm and healing. He describes several cases which have occurred during his posting in the Corrientes attributed to *daño*, a child *viroteado*, hit by an arrow from a shaman acting for a rival family in a dispute. In one case a child had died suddenly, in another an '*entire family'* was affected '*the father died, the son died, the grandfather died, and a little child was about to die and it was brought here, very very dehydrated, with diarrhoea, cough...and here we saved it with a drip.*'

In retaliation the shaman[211] was killed with a bullet. When asked his opinion about these accounts of *brujeria*, Raúl assured me that '*this exists...yes. I am from Iquitos, and the badness – exists. And the brujeria, it all exists. It exists because I have seen, and also...I know'*. He explains that badness and *brujeria* exist in all the Achuar communities, where he explained they are referred to as someone having done/made '*maldad*' [badness] or '*daño*', while other people would normally say *brujeria*.

[211] Raúl occasionally used two terms together, '*el médico, chaman* [shaman]' but usually just *chaman,* hence the translation as shaman here.

Raúl warns that when a child is affected by *daño*, medicine from the health post, '*our medicine',* makes the problem worse: '*if you put an ampollo, or you put a drip – worse it makes it, it makes it worse, the more they combine, the worse, the more they aggravate...*'. A child with fever has worse fever, or swelling increases. Instead the child must be taken to a *médico*. This corresponds partially with the practice of Juan, the community health promoter and pastor, who takes steps through prayer to avoid harm being caused by biomedicine before giving an *ampollo*. It contradicts Raúl's own story, above, of a little child saved by health workers after its family was killed by witchcraft. This contradiction is discussed further below.

Prayer and associated massage and cleaning practices are also discussed with interest by Raúl, who describes his surprise the first time a mother brought a young child to him with pneumonia, immediately after being treated though prayer early one morning: *'For me it was something new, strange...*'. He was confused about why the child was not clothed, given that it was ill, and its mother explained that it had just been rubbed and massaged with menthol, to get rid of the pneumonia, *'through the medium of prayer'*. He advised me that it would be important '*in my field'* with respect to children's well being and health to understand that '*for them, the Achuar, the main [thing] is prayer'*.

Raúl explained that everyone '*here in the Corrientes'* were evangelicals, and that in the community he was based in everyone went to church, early in the morning, every day of the week except for Mondays. The church was associated with a religious training school,[212] which held an annual event in a different community each year; two years previously it had been in the community he was now based in. People come from all parts of the church, including other countries, my '*countrymen*', to give workshops, staying for a week to teach their bible, read and pray. Demonstrating the level of involvement of the church in the region he recounted a story told to him that in a previous year, there had been a patient possessed by the devil, and the religious school attendees '*went with their prayers',* praying for him, then seized him and took him away.

Raúl considered that prayer could be helpful, seeming to have a '*positive energy'*, which could help his own practice, so that the medicines he gave to patients made them better.

[212] For adults training as Pastors.

He said that he encouraged parents to take their children for prayer but also to bring them to him before they were gravely ill: '*what I say to them, is the prayer is good, I'm not meanly telling you not to pray...pray, I say, but bring them [the patient] to me...don't just bring them when they are bad...I say like this, talking*'. He urges adjustment of current practices, deliberately not criticising them or counselling against them.

In his account Raúl identifies himself repeatedly and firmly with *mestizos* and health professionals. He also aligns himself with practices not associated with biomedicine based on what he has *'seen'* and '*knows*', himself noting a juxtaposition between his knowledge of these and being from Iquitos, '*I am from Iquitos, but I also know a lot of [about] this...*'. He is keen to explain these practices to me, and in doing so sometimes directly contradicts himself, as with his explanation, above, of not mixing biomedical treatment with ill being caused by witchcraft, and story of saving a young child with a drip. In accustoming himself to life in the community health post, Raúl has absorbed knowledge of both what people do and what they believe, and fits this knowledge together with the procedures he is trained to deliver as a health technician. He orients his practice toward what makes people in the communities well and content, seeming to accept that this may not be the same as what would be needed in Iquitos.

9.7.2 *Sanicho* Jaime's account: I accustomed myself, to their customs

Sanicho Jaime has worked as a health technician for over ten years in the Corrientes region. This included two separate two-three year postings at upriver health posts when the regional health system was managed and funded solely by the Ministry of Health, before Pluspetrol funded 'PEPISCO' was established. In both of these posts Jaime worked alone running and staffing the health post. He finds his current administrative work in the Villa Trompeteros Health Centre, much 'alleviated', with less responsibility. In his account Jaime draws frequent comparisons between the situation in the Corrientes before and after the *Acta de Dorissa* agreement (4.7.3), noting many improvements following the agreement.

Like *Sanicho* Raúl, Jaime talks about '*ellos*' [them] and 'their customs' when referring to community members, but is less derogatory in his terminology, frequently referring respectfully to 'the brothers' or 'the friends'. Unlike Raúl, he does not make a point of actively distinguishing himself from community members. Instead he distinguishes himself

from colleagues who come to work in the region for a short period and are *'always, always'* in a hurry to leave, to return to the city, while he chooses to '*still remain'* despite having had opportunities to leave. He aligns himself strongly with people living in the *selva*, using place of residence as a common and distinguishing feature rather than ethnicity. As part of this positioning he criticises central government for not giving any importance to the *selva* region and viewing its residents disdainfully, as if they do not share common human characteristics:

> '*here we are practically excluded from society, they look at us more like some little animals, as if we don't have hearts, don't have feelings...*'.

Living in upriver communities for over five years, without accompanying colleagues from the health service, Jaime had opportunity to observe and take part in daily community life, in his words *'engage in their reality*'. Jaime explains that when he first began working in an upriver community it was different, in reality he felt '*uncomfortable'*. He did his best to learn Achuar. After a few months he realised that people lived '*tranquilly, happily'* through their customs. He explains how their way of living creates this tranquil, happy state, and his appreciation and admiration of it:

> '*what I like about them is they, they live more communally, together in a group, if one family kills a bird, they share it, they give to their cousin, their brother, their niece, this is nice, this is nice, and the custom also of the guayusa*[213] *at dawn, at dawn they converse, resolve problems as well, resolve the problems with the guayusa, no? They are very communicative, very very communicative, a problem, they give a solution like this, conversing, at dawn. And so I understood that they were good, for this they live in peace, they live in harmony, they are very good, very good, the friends from there, they are very good'*

This discussion of community members' daily practice in such a positive light, linked directly to them being '*good*' and '*living in peace'*, contrasts with the more negative ways the majority of outsiders described community 'customs' and their impact on children's how-being (7.4.2). The description of *guayusa* is a rare example across interviews and all my discussions with outsiders of a specific community practice in the Corrientes being described as beneficial for community members. Jaime also relates their way of living, their daily practice, to happiness:

[213] *Guayusa* is made from a bitter tasting plant [*Ilex guayusa*]. It is made like a tea and drunk in large quantities at dawn, while chatting. It makes people vomit a little while later, then they feel clean and fresh, '*listo para trabajar',* ready for the day's work.

Jaime: *'if you live there, you feel at home, you feel at home and you are happy, they are happy, they are happy for example, a mother, to make her masato and to carry a basket, you see her happiness, and this is their way, you see her happiness, in making...'*

Ruth: *'In making?'*

Jaime: *' yes in making the masato.'*

This discussion of a way of living intertwined with and producing a feeling of happiness echoes discussion of conviviality (9.4.1) and emphasises the processes of daily practice.

Jaime's description of feeling at home in an Achuar community, sharing a sense of happiness with other community members, suggests a much deeper sense of 'accustoming himself' to life in the Corrientes than that described by his health worker colleagues. In his health work, he found that learning to speak Achuar was very important, particularly for communicating with mothers and older people, and explained that because he spoke their language he could *'explain to them what is pneumonia, what is diarrhoea, how to prevent to not have diarrhoea...'.* Like Raúl, Jaime raises similar issues to other outsiders in relation to children's wellbeing, but with a more complex focus on the conditions and context in which people live, rather than lack of knowledge, as explanatory factors. He discusses gastric infections, particularly parasites, and respiratory infections, but most emphasises food scarcity and the difficulties encountered by parents in finding food. He is very concerned by the extent to which families *'suffer'* through hard daily work to produce what he sees as increasingly scarce food, with no support from the government. For example he describes his sorrow at seeing fathers using a small axe, '*little, like a stick'* to fell '*enormous, enormous trees that can be a metre and a half wide...in one day they cut it with an axe, you imagine cutting a hectare with this axe'*. Here his knowledge of daily practice in the communities focuses his attention on the experiences of community members working through a physically difficult and slow process to grow food, rather than observing how frequently they feed their children. His engagement with life in the community and the welfare of community members also prompts him to link health issues to the wider social, physical and economic context in which they lived, that enable, or not, acquisition of food.

Sanicho Jaime's reported approach to treating illness in the communities reflects his respectful approach to community members' lifestyles. Discussing his work in upriver

health posts, he describes an '*interchange of beliefs'* with Pastors and *curanderos*[214], who he encouraged to enter the health post building and help with treatment. He notes that he made one exception to this, that he did not permit *curanderos* to use tobacco smoke to treat children with pneumonia, explaining to them why not and agreeing that they could use water instead. Community members' treatments using plants were described positively*; 'they know many plants, and they heal, with the plants, yes they heal.'* Jaime gave an example of having had the opportunity to see a young man with a Leishmanaisis ulcer 'it *was clear that it was Uta* [Leishmanaisis], *it had all the characteristics and it didn't heal, didn't heal*'. The patient told Jaime he would cure it, and Jaime said *'no! I will cure it with medicine*', but the patient insisted. '*He took some plants, and in twenty days he was healthy, completely healthy the young man'*. He explained that the plants were taken while following a *dieta* [diet] which involved among other things not eating salt, fat and various specific meats, and avoiding sexual relations. Drawing on other discussions during fieldwork and regional literature this suggests that the plants were used in the sense of the power of their mother spirits being called on to heal the patient, as this process involves a *dieta* to prepare the body.[215]

Cutipas and their treatment, together with other forms of *daño*, were described as beliefs, common *'not just here in the Achuar community but in almost all Loreto'*. Jaime explained that '*the mestizo people as well believe in brujeria*'. He did not directly state his own belief or disbelief, but described treatments for *cutipas* as '*various peculiarities'.* By setting these practices in the context of wide regional practice he presented them as part of a continuum of beliefs, rather than an oddity of Achuar communities in the Corrientes. This fitted with his discussion of community members as relatively equal neighbours, whom he identified with, rather than as '*animalitos*' with inferior practices.

9.7.3 Positioning and change

In examining the accounts of these two unusual health technicians, *Sanicho* Raúl and *Sanicho* Jaime, who become accustomed to life in mid/upriver communities through living in them for extended periods, each technician's careful positioning of themselves in

[214] Here he uses the term *curandero* [curer], rather than *médico, brujo* or shaman.

[215] Following a *dieta* was occasionally mentioned by community members in relation to healing with plants. In later conversations with students from the Corrientes at an intercultural health training programme (FORTENIA) it was described in similar terms to those reported widely in Amazonia for shamans during training and practice (for example Luna (1984), Beyer (2009)) and for patients during treatment (for example (Barbira Freedman 2010:173)).

relation to others was used to trace ways in which these relations informed their own practice of treatment for ill being. This approach draws on Bourdieu's concept of 'position-taking' in relational analysis, discussed in Chapter 2 (2.2.3).

Both men raised the importance of learning to speak Achuar, to be able to communicate with community members who did not speak Spanish. *Sanicho* Raúl positioned himself distinctly as a health professional, separately from community members who he viewed affectionately but as inferior to *mestizos* like himself. Despite this separation, he reported sharing belief with community members in some non biomedical explanations for ill being and healing, based on what he had seen with his own eyes while working at a community health post. During his time in the community he had observed which types of biomedical treatments satisfied parents, and was willing to accommodate practices new to him such as healing through prayer, being careful not to alienate patients by being dismissive. He described the process of accustomisation as a mutual process, in which he and the community members became accustomised to each other. *Sanicho* Jaime, who had spent longer in the region, aligned himself with local residents rather than with visiting health professionals whom he saw as always in a hurry to leave the region. He described the process of accustomisation as mainly one way, him learning a way of life and an enjoyment of life from community members, while passing on some knowledge about avoiding illness to them. He reported seeing non biomedical treatment using plants successfully healing biomedically identifiable illness, and welcomed a range of practitioners to the health post, as long as their practice did not directly contradict his biomedical understanding of illness, in which case he negotiated an alteration acceptable to both parties. He described having an '*interchange of beliefs*' with non biomedical practitioners, with no implication that their beliefs were inferior to his.

The process of accustomisation described by both men involved greater understanding of, and sympathy with, community members' approaches to ill being and its treatment than most other outsiders. Although they both reported finding life in the communities difficult at first, both recognised a process of change they had undergone, and claimed loyalty to their posts – Raúl as a health professional, prioritising this vocation in his life, and Jaime in his dedication to the people of the Corrientes. They differed however in the conclusions they drew about the need and potential for change and improvement in the communities.

Sanicho Raúl, following the established hierarchical health professional/community member distinction, discussed the need for '*civilising*' community members, but was not optimistic about whether it could be achieved. He saw '*their customs, their roots'* as something that could not be changed, beyond minor alterations in practices such as house design and construction and wearing more clothes, stating *'a monkey dressed in silk is still a monkey*'. *Sanicho* Jaime aligned himself with the *'friends and brothers'* in the communities, and expressed great concern about the lack of attention paid to the region by the state, and the reliance of communities on investment from Pluspetrol in providing jobs and basic infrastructure, which he feared would immediately stop if the company withdrew operations from the area. This would leave the '*innocent*' community members '*totally abandoned'*. He explained at this point that he had a local partner and child, and he was committed to staying in the region and working to improve conditions and services for local people and his child's friends '*as long as God gives me life'*.

9.8 Conclusion

In the first part of this chapter I explored the intersections in understandings of relations between daily practice and young children's how-being which arose from analysis of outsiders' and community members' accounts in Chapters 7 and 8. In the second part, the focus moved to examination of the ways in which three individuals managed and negotiated 'crossover' positions between ways of knowing, in the context of treatment of illness or 'ill-being'. Throughout the chapter, discussion was grounded in analysis of accounts of respondents, considered in relation to regional literature where this helped to illuminate a specific point. In Chapter 10, I stand back from this close analysis of accounts to discuss ways of knowing about 'how young children are'.

Chapter 10: Ways of knowing

10.1 Introduction

In this thesis, I have aimed to explore 'how young children are' in a cluster of communities in the mid Corrientes River basin. In this final chapter I return to the metaphor of 'facet methodology' (3.3), to consider how analytical ways of seeing, and 'facets' produced through these critical perspectives (Chapters 4-9), have helped to 'strategically illuminate' (Mason 2011) understanding of the phenomenon of interest. In doing so I aim to address Research Question 5 identified in Chapter 3 (3.2):

> 5) How can 'how young children are' be discussed in a way which speaks to and informs concepts of 'health' and 'well-being', but does not restrict discussion only to factors associated with these concepts' ontological foundations?

At this point, the thesis could be said to be about two things. Firstly, it is about 'how children are' in the mid Corrientes River Basin. Secondly, it is about the interactions and intersections of perspectives, and their underlying ontologies, which produce knowledge about 'how children are'. This second point is discussed in this chapter in terms of three persistent, related concepts which emerged in and wind through the thesis: problematising categories (10.2), 'boundary-work' (10.3), and the interface and interchange of knowledge (10.4). In conclusion, I return to the phenomenon of interest, knowledge about 'how children are', discussed in terms of 'how-being' (10.5).

10.2 Problematising categories

The identification and questioning of categories, encapsulated by Kuper's critique of the term 'indigenous' as an 'unhealthy category' (Kuper 2005), was introduced as an early critical orientation in this thesis (1.1). The term 'categories' is used here to refer to groupings of people and places according to a wide range of criteria, including social, physical and economic factors, for example people categorised as 'indigenous', as members of a particular 'community', 'malnourished', 'poor', living in a 'rural' place.

Categories are routinely used in research without their origin or role necessarily being considered. Gillespie and colleagues suggest:

> 'researchers should be aware that social categories are (1) perspectival, (2) historical, (3) disrupted by the movement of people, and (4) re-constitutive of the phenomena they seek to describe.' (Gillespie, Howarth et al. 2012)

In this thesis, identification of the perspectival and historical nature of both categories and processes of categorisation was an important step in recognising the different ways of knowing about how young children are. Analysis of the ways in which the Corrientes region and its inhabitants were presented to audiences in different fields (Chapter 4) identified different and sometimes conflicting 'representations' of the region, produced, and reproduced, by authors from different 'strategic locations' (Said 1978) (3.5.4). This analysis highlighted the role of the position of the author in the representation they produced; in other words the representations or categories were seen as a product of the observer's perspective. This way of thinking is an analytical step removed from an epidemiologist's tacit recognition of categories as something which objectively exist, and it enabled me to present a public health analysis of the context for and characterisation of 'how young children are', essentially their 'health status', while simultaneously identifying the categories used and relating them to a specific way of knowing (Chapters 5 and 6). This step of identifying categories as rooted in the epistemological foundations of public health allows them to be seen as a perspectival construction, reflecting Bourdieu's description of 'objectification of the object' (Wacquant 1989) (2.3.5).

As well as problematising categories used in research disciplines, I also drew on categories used by respondents as they situated themselves in terms of '*acá'* and '*allá'* in relation to the Corrientes region. I used these to construct groupings of 'outsiders' and 'community members', explicitly seen as a continuum rather than a binary opposition (Introduction to Part III). Contrasting characterisations of 'how children are', drawing on perspectival, historical categories, arose from these groupings (Chapters 7-8). Close attention to the centre of the continuum (Chapter 9), however, showed crossovers or plurality in practice which were not accounted for by the way knowledge is seen in public health, where it is dichotomised as biomedical and traditional knowledge (1.1.1).

This resonates with a pattern, identified in research about interaction between parents and health services in the context of children's health in Latin America (Rubin de Celis, Pecho et al. 2003, Castillo-Carniglia, Weisstaub et al. 2010) and Africa (Leach, Fairhead et al. 2008), of health workers seeing duality between biomedical and traditional approaches - with only the former seen as correct - where parents see plurality. Duality is associated with an expectation that there can be a move from one way of knowing to another, facilitated by the provision of information, a common approach in public health. This process was widely discussed by health workers in the Corrientes context in terms of giving guidance, passing

on information in talks, workshops and demonstration sessions, to help make parents aware of what their children lacked, how inadequately they were fed, and thereby to prompt parents to change their practices (7.5). A similar approach is described by Lea in Northern Australia:

> 'The underlying theory is relatively straightforward: if Aboriginal people knew exactly how sick they were, and if they knew the real causes, they would want to work on themselves with greater vigour and determination. If only Aboriginal people understood the true import of the alarming data that professionals have to hand, they would readily commit to appropriate lifestyle changes' (Lea 2008:119-20).

However the logic of this approach is complicated where there is not a simple dichotomy of understanding. This is discussed the by authors of one of the studies about interaction between parents and health services mentioned above, who note that were there is plurality, an approach which aims to transfer knowledge across a dichotomy needs to be reconsidered:

> 'If, as the Guinea case illustrates, there is a plurality of ways of framing health problems and treatment options, then the view that information asymmetries are key to understanding the distinctive structure of relationships in the health sector requires some rethinking' (Leach, Fairhead et al. 2008:2165).

An important aspect of this duality of thinking is the seeing and maintenance of boundaries, on which the 'education' and transfer of information approach is premised. Before focusing on the issue of plurality and implications for public health practice, I first consider briefly the role of boundaries in relation to 'how young children are' in the Corrientes.

10.3 'Boundary-work'

Implicit in discussion of categories is the formation and maintenance of boundaries. Barth identified boundaries as an overlooked aspect of anthropologists' use of 'ethnic groups', proposing a focus on the 'character of ethnic boundaries', including their maintenance, rather than the 'internal constitution and history of separate groups' (Barth 1969:10). Here I use the concept of boundaries in relation to Bourdieu's discussion of professional fields (Bourdieu 1990) (2.3.3), and Gieryn's description of scientists' 'boundary-work' (Gieryn 1983). While focusing on professional rather than ethnic categories, these approaches

resonate with Barth's constructivist understanding of the category as 'a product of social processes' (Wimmer 2008:971).

In accounts of 'how children are', respondents explicitly positioned themselves in relation to ethnic (Achuar, *mestizo*), socio-geographical (of the zone [Corrientes], Iquitos, the city, the sierra) and professional (health professional) categories[216]. In Chapter 9 (9.7.3), I examined the ways in which two 'crossover' health workers positioned themselves in relation to colleagues and community members, drawing comparisons which reflected aspects of the ethnic and professional hierarchies invoked by other outsiders (Chapter 7), and reinforcing boundaries between themselves and community members. This process was highlighted by the different approach of *Sanicho* Jaime, who aligned himself primarily with local residents rather than health worker colleagues (Chapter 7).

In their characterisations of children's how-being, outsiders drew on their own professional expertise and familiarity with biomedical categories and associated ways of knowing, distancing themselves from community members' 'beliefs' and practices in relation to caring for children. This resonates with Gieryn's description of 'boundary-work' in science, analysing a rhetorical style in 'public science' which sets 'science' in opposition to 'non-science' (Gieryn 1983). In Chapter 7, the boundary-work of outsiders established their professional roles as aligned with biomedical science (whether as health workers, teachers, or promoting aspects of 'development'), in contrast to the 'non-science' of customs, which in this context overlaps with ethnic categorisation as 'Achuar' or 'Native Communities'. Bourdieu describes a similar process in the maintenance of professional fields, seen themselves as sites of competition and unconscious position-taking, with boundaries characterised by struggle(Bourdieu 1990) (2.3.3).

The process of maintaining these kinds of boundaries, based on hierarchies of knowledge, has been critiqued both in relation to child health interventions (noted above in 10.2) and, separately, in relation to 'development' projects in the Peruvian Amazon region. Gasché discusses the failure of such projects instigated by 'professionals' with a 'negative vision' of the rural population, who propose to bring 'progress' and remedy the 'extreme poverty' they see by encouraging changes in production to generate financial income (Gasché 2006), reflecting national rhetoric about the Amazon and its inhabitants (4.8). He suggests that this negative vision, which resonates with Public Health and outsiders' characterisations of

[216] These positions were drawn on in the 'Outsider-Community member continuum' (Figure IIIa) and associated discussion (Introduction to Part III).

the situation of young children in the Corrientes (Chapters 5 -7) is constructed in opposition to these professionals' own urban lives. This approach, described by Overing as an 'assimilation paradigm of social change' (Overing 2006:293), may be presented in terms of moral arguments about inequality and the need to redress fundamentaly imbalances, particularly in post-colonial contexts, without recognition of the perspectival nature of the professional's understanding.

10.4 Interfaces between ways of knowing

Both of the lines of critique discussed above propose instead a two way process of information movement, an interface between ways of knowing. Discussing interactions in relation to child health in Peru, authors conclude that 'the discovery and interchange of existing knowledge in a climate of respect and understanding' is necessary to prompt a process of change, 'not just in carers [of children] but also in health service providers' (Rubin de Celis, Pecho et al. 2003:185). Similarly, analysing the response to a cholera epidemic in Shipibo-Conibo communities in the Peruvian Amazon, Follér described partial integration between epistemologically distinct paradigms, through 'an interface... by which ideas and information could be exchanged, certain concepts and practices rejected, and others borrowed and integrated' (Follér 2001:124). But how does such an interface come about?

In Chapter 9, individuals treating illness or 'ill-being' in children across interfaces between ways of knowing shared two important characteristics. The first was residence in a community, and close observation of community members' daily lives – for Juan, the *Promoter* and Pastor as a community member, for Raúl and Jaime working in Health Posts. The second was an openness to exchange of information, and willingness *themselves* to learn and change, both to facilitate this, for example by Health Technicians learning Achuar, and in response to it, for example by encouraging parents to take children for prayer as well as seeking biomedical treatment.

Close observation of daily life can allow outsiders to see a way of life different to their own as something other than lacking. Gasché (ibid.) emphasises the importance of daily practice; 'opening the eyes...to the manner of living, living together[217], of producing, of sharing, and of interchange that characterise the daily life of forest communities today' [S], in order to overcome negative characterisations, and see rural life in the Amazon region as

[217] *convivir*

something other than a poor relation to urban life. This focus on practice, on gaining knowledge and associated ways of knowing through seeing and being part of daily life in this rural setting evokes the three main bodies of social theory which frame this thesis. Bourdieu's habitus is formed by and forming of daily practice, hence close involvement in new forms of daily practice contributes to continual adjustment[218]. Both conviviality and knowledgeable bodies are products of continual social processes, maintained through daily actions. To take an (Amerindian) perspectival approach, the body you are in influences the way you see things around you. In a body contributing to the production and sharing of food in the forest, you see the products of your labour as food to maintain yourself (rather than focusing on what it is 'not' - food as eaten in the city).

An interface in ways of knowing therefore involves permeation of boundaries, rather than merely moving them to a different position. This process resonates with descriptions of fluidity in ethnicity in the region, which makes sense when we consider 'ethnicity' in the terms suggested by Gillespie and colleagues above (2012) as a 'perspectival, historical' social category, 'disrupted by the movement of people'. Ethnicity is described as moving across boundaries in multiple directions:

> 'we don't use ethnicity as 'belonging' to specific ethnic groups of natives opposed to *mestizos*. We use ethnicity to address the unfinished, contradictory and ambiguous process of assimilation and resistance experienced by indigenous and *mestizos*. Ethnic identities are fluid and permeable, and assimilation as crossing ethnic boundaries is not uni but multi-directional, a process where individuals go back and forth, defining and redefining, renouncing and claiming, adapting and resisting' (Espinosa 2011:30)

This permeation, in the context of ways of knowing about 'how children are', is complicated by several factors. In the context of public health and medicine, the training process of formation of a health professional does not encourage humility nor openness to other ways of knowing – on the contrary, they are taught that to be successful in their field they need to teach others to think in the same, correct, way, reproducing and contributing to the 'boundary-work' discussed above in defining and maintaining the edges of professional fields. Recognising non-biomedical approaches as something other than inferior can undermine the professional's own position. *Sanicho* Jaime, discussed in

[218] See discussion of change in relation to habitus in 2.3.4.

Chapter 9, who aligned himself firmly with those of *'acá'*, here, the Corrientes, continued to work as a Health Technician but also had ambitions to move in to regional politics. He described this as a way to improve conditions and services for his family, 'friends and brothers' in the region.

It is also important to be aware of the potential for slippage in situations presented or seen as an interface, where terminology and practice may not align. Critical discussion of the widespread adoption of '*Sumak Kawsay'* [from Kichwa, 'living well' in English], in Ecuador as a 'postneoliberal development alternative' (Radcliffe 2012:246) in policy and projects has identified 'selective and limited interpretations of key concepts of plurinationalism, interculturalism and indeed *sumak kawsay*' leading the author to conclude: 'in one sense, the language of *sumak kawsay* has been used to cloak post-colonial development as usual' (ibid.).

In the Corrientes context, I spent time, through my status as a 'technical advisor' with FECONACO (3.6), attending PEPISCO meetings and events, and also visited 'FORTENIA', an intercultural health training programme. Full discussion of these is beyond the scope of this thesis, but in both contexts there were some potential differences between description and practice of approaches. Four community members were part of the PEPISCO Directorate, and had prominent seats on the stage in meeting rooms where decisions were taken. Their physical presence, however, listed on meeting minutes, did not necessarily involve engagement with and participation in discussion and decision making, let alone acceptance or adoption of their ways of knowing by other members of the Directorate. In the FORTENIA context, the programme was managed, at the time I visited, by a former Cáritas staff member who had been working in the Corrientes region (Chapter 7). It involved both classroom based biomedical health training, similar to the curriculum for Health Technicians, and field based practical training in the use of plants in healing. Since our discussions the year before, in which a binary, knowledge asymmetry approach was taken, the ex-Cáritas manager may have become more open to different ways of knowing, or may have oriented students to the use of plants within a biomedical paradigm. These examples suggest that a critical approach to apparent interfaces of knowledge is important.

10.5 How-being

In conclusion, I return to the question of how to talk about 'how children are' at the interface of different ways of knowing. In the discussion of categories, above, the final point which Gillespie and colleagues warned researchers to be aware of was the 're-constitutive' nature of social categories in relation to the phenomena they seek to describe. In this thesis, taking the concepts 'health' and 'indigenous' unproblematically would have led to conclusions about poor health status, gaps in understanding and practice between community members and those seeking to improve their health, and to the reinforcement of the boundaries of these categories.

By taking a relational approach, problematising categories and 'objectifying the object' of research, I have instead identified interfaces between ways of knowing, arising through daily practice. In the Introduction to Part III I introduced the term 'how-being', initially as a pragmatic label which allowed me to think about and discuss knowledge about 'how children are' stemming from a range of ontological foundations. 'How-being' helps to avoid the positive assumptions of 'well-being', and does not privilege nor negate biomedical approaches. In Chapters 7-10 I have found the concept of 'how-being' 'useful to think with', and at this point question whether it could be helpful in other contexts. Drawing once more on Bourdieu's suggestions to overcome duality of thinking, an appropriate 'epistemological experiment' (Wacquant 1989:33) to test this may be a comparative study of young children's 'how-being' in my own 'most familiar universe' (ibid.), London. This would reverse the usual flow of application of theory and ways of knowing from the global North to South, applying knowledge developed in relation to practice in the Peruvian Amazon to daily life in London.

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List of Appendices A *(referred to in Chapter 3)*

Appendix A

A1 Appendices for critical review of (re)presentation of the Corrientes Region

A1.1 Sources of material reviewed

Category			Content	
			Corrientes	Related issues
Academic		History		x
		Anthropology	x	x
		Health	x	
		Development studies	x	
		Biogeography	x	
		Environment	x	
NGO & Civil Society	Regional	FECONACO Indigenous Organisation	x	
		FEPIBAC Indigenous Organisation	x	
		Shinai NGO	x	x
		ORPIO Indigenous Organisation	x	x
	National	AIDESEP Indigenous Organisation		
		Racimos NGO	x	x
		Forúm Solidaridad Perú	x	x
		Caritas del Peru	x	
	International	Amazon Watch	x	x
		Amnesty International		x
		Christian Aid	x	
		EarthRights International	x	
		WWF		
		Rainforest Foundation		
Hydrocarbon Industry	Commercial Companies	Pluspetrol, Pluspetrol Norte S.A.	x	x
		China National Petroleum Corporation	x	x
		Daewoo International		x
		SK Innovation		x
		Korea National Oil Corporation		x
	State Company	Perúpetro	x	
Media	Regional	La Region	x	
		Pro y Contra	x	
	National	El Commercio	x	x
		Que hacer		x
		La República	x	
	International/ British	BBC	x	
		Guardian	x	
State	National	Congress of Peru		x
		Ombudsman	x	x
		MINSA	x	
		OSINERGMIN		
	Regional	GOREL		x
		DIRESA	x	

A1.2 Potential sources of material not reviewed

Source	Scope of source	Reason for exclusion	Implications of exclusion for analysis
Radio programmes and news reports	Long wave radio stations are available in some rural areas (not Corrientes communities), reaching a different population to newspapers available in urban areas.	Impractical in small scope of project.	May miss different representations to newspapers, e.g. from public in radio phone-in programmes
Television news	Cities, some rural areas (not Corrientes communities).	Impractical in small scope of project.	Film may use different representations to newspapers (eg how clips are positioned/edited). Unlikely to be much from Corrientes no also in films/blogs, as regular TV reporting rarely gets there.

A1.3 Organisation archives

Organisation		Type of archive	Dates consulted
NGO	FECONACO, Iquitos	Paper and digital collection, not catalogued.	2008, 2009, 2010
	Racimos , Lima	Paper and digital, collection, not catalogued.	2009
Research organisation	Amazonian Centre of Anthropology and Practice, (CAAAP), Lima	Libary: digital catalogue, advice from staff.	2009, 2010
	Peruvian Amazon Research Institute (IIAP), Iquitos	Library: paper catalogue, advice from staff.	2009, 2010
	Pontificia Universidad Católica del Perú, Lima	Libary: digital catalogue.	2009
	Universidad Peruana Cayetano Heredia,(UPCH) Lima	Library: digital catalogue.	2009

A1.4 Sample materials analysis tables

Sample Table 1: Pluspetrol

Type of source	**Hydrocarbon industry related**
Source and material(s)	**Pluspetrol Energy S.A.** *Environmental and Social Sustainability Report 2009* (Pluspetrol 2009) Report, 53 pages
Summary	Summary of company's activities regarding environmental and social sustainability of their international operations, including case local case studies and achievements in comparison to (internationally set?) standards.
Language	Produced separately in Spanish and English. [English version used for analysis.]
Availability	Available to download on Pluspetrol website [internet users with high band width connection]. Hard copy distribution unknown.
Who is the author?	Pluspetrol Energy S.A. is a private oil and gas exploration and production company, described in company webpages as the 'largest producer of Peru'. (Pluspetrol 2012a)
What is the role of the author in relation to the Corrientes?	Pluspetrol Energy S.A. has a 100% share in Block 1 AB (since 2000) and 60% share in Block 8 (since 1996) in the Corrientes zone, both operated by Pluspetrol Norte SA,[1] a subsidiary oil and gas production company of Pluspetrol Energy S.A. (Bloomberg 2012) Being awarded Block 8 from PetroPeru in 1996 was described retrospectively by the company Executive Manager as *' a major event in the history of Pluspetrol; first, because these were the first large operation of the company outside of Argentina, and second, because with it we were able to almost double the production we had in Argentina' (Energy Focus Reports 2011)*
Audience of material	International audience (produced in English) ?Regulators Investors Public
Purpose of producing material	'reaffirm Pluspetrol's commitment in the environmental and social domains' (p.7) Demonstrate compliance with IPIECA Indicators?
Content relating to Corrientes	'The operation is located within the Peruvian Amazon, in the so-called Amazonian plain, a region traversed by numerous high-flow rivers. It is characterized by a high biological and cultural diversity.....' 'In the vicinity of the operation, there are 25 native communities of the achuar ethnic group (Block 8) and 15 communities of the achuar and quechua ethnic groups (Block 1AB).' (p.17)
Specific terms used	People: high cultural diversity (n) native communities of the achuar and quechua ethnic groups
How are terms used?	People: Categorisation of community members as part of diverse cultural region

[1] Data from August 2009, the most recent available from company webpages viewed 31/01/2012 (Pluspetrol 2012b)

	Description of communities in terms of being native, and of two specific ethnic groups Place: Biological diversity, description of geographical features, Block 8
What is the author's position in relation to the communities?	*Author is describing them using scientific, (neutral) language* *Specific characteristics of place and people are elements to be considered in operation of petrol lot, which is the subject of interest*
Comparison with other sources	*native* used by community members accustomed to interaction with outsiders when speaking to outsiders (somos natives), also by FECONACO and regional government *achuar and quechua* also used by communities, additionally they and FECONACO include urarinas (Pluspetrol includes photograph of urarinas woman, serving masato to Corrientes Head of Asuntos Comunitarios in web page published 2011 http://www.pluspetrolnorte.com.pe/dorissa.html). -included in Pluspetrol Norte website *ethnic group* (*etnias* in Spanish version) used in national statistics, and international health and social terminology. Not used by colloquially. Block 8 as per other oil literature (cf China reports)
Other material to check from source	Press clippings http://www.pluspetrol.net/e-comunica.html

Sample Table 2: Forúm Solidaridad Perú et al

Type of source	**Civil society/NGO/Advocacy Related**
Source and material(s)	**Forúm Solidaridad Perú**, Red 2000 Jubileo Perú and Plataforma Interamericana de Derechos Humanos Democracia y Desarrollo (Diez Canseco 2009) *Why do the indigenous peoples protest? The importance of territory for the amazonian indigenous life and the legislative decrees which affect them*[2] Four side pamphlet.
Language	Spanish
Summary	Information leaflet explaining the importance of territory for Amazonian indigenous peoples, and summary of proposed changes to national legislation which may affect them.
Availability	Downloadable from organisation websites, blogs/websites of individual civil society campaigners
Who is the author?	FSP staff – FSP is an advocacy organisation based in Lima, with a focus on 'national solidarity to contribute to building a more inclusive society [3]
What is the role of the author in relation to the Corrientes?	The organisation is interested in indigenous rights as part of its wider remit. It cites AIDESEP as a source, one of two national collective Amazonian indigenous organisations, to which FECONACO is affiliated via regional organisation ORPIO.
Audience of material	Public and general audience
Purpose of producing material	Produced to explain to the general public why Amazonian indigenous groups were protesting against proposed legislative changes, introduced as part of the implementation of a Free Trade Agreement with the United States. Indigenous organisations had announced a 'permanent mobilisation' against the proposed changes.[4] (Published in May 2009 before protests intensified following Bagua
Content relating directly to Corrientes	*'La extracción de hidrocarburos conlleva una alta degradación del medio ambiente. Entre el 2006 y el 2009 se han producido 48 derrames entre los lotes 8 y 1 AB de Pluspetrol, afectando los ríos Tigre y Corrientes y sus afluentes, generando impactos negativos en las 34 comunidades indígenas que habitan ahí. Según un informe elaborado por el Ministerio de Salud en el 2006, el 98% de menores de la zona sobrepasaban los límites de cadmio en la sangre.'*
Content relating to other/broader	Other content: describes difference in conceptualisation of land for 'the market' (having monetary importance and being marketable) and the indigenous (having spiritual importance and being sacred)
Specific terms used	Hydrocarbon extraction brings a high degradation of the environment specific number of spills causing negative impacts in the indigenous communities that live there.

[2] My translation.
[3] My translation from '*solidaridad internacional que contribuye a la construcción de una sociedad más inclusiva*' (Forum Solidaridad Perú 2012).
[4] Document published in May 2009, shortly before protests intensified following violent events at Bagua on 5th June 2009.

	Specific re cadmium levels in children
How are terms used?	
What is the author's position in relation to the communities?	Advocate for indigenous peoples' rights. Gives communities as example of the impacts of hydrocarbon extraction in the Peruvian jungle. Not known to be directly related to communities
References to other sources	MINSA report (specific to Corrientes) Proposed legislation (in relation to indigenous peoples)
Comparison with other sources	

Sample Table 3: Acta de Dorissa

Type of source	Joint: **NGO/Government Department/Hydrocarbon Industry**
Source and material(s)	Acta de Dorissa (FECONACO, MINEM et al. 2006) *'Act that complements and specifies the agreements signed between the indigenous communities of the Corrientes River – FECONACO, the Ministry of Energy and Mines, the Ministry of Health, the Regional Government of Loreto, the company Pluspetrol Norte S.A., and the Ombudsman'* (my translation) Signatories also include Apus of 17 communities, the president of AIDESEP's regional office in Iquitos, ORAI, Lily La Torre, legal advisor of FECONACO, representative of INDEPA (National Institute of Development of Andean, Amazonian and Afroperuvian Peoples).
Language	Spanish
Summary	Act signed in the Dorissa petroleum production battery, laying out agreements for: - the reinjection of production waters - financing and implementation of an Integrated Health Plan (financed by PLUSPETROL) - extension of national health insurance system (SIS) to communities in the region - participatory development, and financing by the regional government, of an Integrated Development Plan - temporary food assistance and supply of potable water - remediation of environmental liabilities and dangers of lots 1AB and 8 The act also includes an undertaking from the indigenous communities of Corrientes, FECONACO's foundations (?), that with the signing of the Act of Agreements, once endorsed by the Ministry of Energy and Mines, they will promise to return the petrol installations to the company Pluspetrol, so that hydrocarbon production operations of lots 1AB and 8 are performed as normal.
Availability	Pluspetrol website, with explanation http://www.pluspetrolnorte.com.pe/dorissa.html http://www.elaw.org/system/files/Acta+FECONACO+Final.pdf
Who is the author?	Signatories. Health section prepared in advance by FECONAC, Racimos, MINSA. Act redrafted by Lily La Torre '*the government sent a delegation to the area in order to negotiate an agreement, the first accord, among the indigenous people living in the river basin, FECONACO, MINEM, MoH, the Loreto region government, and Pluspetrol. The latter's representatives asserted the people had discussed the terms of the agreement via radio with Lily La Torre in Iquitos before her arrival on October 13, but, when she got there in person, she convinced the federation leaders and the apus that they had to renegotiate to improve the agreement. The outcome was she redrafted the proposal, which they approved and subsequently sent to the company and the government. As reported by FECONACO, the first accord was rapidly drafted under pressure by company officials to conclude it, and it did not contain certain agreements reached by the parties, the legal formalities required for a*

	document of that nature (such as dates and time periods), or the communities' decision to reject any new oil concession on their lands. Moreover, it deemed the approval process to be unsuitable since the accord was read in Spanish (it had not been translated into Achuar) and was signed at night under the light of a flashlight'. (Scurrah, Bielich et al. 2010, p. 16-17)
What is the role of the author in relation to the Corrientes?	(range – community members – state- NGOs – hydrocarbon company).
Audience of material	Community members, all parties, public
Purpose of producing material	Lay down agreed steps Reach an agreement to get hydrocarbon operations running again
Content relating to Corrientes	
Specific terms used	a) Representation, indigenousness and who is included: The indigenous communities of the Corrientes River, represented by the president and vice president of FECONACO; the Apus of the indigenous communities of the Corrientes River 'Plan Integral Atención Integral de Salud para las Comunidades Indígenas y Ribereñas de la Cuenca del rio Corrientes, ante la Situación de Impacto Ambiental' b) Terminology for place – Corrientes River, Corrientes River basin, lotes 1 AB Y 8, for whom - las comunidades c) State of environment 'remediation of environmental liabilities and dangers of lots 1AB and 8' (la remediacion de pasivos y daños ambientales) '...ante la Situación de Impacto Ambiental' (as above, health plan)
How are terms used?	a) Formal, use of indigenous, native, ribereñas – note that not excluding non-indigenous from health plan b) Adopting terminology used by regional government, company. Also frequent reference to 'the communities' as beneficiaries c) Very neutral in terms of environment compared to documents produced by Racimos, FECONACO. Not apportioning blame nor describing extent of issues, but brief mention in focus on measures to rectify situation. Joint agreement
What is the author's position in relation to the communities?	Signed by all different groups, but written form perspective of communities regarding what will be provided for them. Also how will be independently overseen, how all parties will behave reasonably (eg deadlines for different sections), and what communities will offer in return (returning installation to Pluspetrol so that normal service can resume).
References to other sources	Other plan already established for health with DIRESA Loreto, FECONACO, and approved by GOREL. ILO Convention 169 (International Labour Organisation 1989) 'De acuerdo al art. 7.1 del Convenio 169 de la OIT, las comunidades indígenas de la cuenca de Corrientes tienen derecho de decidir sus

	propias prioridades de desarrollo, participando en la formulación, aplicación y evaluación de cualquier proyecto de Desarrollo que los involucre y que se planee llevar a cabo en su territorio' (5.c Acta) Existing program – national PRONA (EL PROGRAMA Nacional de Apoyo Alimentario)
Comparison with other sources	Pluspetrol describes as 'El Acta de Dorissa es un acuerdo que Pluspetrol Norte suscribió con la Federación de Comunidades Nativas del Corrientes (FECONACO) a través del Gobierno Regional de Loreto (GOREL) en octubre de 2006. En este, Pluspetrol Norte se compromete a acelerar los trabajos de reinyección de aguas de producción y remediación de suelos afectados por antiguas metodologías de explotación, así como aportar para la ejecución de diversos proyectos de desarrollo en educación, salud y procesos productivos'(Pluspetrol Norte S.A. 2011) Continues to list achievements by 2011. Does not mention context of signing. *'En octubre del 2006, hartos de años de indiferencia, los grupos nativos achuares, urarinas y kiwchas invadieron en forma pacífica diferentes campamentos petroleros en los lotes 1AB y 8. Pese a las amenazas de la entonces ministra del Interior, Pilar Mazzeti, que "el orden debe recobrarse a cualquier costo", primó el ánimo conciliador, especialmente por la sangría económica que causaba esta paralización. El mismo ministro de Energía y Minas, Juan Valdivia, viajó a la zona y estampó su firma en un compromiso ante los líderes nativos. Llamada el Acta de Dorissa, pues la reunión de alto nivel se llevó a cabo en el campamento petrolero del mismo nombre, este acuerdo también fue suscrito por Pluspetrol, el ministerio de Salud, Indepa e Inrena.'(Revilla 2008)* Summarised in El Comercio as: **El avance del Acta de Dorissa** -En octubre del 2006, los nativos achuares tomaron durante doce días los pozos petroleros de Pluspetrol. Demandaban mejoras ambientales. -El 26 de octubre de ese año se firmó el Acta de Dorissa entre diversas entidades del Estado, la petrolera y los achuares.(Liñán 2007) In La Republica 'cumpla una serie de acuerdos medioambientales y de apoyo social contemplados en el Acta de Dorissa (convenio suscrito el 2006 para mejorar las condiciones de vida de los pobladores). '(La República 2008a) Frequently referred to in press later – for slow progress, (Liñán 2007, Comercio 2008), falta de cumplir (La Región 2010a, La Región 2010b, Pro y Contra 2011) by local government (La República 2008b)

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A.2 Joint Research Agreement

(Image of signed first page, followed by text in full)

Acuerdo desde:

Iquitos, 04 de Febrero de 2009

Agreement between:

CESAR GARCIA SANCH
PRESIDENTE

FECONACO: Federación de Comunidades Nativas del rio Corientes

FECONACO: Federation of Native Communities of the Corientes River

Ruth Willis

Estudiante investigadora de Doctorado de Salud Pública, del Departamento de Salud Pública y Policía, la Escuela de Higiene y Medicina Tropical de la Universidad de Londres

PhD Research Degree Student, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, University of London

La investigadora y FECONACO acuerdan a realizar el proyecto **'Investigación de la salud Infantil con las Comunidades Nativas del río Corientes'** con los siguientes terminos:

The researcher and FECONACO agree to conduct the project ***'Investigation of child health with Native Communities of the Corientes River'*** *with the following understanding:*

1. El objeto de este proyecto de investigación, como fue discutido con los Dirigentes de FECONACO, es:

- Una investigación acerca de los factores ambientales, económicos y sociales* y la salud de los niños, en las comunidades Achuar del Río Corientes

  * como por ejemplo el acceso a la educación y el agua potable

1. The purpose of this research project, as discussed with the Leaders of FECONACO, is:

- *An investigation of environmental, economic and social factors* and child health in Achuar communities of the Corientes River.*

  **like for example access to education and drinking water*

1

Appendix A

Acuerdo desde:

Agreement between:

FECONACO: Federación de Comunidades Nativas del río Corrientes

FECONACO: Federation of Native Communities of the Corrientes River

Ruth Willis

Estudiante investigadora de Doctorado de Salud Pública, del Departamento de Salud Pública y Policía, la Escuela de Higiene y Medicina Tropical de la Universidad de Londres

PhD Research Degree Student, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, University of London

La investigadora y FECONACO acuerdan a realizar el proyecto **'Investigación de la salud infantil con las Comunidades Nativas del río Corrientes'** con los siguientes terminos:

*The researcher and FECONACO agree to conduct the project **'Investigation of child health with Native Communities of the Corrientes River'** with the following understanding:*

1. El objeto de este proyecto de investigación, como fue discutido con los Dirigentes de FECONACO, es:

- Una investigación acerca de los factores ambientales, económicos y sociales* y la salud de los niños, en las comunidades Achuar del Río Corrientes

  ** como por ejemplo el acceso a la educación y el agua potable*

1. The purpose of this research project, as discussed with the Leaders of FECONACO, is:

- *An investigation of environmental, economic and social factors* and child health in Achuar communities of the Corrientes River.*

  **like for example access to education and drinking water*

2. Los limites de este proyecto de investigación, (los temas o actividades estarán consistiendo, y el nivel de participación de FECONACO y los miembros de las comunidades) como fue discutido con los Dirigentes de FECONACO, es:

- Los temas son los factores ambientales, económicos y sociales y la salud de los

2. The scope of this research project (that is, what issues or activities are to be involved, and the degree of participation of FECONACO and by community members), as discussed with the Leaders of FECONACO, is:

- *The issues are environmental, economic*

niños de menor de 5 años.

- Estos temas van a tratar en las encuestas de hogares y talleres de discusión.
- El proyecto de investigación van a incluir aproximadamente 100 familias.
- El proyecto de investigación van a hacer dentro de enero de 2009 hasta noviembre de 2010. El tiempo en el campo estará dentro de marzo/abril de 2009 – septiembre de 2009, y por dos meses en 2010.

3. Los métodos que van a utilizar estarán:

- La encuesta de hogares – con preguntas sobre la composición e historia de la familia, educación, ocupación, comida, vivienda, el acceso del agua, la electricidad y los servicios de salud, experiencias de mujeres embarazadas, y la salud de los niños de menor de 5 años. Este encuesta va a completar con las mujeres, y ocupara una hora aproximadamente.
- Los talleres de discusión sobre la salud de los niños, para identificar los temas de salud infantil más significante y sus causas desde la propia perspectiva indígena.

4. Capacitación y participación por las comunidades van a incluir:

- Un(os) asistente(s) de investigación empleado(s) por Ruth Willis para ayudar a traducir y aplicar la encuesta (Castellano por Achuar) y los talleres, vaciar los datos en la computadora, y el analizarlos. El asistente de investigación para las encuestas será una mujer, a pues los temas de la encuesta.
- La/los asistentes recibirá capacitación para habilidades de la recolección y análisis de los datos.
- Para el 2010 Ruth Willis va a regresar para las comunidades para compartir y adaptar los resultados de los análisis y las conclusiones del estudio.

5. El dato coleccionado va a almacenar como:

- Los datos serán confidenciales. Se

and social factors and the health of children under 5 years old.

- *These themes will be addressed in household surveys and discussion workshops.*
- *The research project will include approximately 100 families.*
- *The research project will take place between January 2009 and November 2010. The fieldwork will take place between March/April and September 2009, and for two months in 2010.*

3. The methods which will be used will be:

- *Household survey – with questions about family composition and background, education, occupation, food, housing, access to water, electricity and health services, mother's pregnancy experiences and health of children aged under 5 years. This will be carried out with women and will take approximately one hour to complete.*
- *Discussion workshops about children's health to identify the main child health issues and their causes from community member's perspectives.*

4. Community training and participation will include:

- *A research assistant(s) will be employed by Ruth Willis to assist with questionnaire translation, (from Spanish to Achuar) conducting the survey, carrying out the workshops, entering the data into the computer, and analysing the data. The research assistant for conducting the household survey will be female, because of the subject of the questionnaire.*
- *The assistants(s) will be trained in skills for data collection and analysis.*
- *In 2010 Ruth Willis will return to the communities to share and adapt the results of analysis and conclusions of the study.*

5. Information collected will be stored in these agreed ways:

- *The data collected are confidential.*

escriberá los nombres de las personas en las encuestas, se colocarán en la primera versión del base de datos en la computadora (para ayudar a completar la información sin errores, por ejemplo para corroboran que todo las 'niñas' tengan nombres femeninas). Después los nombres eliminados, y remplazados con códigos numéricos para el análisis y almacenamiento de las datos. Esto es importante para mantener el datos privados.

- Los datos ser almacenados en CDs en la oficina de FECONACO y por Ruth Willis.
- Ruth Willis estará disponible (actual, o por teléfono/correo) para responder a preguntas y asistir a FECONACO si FECONACO decide utilizar los datos por otra proyectos (por ejemplo como una línea base para comparación en el futuro).

Names will be recorded on paper questionnaires in the field and entered into the draft version of the data stored on the computer (to help with checking that data is entered correctly, eg a female name for a female child), but will be removed and replaced with number codes for analysis and data storage. Therefore it will not be possible to identify individual people from the stored database. This is important to keep peoples' information private.

- *The data will be kept on CDs in the FECONACO office and by Ruth Willis.*
- *Ruth Willis will be available (in person or by email/telephone) to answer questions and assist FECONACO should FECONACO decide to use this data for any future projects (for example as a baseline for comparison in the future).*

6. Fondos

- Los fondos para este proyecto provienen del gobierno del Reino Unido, por una beca de estudios de doctorado de Ruth Willis, desde 'el Consejo de Investigación Medico' y 'el Consejo de Investigación Social y Económico', con una parte para la investigación del campo.

6. Funding

- *Ruth Willis has funding for this project from the UK Government, in the form of a PhD scholarship from the Medical Research Council and the Economic and Social Research Council, which includes funding for a fieldwork project*.

7. Beneficios

Los beneficios para FECONACO/la gente de las comunidades serán:

- Informativo

  Este trabajo genera información la cual podrá ser utilizada por FECONACO y la gente del Río Corrientes en los siguientes aspectos:

  - Proveer una descripción detallada de los factores sociales, económicos, y de salud de los niños menores de 5 años.
  - Destacar las desigualdades sociales y de salud entre la gente Achuar del Río Corrientes y otras comunidades del Perú.
  - Realizar una documentación sistemática, con metodología científica, sobre las perspectivas de la gente sobre la salud de los niños, y los factores influyentes.

7. Benefits

Benefits for FECONACO/ community members of this work:

- *Informational*

  This work will produce information that can be useful for FECONACO and the people of the Corrientes River communities in the following ways:

  - *Provide a detailed description of social and economic factors and health of children under 5 years old.*
  - *Identify social and health inequalities between the people of the Corrientes River and other communities in Peru.*
  - *Produce a documented account, using scientific methodology, of the perspectives of community members about children's health, and factors which influence their health.*

  Additionally, the researcher may

Adicionalmente, la investigadora puede contribuir a otro análisis sobre la salud con FECONACO.

- Educativo
  - La/los asistentes van a recibir capacitación para la recolección y análisis de los datos.
- Financiero
  - La/los asistentes van a recibir un paga, acordada con anticipación, para cualquier dia/para cada encuesta.

Los beneficios por le investigadora:

- La investigadora es una estudiante de doctorado y va a escribir sobre los datos en su tesis doctorado
- Ella también va escribir sobre los datos en artículos para la presentación de las revistas científicas internacionales.

8. Compromisos

Los compromisos de la investigadora con FECONACO son:

- Cumplir el proyecto
- Informar a FECONACO de los progresos del proyecto de manera clara, especifica y oportuna
- Estar dispuesta a responder cualquier preguntas sobre la salud pública (con el acuerdo que ella es una epidemiólogo, y no un médico y tampoco una enfermera)

Los compromisos de FECONACO con la investigadora son:

- Ayudar con la coordinación con los Apus, las Madres Indígenas, los Promotores, y otras personas relevantes en las comunidades
- Ayudar con cosas logísticas por el campo (por ejemplo el transporte)
- Recomendar gente competente y fiable para trabajar como Asistente(s) de Investigación
- Mantener informado sobre el progreso del proyecto, y ayudar a conducir el proyecto hasta la obtención de los resultados.

contribute to other health related data analysis with FECONACO.

- *Educational*
  - *The research assistant(s) will be trained in data collection and analysis.*
- *Financial*
  - *The research assistant(s) will be paid for their work, as agreed in advance, either per day or per completed questionnaire.*

Benefits for the researcher

- *The researcher is a PhD student and will write about the data in her PhD thesis.*
- *She will also write about the data in papers submitted to international scientific journals.*

8. Commitments

The researchers' commitment to FECONACO is to:

- *Carry out the project*
- *Inform FECONACO about project progress in a clear, specific and timely manner*
- *To act as a resource for public health related questions (on the understanding that she is an epidemiologist and not a medical doctor or nurse)*

FECONACO's commitment to the researcher is to:

- *Help her to coordinate the project with Apus, Indigenous Womens' representatives, Health promoters and other relevant people in communities*
- *Assist with organising logistics for fieldwork (for example transport)*
- *recommend capable and reliable people to be employed as Research Assistant(s)*
- *keep informed on the project progress, and help in leading the project toward meaningful results.*

A3.3 Household Survey documents

A 3.3.1 [E] Household Survey Information sheet

Household Survey Information Document and Verbal Consent Sheet for Community Members

Study: The health of children in Achuar communities of the Corrientes River: a case study.
Institutions: Federación de Comunidades Nativas del Río Corrientes,(FECONACO) (Iquitos, Perú)
University Peruana Cayetano Heredia (Lima, Perú)
London School of Hygiene and Tropical Medicine, University of London (London, England)
Researcher: Ruth Willis

This Consent Form has two parts:
• Part I: Information Sheet – to give you information about the study
• Part II: Consent Record – to ask if you are willing to participate
You will receive a copy of this consent form.

PART I: Information Sheet

Good day. I am a researcher from the University of London, England. I am not a medical doctor or a nurse. I am carrying out research about health of children in [community names], to see how they compare with other children in Peru, and which factors are important for their health. I have spoken with FECONACO and PEPISCO before travelling, but I don't work for them.

I would like to invite you to participate in this study. The first part is a questionnaire about alll the people in each household. If you agree to participate, I would like to ask you some questions about your family, your house, and the things you have in your house, as well as the health of any children aged less than 5 years who live here.

Your participation in this study is completely voluntary. If there is a qestion you don't want to answer you can indicate, and I will pass on to the next question. If you decide to participate and then change your mind, you are free to withdraw at any point in the questionnaire without giving an explanation and without any consequences.

The information you tell me will be stored in a secure place, without your name, and in this way nobody could relate you to the information you provide.

This study has been approved by FECONACO, the Ethics Committeee of the University Cayetano Heredia in Perú and of the London School of Hygiene and Tropical Medicine in England.

If you have questions about ethical aspects of the study, you can contact the Comité Institucional de Ética of the Universidad Peruana Cayetano Heredia, by telephone (number) extension (number).

If you have any questions about the research you can contact me:: Ruth Willis. Tel (number) (until November 2009), or (number) (after November 2009). E-mail: (Ruth email address)

A 3.3.2 [E] Consent documents

PART II: RECORD OF VERBAL INFORMED CONSENT FOR COMMUNITY MEMBERS

Name and Surname of respondant:

Name and Surname of person carrying out survey:

Date:

Location

	Put a circle around your response:	
Have you read the information sheet to the respondent:	Yes	No
Have you responded to any questions that the respondent has asked?	Yes	No
Does the respondent agree to be surveyed?	Yes	No

Signature of person carrying out the survey:

Signature of witness

A 3.3.3 [E] Household Survey

[From Section D onwards the English translation is not of the final Spanish version, so there are some minor differences between the original Spanish and this translated version]

Household Questionnaire

Before beginning the questionnaire::

☐ have read the Information Sheet to the participant

☐ have completed the Record of Verbal Informed Consent

Community Name	_____		
Household identification code	___ ___ ___ ___ ___ ___		
Name of survey team member 1	_____	Identification code 1	__ __
Name of survey team member 2	_____	Identification code 2	__ __
Date of beginning questionnaire	__ __/__ __ /20__ __	Time of beginning	_ _: _ _
		Time of stopping	_ _: _ _
Date of completing questionnaire	__ __/__ __ /20__ __	Time of beginning	_ _: _ _
		Time of stopping	_ _: _ _
Number of children less than 5 years old	__ __		

SECTION A: HOUSEHOLD COMPOSITION

***SAY*: FIRST I AM GOING TO ASK SOME QUESTIONS ABOUT ALL THE PEOPLE WHO ARE MEMBERS OF THIS HOUSEHOLD, THAT IS: ALL THE PEOPLE WHO USUALLY CONTRIBUTE TO THE HOUSEHOLD, WHO WHEN THEY EAT TOGETHER AT HOME SHARE FOOD FROM THE SAME POT, WHO HAVE NOT MOVED PERMANENTLY SOMEWHERE**

A1	**What is your marital status**?	
	- Married	[ ] 1
	- Living together	[ ] 2
	- Divorced	[ ] 3
	- Separated	[ ] 4
	- Widowed	[ ] 5
	- Single	[ ] 6
A2	**Do you have a permanent partner**?	
	- Yes, a permanent partner → ***go to A3***	[ ] 1
	- (No, is...) Divorced / Separated → ***go to A A4***	[ ] 2
	- (No is..) Single → ***go to A A4***	[ ] 3
	- (No is) Widowed → ***go to A4***	[ ] 4
	- Other (***SPECIFY***) → ***GO TO 1.4*** _____	[ ] 5
A3	**Does your partner live in this Household**?	
	- Yes	[ ] 1
	- No	[ ] 2
	- Not applicable	[ ] 88
	- Don't know	[ ] 99
A4	Who do you consider to be the head of this Household?	
	- Myself	[ ] 1
	- My partner	[ ] 2
	- Other SPECIFY_____	[ ] 3
	- Don't know	[ ] 99
A5	In total how many people live in this household?. *(99=Don't know)*	___ ___

***SAY*: NOW PLEASE COULD YOU TELL ME THE NAME, AGE, SEX AND RELATIONSHIP TO YOU OF EACH PERSON WHO LIVES IN THE HOUSEHOLD, BEGINNING WITH THE YOUNGEST? PLEASE INCLUDE YOURSELF.**

Appendix A

Instructions for the completion of Table 1: Family Composition Table: Children

1. ***Record the names, surnames and age of all children less than 5 years old.***
2. ***Then complete the rest of the columns in the table for each child.***

A6.1	A6.2	A6.3	A6.4	A6.5	A6.6	A6.7	A6.8	A6.9	A6.10	A6.11
ID	What is their name?	What are their surnames?	How old are they? *ANSWER IN COMPLETED YEARS*	What is their date of birth? DD/MM/YEAR	Are they male or female? 1=MALE 2=FEMALe	How is 'NAME' related to you? *SEE CODES BELOW*	Do they have a Birth Certificate? 1= Yes 2= No 3= In process of application *99=Don't know*	Do they have a National ID document? 1= Yes 2= No 3= in process of application *99=Don't know*	Are they currently attending school? 1= Yes 2= No *99=Don't know*	Do any of the children listed suffer from chronic or permanent health problems which normally impede their daily activities? 1= Yes *(Record in NOTES what it is)* 2=No *99=Don't know*
A61IDNIN	A62NAME	A63APPELI	A64EDAD	A65FNAC	A66SEXO	A67PAR	A68PARNAC	A69DNI	A610ESTU	A611SALUD

BOX 1: RELATIONSHIP CODES (A)	
01=Biological Child	*06=Niece/Nephew*
02=Child of partner	*07=Step sibling*
03=Grandchild	*08=Brother/Sister-in-law*
04=Niece/Nephew	*11=Other WRITE in box*
05= Brother /Sister	*99= Don't know*

BOX 2: NOTES

Instructions for completion of Table 2: Family Composition Table: Members over 5 years.

1. ***Note in the respective columns the NAMEs, surnames, age and sex of all members over 5 years.***
2. ***Then complete A7.6 for each member.***
3. ***Then complete A7.7 and A7.8 for each member.***
4. ***Then complete A7.9 for each member, and finally A7.10 and A7.11 for each member.***

BOX 3: RELATIONSHIP CODES (B)	
01=Partner	*07=Cousin*
02=Biological mother or father	*08= Niece/Nephew*
03=Partner of biological mother or father	*09=Step-Sibling*
04= Grandparent	*10=Brother/Sister-in-law*
05= Aunt/Uncle	*11=Others WRITE in the box*
06 = Brother/Sister	*99=Don't know*

BOX 4: LEVEL OF STUDIES CODES	
00=None	*06=Superior Not University Complete*
01=Pre-school	*07= University Incomplete*
02= Is in 1st Grade	*08 =University Complete*
03= Primary [GRADE] [YEAR]	*09= Other*
04=Secondary [YEAR]	*88= Not applicable*
05=Superior Not University Incomplete.	*99=Don't know*

BOX 5: NOTES

Table 2: Family Composition Table: Members over 5 years

A7.1	A7.2	A7.3	A7.4	A7.5	A7.6	A7.7	A7.8	A7.9	A7.10	A7.11
ID	What are their NAMEs?	What are their surnames?	How old are they? *Record in complete years*	Are they male or female? 1=MASC 2=FEM	What is the relationship between 'NAME and yourself? *SEE CODES*	Does 'NAME' currently study at school? *1=Yes 2=No 99=Don't know*	What was the last year or level completed? *SEE CODES*	Do any of the members listed suffer from chronic or permanent health problems which normally impede their daily activities? 1= Yes *(RECORD IN NOTES)* 2=No *99=Don't know*	Do they have a Birth Certificate? 1= Yes 2= No *99=Don't know*	Do they have National ID Document? 1= Yes 2= No 3= In process of application *99=Don't know*
A71IDAD	A72NAMES	A73APELLID	A74EDAD	A75SEXO	A76PAR	A77ESTU	A78GRADO	A79SALUD	A710PARNAC	A711DNI

SECTION B: BACKGROUND OF PARENTS

***SAY*: NOW I WOULD LIKE OT ASK YOU SOME QUESTIONS ABOUT YOU AND [NAME OF PARTNER]**

B01m	Who answers this section? NAME: _____	
B02m	Use identification code from Table 2	___ ___ ___ ___ ___ ___

B1m	How long in total have you lived in this community? (Complete years, 00=< one year, 99= NK)	___ ___
B2m	Can you speak any Spanish?. SURVEYOR: Don't ask if it is obvious, put code 1 and go to 2.3	
	- Yes	[ ] 1
	- No ***→GO TO B5.1***	[ ] 2
	- Don't know ***→GO TO B5.1***	*[ ] 99*
B3m	Do you speak Spanish fluently, can easily make yourself understood, or struggle to make yourself understood?	
	- Fluent	[ ] 1
	- Good	[ ] 2
	- Basic	[ ] 3
	- Not applicable	*[ ] 88*
	- Don't know	*[ ] 99*
B4m	Can you read and understand a letter or newspaper easily, with difficulty or not at all in Spanish?	
	- Easily	[ ] 1
	- With difficulty	[ ] 2
	- Not at all	[ ] 3
	- Don't know	[ ] 99
B5.1m	What languages do you speak? (If more than 3, write the 3 most dominant) First language : ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B5.2m	Second language : ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B5.3 m	Third language : ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B5.4m	In which language did your mother speak to you when you were a child?: ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B6m	In which language do you speak with your children?	___

	(SEE BELOW and WRITE THE CODE IN THE BOX))	___
	If Other SPECIFY_____	

Box 6: Languages		
01=Spanish	*04=Native of the Forest (Amazon)*	*08=Other [Specify]*
02=Quechua	*05=English*	*88=Not applicable*
03=Aymara	*07=Other foreign language [Specify]*	*99=Don't know*

B7m	What is your ethnic group?	
	- White	[ ] 1
	- Mestizo/Cholo	[ ] 2
	- Native of the Forest: ***Specify***_____	[ ] 3
	- Negro	[ ] 4
	- Asiatic	[ ] 5
	- Other: SPECIFY _____	[ ] 6
	- Don't know	*[ ] 99*

B8m	What is your religion?	
	- Buddhist	[ ] 2
	- Catholic	[ ] 3
	- Evangelist	[ ] 4
	- Hindu	[ ] 5
	- Mormon	[ ] 6
	- Muslim	[ ] 7
	- None	[ ] 14
	- Other SPECIFY_____	[ ] 15
	- Don't know	*[ ] 99*

<u>SAY</u>: NOW I WOULD LIKE TO ASK YOU THE SAME ABOUT [NAME OF PARTNER]

B01p	Who answers this section? NAME: _____	
B02p	Use identification code from Table 2	___ ___ ___ ___ ___ ___

B1p	How long in total has [NAME] you lived in this community? (Complete years, 00=< one year, 99= NK)	___ ___
B2p	Can they speak any Spanish?. SURVEYOR: Don't ask if it is obvious, put code 1 and go to 2.3	
	- Yes	[ ] 1
	- No ***→GO TO B5.1***	[ ] 2
	- Don't know ***→GO TO B5.1***	*[ ] 99*
B3p	Does [NAME] speak Spanish fluently, can easily make themselves understood, or struggle to make themselves understood?	
	- Fluent	[ ] 1
	- Good	[ ] 2
	- Basic	[ ] 3
	- Not applicable	*[ ] 88*
	- Don't know	*[ ] 99*
B4p	Can [NAME] read and understand a letter or newspaper easily, with difficulty or not at all in Spanish?	
	- Easily	[ ] 1
	- With difficulty	[ ] 2
	- Not at all	[ ] 3
	- Don't know	[ ] 99
B51p	What languages does [NAME] speak? (If more than 3, write the 3 most dominant) First language : ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B52p	Second language : ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B53p	Third language : ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B54p	In which language did [NAME]'s mother speak to him when he was a child?: ***(SEE BELOW and WRITE THE CODE IN THE BOX)***	___ ___
	If Other SPECIFY_____	
B6p	In which language does [NAME] speak with your children? ***(SEE BELOW and WRITE THE CODE IN THE BOX))***	___ ___
	If Other SPECIFY_____	

Box 6: Languages		
01=Spanish	*04=Native of the Forest (Amazon)*	*08=Other [Specify]*
02=Quechua	*05=English*	*88=Not applicable*
03=Aymara	*07=Other foreign language [Specify]*	*99=Don't know*

B7p	What is [NAME]'s ethnic group?	
	- White	[ ] 1
	- Mestizo/Cholo	[ ] 2
	- Native of the Forest: ***Specify***_____	[ ] 3
	- Negro	[ ] 4
	- Asiatic	[ ] 5
	- Other: SPECIFY _____	[ ] 6
	- Don't know	*[ ] 99*

B8p	What is [NAME]'s religion?	
	- Buddhist	[ ] 2
	- Catholic	[ ] 3
	- Evangelist	[ ] 4
	- Hindu	[ ] 5
	- Mormon	[ ] 9
	- Muslim	[ ] 10
	- None	[ ] 14
	- Other SPECIFY_____	[ ] 15
	- Don't know	*[ ] 99*

SECTION C: PREGNANCY, DELIVERY AND BREASTFEEDING

C01	Who answers this section? NAME: _____	
C02	*Use identification code from Table 2*	___ ___

<u>SAY:</u> NOW I WOULD LIKE OT ASK YOU SOME QUESTIONS ABOUT ALL THE CHILDREN YOU HAVE GIVEN BIRTH TO

C1	How old were you when you gave birth to your first child? (BORN ALIVE)? *99=Don't know*	___ ___

C2	How many children have you given birth to (BORN ALIVE)? *99=NK* ***(Probe to include children who cried or showed some sign of life but died after a few hours or days)***	___ ___
C3	In all how many of the children were boys? *00= None,99=Don't know*	___ ___
C4	In all how many of the children were girls? *00= None, 99=Don't know*	___ ___
C5	***Add together C3 + C4 and compare the total with C2***	___ ___

C6	How many of these children are still alive? *99=Don't know* ***Probe for those living away from the household***	___ ___
C7	***Calculate how many children died (C2 – C6)*** 0 = None, 8 = Not applicable ***If none died → <u>GO TO C9</u>***	___ ___
C8	How many children died before their 5th birthday? *00= None, 8= Not applicable 99= Don't know*	___ ___
C9	Have you ever had a miscarriage or abortion? If yes: How many? 0 = No, Never 99 = Don't know/Don't remember	___ ___

SECTION D: LIVELIHOODS (RESPONDENT: PRIMARY CARE GIVER)

4.0	ID of respondent for this section	___ ___	ID4

SAY: *I am going to ask you about what people in this household do to make a living.*

7.1 I'm going to list each household member. For each can you tell me the three most important activities they have done in the last 12 months in terms of earning money or goods for themselves or for the household and to survive from day to day.

READ OUT THE HOUSEHOLD MEMBERS LISTED IN THE ROSTER, INCLUDING CHILDREN AND RECORD UP TO TWO ACTIVITIES FOR EACH IN TABLE 7.1 UNDER 'ACTIVITY DESCRIPTION' AND THE ID UNDER 'ID'. IF THE MEMBER HAS MORE THAN ONE ACTIVITY RECORD THEIR ID MORE THAN ONCE. IF SEVERAL MEMBERS ARE INVOLVED IN THE SAME ACTIVITY RECORD EACH MEMBER'S PARTICIPATION SEPARATELY. **DO NOT INSERT ACTIVITY CODES**. WORK ALONG THE ROWS AND FOR EACH ACTIVITY ASK:

4.1.1	4.1.2	4.1.3		4.1.3	4.1.4
Line code	ENTER ID NUMBER FROM HOUSE-HOLD ROSTER	Activity Description		Is 'NAME' employed by anyone for this activity? *1=Yes* *2=No* *99=NK*	Over how many months in the last 12 months has 'NAME' engaged in this activity ? *99=NK*
(LINECODE)	(ID)	(ACTDES)	(ACTCODE) 00=NK	(PAYMT)	(MONTHS)
01	___ ___	✎_____	__ __	___ ___	___ ___
02	___ ___	✎_____	__ __	___ ___	___ ___
03	___ ___	✎_____	__ __	___ ___	___ ___
04	___ ___	✎_____	__ __	___ ___	___ ___
05	___ ___	✎_____	__ __	___ ___	___ ___
06	___ ___	✎_____	__ __	___ ___	___ ___
07	___ ___	✎_____	__ __	___ ___	___ ___

SECTION E: SOCIAL AND ECONOMIC FACTORS

5.0	ID of respondent for this section	___ ___

SAY: Now I am going to ask some questions about the place where you live.

5.1	How many rooms are there in the house? *99=NK*	___ ___
5.2.1	Do you have electricity	
	- Yes (mains network)	[ ] 1
	- Yes (generator)	[ ] 2
	- No	[ ] 3
	- NK	*[ ]99*
5.2.2	Number of days with electricity in the last 15 – *88=N/A (no electricity), 99=NK*	___ ___
5.2.3	On the days when you had electricity how many hours per day on average did you have electricity? *88=N/A (no electricity), 99=NK*	___ ___

OBSERVE BUILDING MAIN MATERIAL:

5.3.1	**WALL:**	
	- Brick/concrete	[ ] 1
	- Adobe/mud	[ ] 2
	- Wood/branches	[ ] 3
	- Galvanised iron	[ ] 4
	- Matting	[ ] 5
	- Other: SPECIFY ✍_____	[ ] 6
	- NK	*[ ] 99*
5.3.2	**ROOF:**	
	- Straw/thatch/palm leaves	[ ] 1
	- Earth/mud	[ ] 2
	- Wood/planks	[ ] 3
	- Galvanised iron	[ ] 4
	- Concrete/ cement	[ ] 5
	- Tiles/slates	[ ] 6
	- Other: SPECIFY ✍_____	[ ] 7
	- NK	*[ ]99*
5.3.3	**FLOOR**	
	- Earth	[ ] 1
	- Wood	[ ] 2
	- Stone/brick	[ ] 3
	- Cement/tile	[ ] 4
	- Laminated material	[ ] 5
	- Other: SPECIFY ✍_____	[ ] 6
	- NK	*[ ] 99*

5.4.1	What is the main source of drinking water for members of your household?	
	- Piped into dwelling/yard/plot	[ ] 1
	- Public standpipe/tubewell	[ ] 3
	- Unprotected well/spring/pond/river/stream	[ ] 4
	- Other: SPECIFY ✍_____	[ ] 5
	- *NK*	*[ ]99*
5.4.2	If you have piped/standpipe water do you have access to this every day?	
	- Yes	[ ] 1
	- No	[ ] 2
	- *NK*	*[ ] 99*
5.4.3	If No: - for how many days in the last week?	___ ___
	- for how many hours per day?	___ ___
5.4.4	Number of days with water in the last 15 – *88=N/A (no water), 99=NK*	___ ___
5.4.5	On the days when you had water how many hours per day on average did you have water? *88=N/A (no water), 99=NK*	___ ___
5.5	What kind of toilet facility does your household use?	
	- Flush toilet/ septic tank	[ ] 1
	- Pit latrine (household's)	[ ] 2
	- Pit latrine (communal)	[ ] 3
	- None	[ ] 4
	- Other: SPECIFY ✍_____	[ ] 5
	- *NK*	*[ ]99*

5.6	What is the main type of fuel you usually use for cooking?	
	- Wood	[ ] 1
	- Kerosene/paraffin	[ ] 2
	- Charcoal	[ ] 3
	- Gas	[ ] 4(a)
	- Electricity	[ ] 4(b)
	- Coal	[ ] 5
	- Cow dung	[ ] 6
	- None	[ ] 7
	- Other: SPECIFY ✍_____	[ ] 8
	- *NK*	*[ ]99*

5.7	Does anyone in the household own a:	**Yes**	**No**	***NK***
5.7.1	- Working radio?	[ ] 1	[ ] 2	*[ ] 99*
5.7.2	- Working refrigerator?	[ ] 1	[ ] 2	*[ ] 99*
5.7.3	- Working bicycle?	[ ] 1	[ ] 2	*[ ] 99*
5.7.4	- Working television?	[ ] 1	[ ] 2	*[ ] 99*
5.7.5	- Working motorbike/scooter?	[ ] 1	[ ] 2	*[ ] 99*
5.7.6	- Peque-peque?	[ ] 1	[ ] 2	*[ ] 99*
5.7.7	- Working outboard motor?	[ ] 1	[ ] 2	*[ ] 99*
5.7.8	*- Working tractor?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.9	*- Farm equipment (pump, plough etc)?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.10	*- Working cell/mobile telephone?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.11	*- Working landline telephone?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.12	*- Working sewing machine?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.13	*- Working iron?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.14	*- Working blender/liquidizer?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.15	*- Gas or electric cooker?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.16	*- Working record player?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.17	*- Working fan?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.18	*- Working video player?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.19	*- Working washing machine?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.20	*- Clothes dryer?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.21	*- Vacuum cleaner?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.22	*- Knitting machine/loom?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.23	*- Water heater?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.24	*- Computer?*	*[ ] 1*	*[ ] 2*	*[ ] 99*
5.7.25	*- Micro-wave cooker?*	*[ ] 1*	*[ ] 2*	*[ ] 99*

Now I would like to ask you some questions about food in your household.

5.8.1	In the last week have people in your household eaten meat?	
	- Yes	[ ] 1
	- No	[ ] 2
	- NK	*[ ] 99*
5.8.2	In the last week have people in your household eaten fish?	
	- Yes	[ ] 1
	- No	[ ] 2
	- NK	*[ ] 99*

5.8.3	Have you or anyone in your household received any donated food in the last year?	
	- Yes	[ ] 1
	- No	[ ] 2
	- NK	*[ ] 99*
	If yes what kind of food? *(Insert list)*	
	SPECIFY ✍_____	
	SPECIFY ✍_____	
	SPECIFY ✍_____	

E85	From which organisation or group were they received? 1=Yes, 2=No, 88=Not answered 99= Don't know		How long ago? 00=<1 month, 88= Not answered 99=Don't know	
			In months	In years
	- Vaso de leche	__ __	__ __	__ __
	- Desayuno/Almuerzo Escolar	__ __	__ __	__ __
	- PRONA/Comedores Populares	__ __	__ __	__ __
	- PEPISCO	__ __	__ __	__ __
	- Papilla (PIN)	__ __	__ __	__ __
	- Other *SPECIFY* _____	__ __	__ __	__ __
	- Other ***SPECIFY*** _____	__ __	__ __	__ __

E87	In the last 12 months, which donated foods were received?				
	1. Name of received food	2.Code ***Code x***	3.Frequency ***See codes below***	4 What quantity were you given the last time?	
				Quantity	Unit of measurement
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		
		__ __	__ __		

Box 7: Frequency codes		
01=Weekly	*05=Trimonthly*	*88=Not answered*
02=Fortnightly	*06=Six monthlyl*	*99=Don't Know*
03=Monthly	*07= Annual*	
04=Bimonthly	*08 = Other **[SPECIFY]**_____*	

SAY THANK YOU AND CONFIRM WHETHER HOUSEHOLD INCLUDES ANY CHILDREN AGED 5 YEARS AND UNDER.

IF YES: CONTINUE TO SECTIONS 7 AND 8
IF NO: TELL THE RESPONDENTS THE INTERVIEW IS OVER AND THANK THEM FOR THEIR TIME.

SECTION F: CHILD HEALTH

SAY: *Now I want to ask you some questions about the children living in this household aged under five years*

6.0	ID of respondent for this section	___ ___

6.1	Enter the ROSTER ID of the child	___ ___
6.1.2	Enter the child's name *(99=NK)*	
6.2.1	Where was NAME born?	
	- Home [GO TO 6.2.2]	[ ] 1
	- Hospital [GO TO 6.2.3]	[ ] 2
	- Other health facility[GO TO 6.2.3]	[ ] 3
	- Other: SPECIFY _____ [GO TO 6.2.3]	[ ] 4
	- *NK* [GO TO 6.2.3]	*[ ] 99*

6.2.2	Why was the child born at home?	
	- Custom or tradition	[ ] 1
	- Not enough money to go to the hospital	[ ] 2
	- Service at the health centre is not good	[ ] 3
	- No time to go elsewhere	[ ] 4
	- The health centre is too far away	[ ] 5
	- Other: SPECIFY _____	[ ] 6
	- *N/A (child born in hospital)*	*[ ] 88*
	- *NK*	*[ ] 99*

6.2.3	Who assisted with your delivery? (PROMPT)	**Yes**	**No**	***N/A (not mother)***	***NK***
	- Doctor	[ ] 1	[ ] 2	*[ ] 88*	*[ ] 99*
	- Nurse	[ ] 1	[ ] 2	*[ ] 88*	*[ ] 99*
	- Midwife	[ ] 1	[ ] 2	*[ ] 88*	*[ ] 99*
	- Traditional birth attendant	[ ] 1	[ ] 2	*[ ] 88*	*[ ] 99*
	- Relative	[ ] 1	[ ] 2	*[ ] 88*	*[ ] 99*
	- Other: SPECIFY_____	[ ] 1	[ ] 2	*[ ] 88*	*[ ] 99*
	- No assistance				

6.3	Did you ever breastfeed 'NAME'?	
	- Yes	[ ] 1
	- No	[ ] 2
	- N/A (not mother)	*[ ] 88*
	- NK	*[ ] 99*
6.3.1	How many months did you breastfeed 'NAME'? *77=Still breastfeeding, 88=N/A (not mother or not breastfed), 99=NK*	___ ___

SAY: *Now I am going to ask you some questions about 'NAME's' health*

6.4	Compared to other children of this age would you say 'NAME's' health is the same, better or worse?	
	- Same	[ ] 1
	- Better	[ ] 2
	- Worse	[ ] 3
	- NK	*[ ] 99*

6.5	In the last 2 weeks has 'NAME' had:	**Yes**	**No**	***NK***
6.5.1	- Fever?	[ ] 1	[ ] 2	*[ ] 99*
6.5.2	- Cough?	[ ] 1	[ ] 2	*[ ] 99*
6.5.3	- Diarrhoea	[ ] 1	[ ] 2	*[ ] 99*

6.6	Since this time yesterday has 'NAME' had:	**Yes**	**No**	***NK***
6.6.1	- 3 or more loose or watery stools?	[ ] 1	[ ] 2	*[ ] 99*
6.6.2	- Blood in their stools?	[ ] 1	[ ] 2	*[ ] 99*
6.6.3	- High fever?	[ ] 1	[ ] 2	*[ ] 99*
6.6.4	- Cough?	[ ] 1	[ ] 2	*[ ] 99*
6.6.5	- Very fast or difficult breathing?	[ ] 1	[ ] 2	*[ ] 99*
6.6.6	- Vomiting everything?	[ ] 1	[ ] 2	*[ ] 99*
6.6.7	- Serious loss of appetite/inability to breastfeed?	[ ] 1	[ ] 2	*[ ] 99*
6.6.8	- Convulsions?	[ ] 1	[ ] 2	*[ ] 99*
6.6.9	- Unconsciousness?	[ ] 1	[ ] 2	*[ ] 99*
6.6.10	- Extreme lethargy (e.g. extremely weak/listless)?	[ ] 1	[ ] 2	*[ ] 99*

6.7	Has 'NAME' ever had any serious illnesses or injuries when you **REALLY** thought he/she might **DIE**?		MIGHTDIE
	- Yes	[ ] 1	
	- No	[ ] 2	
	- NK	*[ ] 99*	
6.7.1	What were the illnesses/injuries?		
	Serious illness: **INSERT CODES FROM BOX 2 BELOW**	___ ___	ILLNESS1
	If other: SPECIFY _____		ILL1SPEC
6.7.2	At any point during 'NAME EPISODE' did you take 'NAME' to a health facility for treatment?		ILL1TRT
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness)	*[ ] 88*	
	- NK	*[ ] 99*	
6.7.3	Was the child hospitalized with this illness?		ILL1HOSP
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness)	*[ ] 88*	
	- NK	*[ ] 99*	
6.7.4	Serious illness2: **INSERT CODES FROM BOX 2 BELOW**	___ ___	ILLNESS2
	If other: SPECIFY _____		ILL2SPEC
6.7.5	At any point during 'NAME EPISODE' did you take 'NAME' to a health facility for treatment?		ILL2TRT
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness or only one illness)	*[ ] 88*	
	- NK	*[ ] 99*	
6.7.6	Was the child hospitalized with this illness?		ILL2HOSP
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness)	*[ ] 88*	
	- NK	*[ ] 99*	
6.7.7	Serious illness3: INSERT CODES FROM BOX 2 BELOW	___ ___	ILLNESS3
	If other: SPECIFY _____		ILL3SPEC
6.7.8	At any point during 'NAME EPISODE' did you take 'NAME' to a health facility for treatment?		ILL3TRT
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness or fewer illnesses)	*[ ] 88*	
	- NK	*[ ] 99*	
6.7.9	Was the child hospitalized with this illness?		ILL3HOSP

	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness)	*[ ] 88*	
	- NK	*[ ] 99*	

CODE BOX 2: SEVERE ILLNESS AND INJURY		
01= High/Bad fever/malaria/	*06= Traffic injuries*	*11=Other, SPECIFY ABOVE*
02= Pneumonia/ severe cough	*07= Nearly drowned*	*12=Asthma*
03= Fits/ epilepsy/convulsions	*08=Suffocation/asphyxia*	*88=N/A (no illness)*
04= Diarrhoea	*09= Evil eye*	*99=NK*
05= Burns	*10=Evil spirits*	

6.8	Does 'NAME' have any long term health problem? INCLUDE DISABILITY AND SEASONAL ILLNESSES		
	- Yes [If yes got to 6.9.1]	[ ] 1	
	- No	[ ] 2	
	- NK	*[ ]99*	

6.9.1	What are they?		
	Long term health problem1: INSERT CODES FROM BOX 3 BELOW	___ ___	
	If other: SPECIFY _____		
6.9.2	Has treatment been sought for this illness?		
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness)	*[ ] 88*	
	- NK	*[ ] 99*	
6.9.3	Has the child been hospitalized with this illness?		
	- Yes	[ ] 1	
	- No	[ ] 2	
	- N/A (no illness)	*[ ] 88*	
	- NK	*[ ] 99*	

6.9.4	Long term health problem 2: INSERT CODES FROM BOX 3 BELOW	___ ___
	If other: SPECIFY _____	
6.9.5	Has treatment been sought for this illness?	
	- Yes	[ ] 1
	- No	[ ] 2
	- N/A (no illness)	*[ ] 88*
	- NK	*[ ] 99*
6.9.6	Has the child been hospitalized with this illness?	
	- Yes	[ ] 1
	- No	[ ] 2
	- N/A (no illness)	*[ ] 88*
	- NK	*[ ] 99*
6.9.7	Long term health problem3: INSERT CODES FROM BOX 3 BELOW	___ ___
	If other: SPECIFY _____	
6.9.8	Has treatment been sought for this illness?	
	- Yes	[ ] 1
	- No	[ ] 2
	- N/A (no illness)	*[ ] 88*
	- NK	*[ ] 99*
6.9.9	Has the child been hospitalized with this illness?	
	- Yes	[ ] 1
	- No	[ ] 2
	- N/A (no illness)	*[ ] 88*
	- NK	*[ ] 99*

CODE BOX 3: LONG TERM HEALTH PROBLEMS		
01=Physical disability	*06=Anaemia*	*11=Other: SPECIFY ABOVE*
02=Mental disability	*07=HIV/AIDS*	
03= Fits/ epilepsy/convulsions	*08=Failure to thrive*	*88=N/A (no illness or fewer illnesses)*
04=Skin problems	*09=Evil eye*	*99=NK*
05=Asthma/respiratory problem	*10=Congenital illness*	

SAY: *Now I am going to ask you about vaccinations which 'NAME' has received.*

6.10	Did 'NAME' ever receive any vaccinations?	
	-Yes [IF YES CONTINUE TO 6.10.1]	[ ] 1
	- No [IF NO GO TO END]	[ ] 2
	- NK	*[ ] 99*

6.10.1	Did 'NAME' ever receive a BCG vaccination against Tuberculosis, that is, an injection on the shoulder usually given around the time of birth?	
	-Yes	[ ] 1
	- No	[ ] 2
	- NK	*[ ] 99*

6.10.2	Has 'NAME' ever been vaccinated against measles, that is, an injection on the shoulder usually given at about 9-12 months?	
	- Yes	[ ] 1
	- No	[ ] 2
	- NK	*[ ] 99*
6.10.3	Has NAME ever been vaccinated against Polio	
	- Yes	[ ] 1
	- No	[ ] 2
	- NK	*[ ] 99*

[REPEAT FOR EACH ELIGIBLE CHILD IN HOUSEHOLD]

SAY: THAT'S ALL THE QUESTIONS I HAVE TO ASK, THANK YOU VERY MUCH FOR HELPING US WITH THIS PROJECT

DO YOU HAVE ANY QUESTIONS FOR ME ABOUT THIS PROJECT?

A 3.3.1 [S] Household Survey Information sheet

Documento de Información y Ficha de Consentimiento Verbal para los Miembros de las Comunidades sobre las Encuestas de las Hogares

Estudio: La salud de los niños de las comunidades Achuar del río Corrientes: Un estudio de caso.
Instituciones: Federación de Comunidades Nativas del Río Corrientes, (FECONACO) (Iquitos, Perú)
Universidad Peruana Cayetano Heredia (Lima, Perú)
London School of Hygiene and Tropical Medicine, University of London (Londres, Inglaterra)
Investigadora: Ruth Willis

Este Formato de Consentimiento Informado tiene dos partes:
• Parte I: Hoja de Información – para brindarle información acerca del estudio
• Parte II: Certificado de Consentimiento – para recabar si decide participar
Usted recibirá una copia completa de éste Formato de Consentimiento Informado

PARTE I: HOJA DE INFORMACION

Buenas días. Soy una investigadora de la Universidad de Londres, Inglaterra. No soy médico ni enfermera. Estoy realizando una investigación sobre la salud de los niños del [agregar los nombres de las comunidades], para conocer como se comparan estos con los niños de otras comunidades en el Perú, y que factores son importantes para su salud. He hablado con FECONACO y PEPISCO antes de viajar, pero no trabajo para ellos.

Me gustaría invitarlo a participar en el estudio. La primera parte es una encuesta sobre las personas de cada hogar aquí. Si Usted accede a participar, quisiera hacerle algunas preguntas sobre su familia, su casa, las cosas que tiene en su casa, así como la salud de algunos niños de menores de 5 años que viven aquí.

Su participación en este estudio es completamente voluntaria. Si usted no desea contestar cualquiera de las preguntas de la encuesta lo puede indicar y yo pasaré a la siguiente pregunta. Si decide participar y luego cambia de opinión, es libre de retirarse en cualquier momento de la entrevista sin dar ningún tipo de explicación y esto no tendrá ningún tipo de consecuencia para usted.

La información que usted me diga será almacenada en un lugar seguro, sin su nombre, de esta forma nadie podrá relacionarlo con la información que usted nos proporcione.

Este estudio cuenta con la aprobación del FECONACO, del Comité de Ética de la universidad Cayetano Heredia en Perú y de la London School of Hygiene and Tropical Medicine en Inglaterra.

Si tiene preguntas sobre los aspectos éticos del estudio, puede contactar al Comité Institucional de Ética de la Universidad Peruana Cayetano Heredia, al teléfono 319-0000 anexo 2271.

Si tiene cualquier pregunta sobre la investigación puede contactarme: Ruth Willis. Tel: [xxx] (hasta noviembre 2009), o [xxx] (después de noviembre 2009). E-mail: Ruth.Willis@lshtm.ac.uk

A 3.3.2 [S] Consent documents

PARTE II: CERTIFICADO DE RECORD DE CONSENTIMIENTO INFORMADO VERBAL PARA LOS MIEMBROS DE LAS COMMUNIDADES

Nombre y Apellido de la encuestada:

Nombre y Apellido de la encuestadora:

Fecha:

Ubicación:

	Pone un círculo alrededor de su respuesta:	
¿Ha leído la hoja de información a la encuestada?	Sí	No
¿Ha respondido a alguna pregunta que la encuestada haya hecho?	Sí	No
¿La encuestada estuvo de acuerdo con ser encuesta?	Sí	No

Firma de la encuestadora:

Firma del testigo:

A 3.3.3 [S] Household Survey

CUESTIONARIO DEL HOGAR

ANTES DE COMENZAR EL CUESTIONARIO:

☐ *Ha leído la Hoja de Información a la encuestada*

☐ *Ha completado la Ficha Verbal de Consentimiento de Información*

Nombre de la Comunidad	_____		
Código de Identificación del Hogar	___ ___ ___ ___ ___ ___		
Nombre de la encuestadora 1	_____	Código de Identificación de la encuestadora 1	__ __
Nombre de la encuestadora 2	_____	Código de Identificación de la encuestadora 2	__ __
Fecha de inicio del cuestionario	__ __/__ __ /20__ __	Hora de inicio	_ _: _ _
		Hora de termino	_ _: _ _
Fecha de término del cuestionario	__ __/__ __ /20__ __	Hora de inicio	_ _: _ _
		Hora de termino	_ _: _ _
Numero de los niños menores de 5 años	__ __		

SECCION A: COMPOSICION DEL HOGAR

***DIGA*: AHORA LE VOY A HACER ALGUNAS PREGUNTAS SOBRE TODAS LAS PERSONAS QUE SON MIEMBROS DE ESTE HOGAR, ES DECIR: TODAS LAS PERSONAS QUE USUALMENTE CONTRIBUYEN CON EL GASTO FAMILIAR, QUE CUANDO COMEN EN SU HOGAR COMPARTEN LOS ALIMENTOS DE LA MISMA OLLA, Y QUE NO HAN MIGRADO, (NO SE HAN IDO), DEFINITIVAMENTE A OTRO LUGAR (O DIRECCIÓN)**

A1	¿Cuál es su estado civil?		A1ESTCIV
	- Casada	[ ] 1	
	- Conviviente	[ ] 2	
	- Divorciada	[ ] 3	
	- Separada	[ ] 4	
	- Viuda	[ ] 5	
	- Soltera	[ ] 6	
A2	¿Tiene pareja permanente?		A2PARPER
	- Si, Pareja permanente → ***PASE A A3***	[ ] 1	
	- (No, es...) Divorciada / Separada → ***PASE A A4***	[ ] 2	
	- (No es..) Soltera → ***PASE A A4***	[ ] 3	
	- (No es) Viuda → ***PASE A A4***	[ ] 4	
	- Otra (***ESPECIFICAR***) → ***PASE A 1.4*** _____	[ ] 5	
A3	¿Su pareja vive en esta casa?		A3PARCASA
	- Si	[ ] 1	
	- No	[ ] 2	
	- No Procede	[ ] 88	
	- No Sabe	[ ] 99	
A4	¿Quién considera Ud. que es el jefe del Hogar?		A41JEFE
	- Yo mismo	[ ] 1	
	- Mi pareja	[ ] 2	
	- Otro **ESPECIFICAR** _____	[ ] 3	A42JEFEES
	- No Sabe	[ ] 99	
A5	¿En total cuántas personas viven en este hogar?. *(99=No Sabe)*	___ ___	A5CUANPER

DIGA: **AHORA POR FAVOR SI ME PODRIA DECIR EL NOMBRE, EDAD, SEXO Y PARENTESCO CON USTED DE TODAS LAS PERSONAS QUE SON MIEMBROS DE ESTE HOGAR. EMPEZARIA CON LA PERSONA MÁS JOVEN. POR FAVOR INCLUYASE.**

Appendix A

Instrucciones para el llenado de la Tabla 1: Tabla de Composición Familiar: Niños

1. ***Anote en las columnas respectivas, los nombres, apellidos, y edad de todos los niños menores de 5 años.***
2. ***Luego complete el resto de las columnas de la tabla para cada niño.***

A6.1	A6.2	A6.3	A6.4	A6.5	A6.6	A6.7	A6.8	A6.9	A6.10	A6.11
ID	¿Cuáles son sus nombres?	¿Cuáles son sus apellidos?	¿Cuántos años tiene? *ANOTAR EN ANOS CUMPLIDOS*	¿Cuáles es su fecha de nacimiento? DD/MM/AÑO	¿Es hombre o mujer? 1=MASC 2=FEM	¿Cuál es el parentesco de 'NOMBRE' con usted? *VER CODIGOS ABAJO*	¿Tiene Partida de Nacimiento del Registro Civil? 1= Sí 2= No 3= en proceso de aplicación *99=No Sabe*	¿Tiene DNI? (Document o Nacional de Identidad) 1= Sí 2= No 3= en proceso de aplicación *99=No Sabe*	¿Estudia actualmente en la escuela? 1= Sí 2= No *99=No Sabe*	¿Alguno, de los niños listados, sufre de problemas de salud crónicos o permanentes que le impiden hacer sus actividades diarias normalmente? 1= Sí *(ANOTE EN EL COMENTARIOS CUAL ES)* 2=No *99=No Sabe*
A61IDNIN	A62NOMBRE	A63APPELI	A64EDAD	A65FNAC	A66SEXO	A67PAR	A68PARNAC	A69DNI	A610ESTU	A611SALUD

CUADRO 1: CODIGOS DE PARENTESCO (A)	
01=Hijo(a) Biológico(a)	*06=Sobrino(a)*
02=Hijo(a) de la pareja	*07=Hermanastro(a)*
03=Nieto(a)	*08=Cuñado(a)*
04=Sobrino(a)	*11=Otros ESCRIBA en el recuadro*
05= Hermano(a)	*99= No Sabe*

CUADRO 2: COMENTARIOS

Instrucciones para el llenado de la Tabla 2: Tabla de Composición Familiar: Miembros mayores de 5 años.

1. ***Anote en las columnas respectivas, los nombres, apellidos, edad y sexo de todos los miembros mayores de 5 años.***
2. ***Luego complete A7.6 para cada miembro.***
3. ***Luego complete A7.7 y A7.8 para cada miembro.***
4. ***Luego complete A7.9 para cada miembro, y finalmente A7.10 y A7.11 para cada miembro.***

CUADRO 3: CODIGOS DE PARENTESCO (B)	
01=Pareja	*07=Primo(a)*
02=Madre o Padre Biológico	*08=Sobrino(a)*
03=Pareja de Madre/Padre Biol.	*09=Hermanastro(a)*
04= Abuelo(a)	*10=Cuñado(a)*
05= Tío(a)	*11=Otros ESCRIBA en el recuadro*
06 = Hermano(a)	*99=No Sabe*

CUADRO 4: CODIGOS DE NIVEL DE ESTUDIOS	
00=Ninguno	*06=Sup. No Univ. Completa*
01=Transición	*07= Univ. Incompleta*
02= Está en 1er Grado	*08 =Univ. Completa*
03= Primaria [GRADO] [AÑO]	*09= Otro*
04=Secundaria [AÑO]	*88= No Procede*
05=Sup. No Univ Incomp.	*99=No Sabe*

CUADRO 5: COMENTARIOS

Tabla 2: Tabla de Composición Familiar: Miembros de 5 y más años de edad

A7.1	A7.2	A7.3	A7.4	A7.5	A7.6	A7.7	A7.8	A7.9	A7.10	A7.11
ID	¿Cuáles son sus nombres?	¿Cuáles son sus apellidos?	¿Cuántos años tiene? *ANOTAR EN ANOS CUMPLIDOS*	¿Es hombre o mujer? 1=MASC 2=FEM	¿Cual es el parentesco entre 'NOMBRE con usted? *VER CODIGOS ABAJO*	¿'NOMBRE' estudia actualmente (en la escuela)? *1=Sí* *2=No* *99=No Sabe*	¿Cuál fue el último año o grado de estudios que completó (dentro de qué nivel)? *VER CODIGOS ABAJO*	¿Alguno, de los miembros del hogar listados, sufre de problemas de salud crónicos o permanentes que le impiden hacer sus actividades diarias normalmente? 1= Sí *(ANOTE EN EL COMENTARIOS CUAL ES)* 2=No *99=No Sabe*	¿Tiene Partida de Nacimiento del Registro Civil? 1= Si 2= No *99=No Sabe*	¿Tiene DNI? (Documento Nacional de Identidad) 1= Si 2= No 3= en proceso de aplicación *99=No Sabe*
A71IDAD	A72NOMBRES	A73APELLID	A74EDAD	A75SEXO	A76PAR	A77ESTU	A78GRADO	A79SALUD	A710PARNAC	A711DNI

SECCION B: ANTECEDENTES DE LOS PADRES

***DIGA*: AHORA LE VOY A HACER ALGUNAS PREGUNTAS SOBRE USTED Y [NOMBRE DE LA PAREJA]**

B01m	Quien contesta esta sección? Nombre: _____		B01MNOM
B02m	Usar código de identificación de la Tabla 2	___ ___ ___ ___ ___ ___	B02MID

B1m	¿Hace cuánto tiempo en total que Ud. vive en esta localidad, comunidad?(Años completos, 00=< de un año, 99= N/S)	___ ___	B1MTIEMPO
B2m	¿Puede hablar el castellano?. ENCUESTADORA: No pregunte si es obvio, ponga código 1 y pase a 2.3		B2MCAST
	- Si	[ ] 1	
	- No ***→PASE A B5.1***	[ ] 2	
	- No Sabe ***→PASE A B5.1***	*[ ] 99*	
B3m	¿Ud. habla bien el castellano, se hace comprender o con las justas?		B3MCAST
	- Fluido/Bien	[ ] 1	
	- Se hace comprender	[ ] 2	
	- A las Justas/ Nivel básico	[ ] 3	
	- No Procede	*[ ] 88*	
	- No Sabe	*[ ] 99*	
B4m	¿Puede Ud. leer y comprender una carta, un diario o periódico en castellano fácilmente, con dificultad o nada?		B4MLEER
	- Fácilmente	[ ] 1	
	- Con dificultado	[ ] 2	
	- Nada/No puede	[ ] 3	
	- No Sabe	[ ] 99	
B5.1m	¿Qué idiomas habla Ud.?, (Si sabe más de 3, escriba los 3 que más domina) Primer idioma: ***(VER ABAJO Y ESCRIBA EL CODIGO EN EL RECUADRO)***	___ ___	B51MIDIO
	Si Otra: ***ESPECIFICAR*** _____		B51MIDIOES
B5.2m	Segundo idioma***: (VER ABAJO Y ESCRIBA EL CODIGO EN EL RECUADRO)***	___ ___	B52MIDIO
	Si Otra: ***ESPECIFICAR*** _____		B52MIDIOES
B5.3 m	Tercera idioma: ***(VER ABAJO Y ESCRIBA EL CODIGO EN EL RECUADRO)***	___ ___	B53MIDIO
	Si Otra: ***ESPECIFICAR*** _____		B53MIDIOES
B5.4m	¿Cuál fue el idioma que su madre le habló desde cuando era niña?: ***(VER ABAJO Y ESCRIBA EL CODIGO EN EL RECUADRO)***	___ ___	B54MMAT
	Si Otra: ***ESPECIFICAR*** _____		B54MATES
B6m	¿Qué idioma habla Ud. con sus hijos? ***(VER ABAJO Y ESCRIBA EL CODIGO EN EL RECUADRO)***	___ ___	B6MHIJO
	Si Otra: ***ESPECIFICAR*** _____		B6MHIJOES

CUADRO 6: LOS IDIOMAS		
01=Castellano	*04=Nativa de la Selva*	*08=Otro [Especifique]*
02=Quechua	*05=Inglés*	*88=No Procede*

03=Aymara	*07=Otro Extranjero [Especifique]*	*99=No Sabe*

B7m	¿A qué grupo racial pertenece Ud.?		B7MRAC
	- Blanco	[ ] 1	
	- Mestizo/Cholo	[ ] 2	
	- Nativo de la Selva: ***ESPECIFICAR***_____	[ ] 3	
	- Negro/Mulato/Zambo	[ ] 4	
	- Asiatico	[ ] 5	
	- Otro: ***ESPECIFICAR*** _____	[ ] 6	B7MRACES
	- No Sabe	*[ ] 99*	

B8m	¿A qué religión pertenece Ud.?		B8MRELIG
	- Budista	[ ] 2	
	- Católica	[ ] 3	
	- Evangélica	[ ] 4	
	- Hindú	[ ] 5	
	- Mormón	[ ] 6	
	- Musulmán	[ ] 7	
	- Ninguna	[ ] 14	
	- Otra*:* ***ESPECIFICAR*** _____	[ ] 15	B8MRELIGES
	- No Sabe	*[ ] 99*	

DIGA: AHORA LE VOY A HACER LAS MISMAS PREGUNTAS SOBRE [NOMBRE DE LA PAREJA]

B01p	Quien contesta esta sección? Nombre: _____		B01PNOM
B02p	Usar código de identificación de la Tabla 2	___ ___ ___ ___ ___ ___	B02PID

B1p	¿Cuánto tiempo en total que [NOMBRE] vive en esta localidad, comunidad?(Años completos, 00=< de un año, 99= N/S)	___ ___	B1PTIEMPO
B2p	¿Puede hablar el castellano?. ENCUESTADORA: No pregunte si es obvio, ponga código 1 y pase a 2.3		B2PCAST
	- Si	[ ] 1	
	- No ***→PASE A B5.1***	[ ] 2	
	- *No Sabe* ***→PASE A B5.1***	[ ] 99	
B3p	¿[NOMBRE] habla bien el castellano, se hace comprender o con las justas?		B3PCAST
	- Fluido/Bien	[ ] 1	
	- Se hace comprender	[ ] 2	
	- A las Justas/ Nivel básico	[ ] 3	
	- *No Procede*	[ ] 88	
	- *No Sabe*	[ ] 99	
B4p	¿Puede [NOMBRE] leer y comprender una carta, un diario o periódico en castellano fácilmente, con dificultad o nada?		B4PLEER
	- Fácilmente	[ ] 1	
	- Con dificultado	[ ] 2	
	- Nada/No puede	[ ] 3	
	- No Sabe	[ ] 99	
B51p	¿Qué idiomas habla [NOMBRE]?, (Si sabe más de 3, escriba los 3 que más domina) Primer idioma: ***(VER ABAJO Y ESCRIBA EL CODIGO EN RECUADRO)***	___ ___	B51PIDIO
	Si Otra: **ESPECIFICAR** _____		B51PIDIOES
B52p	Segundo idioma: ***(VER ABAJO Y ESCRIBA EL CODIGO EN RECUADRO)***	___ ___	B52PIDIO
	Si Otra: **ESPECIFICAR** _____		B52PIDIOES
B53p	Tercera idioma: ***(VER ABAJO Y ESCRIBA EL CODIGO EN RECUADRO)***	___ ___	B53PIDIO
	Si Otra: **ESPECIFICAR** _____		B53PIDIOES
B54p	¿Cuál fue el idioma que su madre le habló desde cuando era niña?: ***(VER ABAJO Y ESCRIBA EL CODIGO EN RECUADRO)***	___ ___	B54PMAT
	Si Otra: **ESPECIFICAR** _____		B54PMATES
B6p	¿Qué idioma habla [NOMBRE] con sus hijos? ***(VER ABAJO Y ESCRIBA EL CODIGO EN RECUADRO)***	___ ___	B6PHIJO
	Si Otra: **ESPECIFICAR** _____		B6PHIJOES

CUADRO 6: LOS IDIOMAS		
01=Castellano	*04=Nativa de la Selva*	*08=Otro [Especifique]*
02=Quéchua	*05=Inglés*	*88=No Procede*
03=Aymara	*07=Otro Extranjero [Especifique]*	*99=No Sabe*

B7p	¿A qué grupo racial pertenece [NOMBRE].?		B7PRAC
	- Blanco	[ ] 1	
	- Mestizo/Cholo	[ ] 2	
	- Nativo de la Selva: ***ESPECIFICAR***_____	[ ] 3	
	- Negro/Mulato/Zambo	[ ] 4	
	- Asiatico	[ ] 5	
	- Otro: ***ESPECIFICAR*** _____	[ ] 6	B7PRACES
	- No Sabe	*[ ] 99*	

B8p	¿A qué religión pertenece [NOMBRE]?		B8PRELIG
	- Budista	[ ] 2	
	- Católica	[ ] 3	
	- Evangélica	[ ] 4	
	- Hindú	[ ] 5	
	- Mormón	[ ] 9	
	- Musulmán	[ ] 10	
	- Ninguna	[ ] 14	
	- Otra*:* ***ESPECIFICAR*** _____	[ ] 15	B8PRELIGES
	- No Sabe	*[ ] 99*	

SECCION C: EMBARAZO, PARTO Y LACTANCIA MATERNA

C01	Quien contesta esta sección? Nombre: _____		C01NOM
C02	*Usar código de identificación de la Tabla 2*	___ ___	CO2ID

<u>DIGA:</u> AHORA LE VOY A PREGUNTAR ACERCA DE TODOS LOS NIÑOS QUE UD (LA MADRE) HA DADO LA LUZ.

C1	¿Cuántos años tenía Usted, cuando nació su <u>primer hijo o hija</u> nacido vivo? *99=No Sabe*	___ ___	C1EDAD

C2	¿Cuántos hijos e hijas nacidos vivos en total ha tenido? *99=NK* ***(Indague por aquellos niños que nacieron y lloraron o mostraron algún signo de vida y que fallecieron a las pocas horas o días después de nacer).***	___ ___	C2TOTAL
C3	Del total de niños que nacieron vivos, ¿cuántos fueron hombres? *00=Ninguno,99=No Sabe*	___ ___	C3NINHOM
C4	Del total de niños, ¿cuántos fueron mujeres? *00=Ninguno, 99=No Sabe*	___ ___	C4NINMUJ
C5	***SUME C3 + C4 y coteje el resultado con C2***	___ ___	C5SUM

C6	¿Cuántos de sus hijos e hijas están actualmente vivos? *99=No Sabe* ***Indague por niños que no viven en este hogar***	___ ___	C6NINVIV
C7	***CALCULE cuántos niños murieron (C2 – C6)*** 0 = Ninguno, 8 = No Procede ***Si no hay niños que han muerto → <u>PASE A C9</u>***	___ ___	C7NMUR
C8	De los niños que murieron, ¿cuántos de ellos murieron antes de los 5 años de edad*?.* *00=Ninguno, 8= No Procede 99= No Sabe*	___ ___	C8NMURA5
C9	¿Alguna vez ha tenido una pérdida (o aborto)? Si: Cuántos? ***→ANOTE el número de veces*** 0 = No, Nunca 99 = No Sabe/No Recuerda	___ ___	C9PER

SECCION D: FUENTES DE INGRESO Y MANTENAMIENTO DEL HOGAR

D01	Quien contesta esta sección? Nombre: _____	DOINOM	D02	***Usar código de identificación de la Tabla 2.5.2***	___ ___	DO2ID

DIGA: LE VOY A PREGUNTAR ACERCA DE TODOS LOS MIEMBROS DE SU HOGAR QUE REALICEN ALGUNA ACTIVIDAD PARA GENERAR ALGUN TIPO DE INGRESO QUE LES PERMITA VIVIR. VOY A IR ANOTANDO A ESTAS PERSONAS, POR FAVOR PARA CADA UNA DE ELLAS ME VA A DECIR LAS TRES ACTIVIDADES PRINCIPALES QUE HAN REALIZADO EN LOS ULTIMOS 12 MESES PARA GENERAR U OBTENER ALGUN TIPO DE INGRESO, SEA EN DINERO, EN PRODUCTOS O EN ESPECIES, QUE LE HAN PERMITIDO CUBRIR SUS NECESIDADES Y/O LAS DE SU HOGAR.

1. UTILIZANDO EL LISTADO DE LA TABLA 2 DE COMPOSICION DEL HOGAR, ANOTE EN LA TABLA, PARA CADA MIEMBRO DEL HOGAR INCLUYENDO NIÑOS, SU CODIGO DE IDENTIFICACION (ID), SU NOMBRE Y LAS ACTIVIDADES QUE REALIZA. SI LA PERSONA TIENE MAS DE UNA ACTIVIDAD, ESCRIBA CADA UNA DE ELLAS EN UNA LÍNEA DIFERENTE, TENGA CUIDADO DE ANOTAR EL MISMO CODIGO DE IDENTIFICACION (ID) DE LA PERSONA. SI UNA ACTIVIDAD ES REALIZADA POR VARIOS MIEMBROS DE LA FAMILIA, ANOTELA PARA CADA UNO DE ELLOS, SIEMPRE Y CUANDO LA CONSIDEREN COMO UNA DE LAS 3 PRINCIPALES.
2. PROCURE ANOTAR LAS ACTIVIDADES DE CADA INDIVIDUO DE ACUERDO AL ORDEN DE IMPORTANCIA QUE TENGAN PARA EL
3. COMPLETE LA INFORMACION DE LAS COLUMNAS D2 Y D3, SIN INGRESAR LOS CODIGOS LABORALES Y PASE A LAS PREGUNTAS D4 Y D5.

D1	D2	D3		D4	D5
Cod. Línea	Ingrese el No. de ID ***VER TABLA 2***	DESCRIPCION DE LA OCUPACION, (Labor), QUE REALIZA (Las 3 más importantes en los últimos 12 meses) ***EXCLUIR INGRESOS POR JUBILACIÓN O BENEFICIOS SOCIALES*** ***INCLUIR JUBILADOS QUE SÍ TRABAJAN*** 00 = Ninguna, Desocupado, No Trabajó(a)		[NOMBRE] realiza esta actividad de manera: 1 = Dependiente 2 = Independiente 3 = Trabajador familiar no remunerado 99= No Sabe	En los últimos 12 meses, cuántos meses ha estado trabajando en esta actividad. 99 = No Sabe
	D2ID	D31DES	D32COD	D4MANERA	D5MESES
01	___ ___	✍_____	__ __	___ ___	___ ___
02	___ ___	✍_____	__ __	___ ___	___ ___
03	___ ___	✍_____	__ __	___ ___	___ ___
04	___ ___	✍_____	__ __	___ ___	___ ___
05	___ ___	✍_____	__ __	___ ___	___ ___
06	___ ___	✍_____	__ __	___ ___	___ ___
07	___ ___	✍_____	__ __	___ ___	___ ___
08	___ ___	✍_____	__ __	___ ___	___ ___

D1	D2	D3		D4	D5
Cod. Línea	Ingrese el No. de ID ***VER TABLA 2***	DESCRIPCION DE LA OCUPACION, (Labor), QUE REALIZA (Las 3 más importantes en los últimos 12 meses) ***EXCLUIR INGRESOS POR JUBILACIÓN O BENEFICIOS SOCIALES*** ***INCLUIR JUBILADOS QUE SÍ TRABAJAN*** 00 = Ninguna, Desocupado, No Trabajó(a)		[NOMBRE] realiza esta actividad de manera: 1 = Dependiente 2 = Independiente 3 = Trabajador familiar no remunerado 99= No Sabe	En los últimos 12 meses, cuántos meses ha estado trabajando en esta actividad. 99 = No Sabe
	D21D	D31DES	D32COD	D4MANERA	D5MESES
09	___ ___	✍_____	__ __	___ ___	___ ___
10	___ ___	✍_____	__ __	___ ___	___ ___
11	___ ___	✍_____	__ __	___ ___	___ ___
12	___ ___	✍_____	__ __	___ ___	___ ___
13	___ ___	✍_____	__ __	___ ___	___ ___
14	___ ___	✍_____	__ __	___ ___	___ ___
15	___ ___	✍_____	__ __	___ ___	___ ___
16	___ ___	✍_____	__ __	___ ___	___ ___
17	___ ___	✍_____	__ __	___ ___	___ ___
18	___ ___	✍_____	__ __	___ ___	___ ___
19	___ ___	✍_____	__ __	___ ___	___ ___
20	___ ___	✍_____	__ __	___ ___	___ ___
21	___ ___	✍_____	__ __	___ ___	___ ___
22	___ ___	✍_____	__ __	___ ___	___ ___
23	___ ___	✍_____	__ __	___ ___	___ ___
24	___ ___	✍_____	__ __	___ ___	___ ___
25	___ ___	✍_____	__ __	___ ___	___ ___
26	___ ___	✍_____	__ __	___ ___	___ ___

SECCION E: ESTADO SOCIO ECONÓMICO

DIGA: AHORA LE VOY A PREGUNTAR SOBRE SU CASA

E1	¿En total, cuántas habitaciones hay en esta casa? (No incluye cocina) *99=NK*	___ ___	E1HAB
E21	¿Tiene energía eléctrica?		E21ELEC
	- Sí (el red publico)	[ ] 1	
	- Sí (el generador)	[ ] 2	
	- No →**PASE A E31**	[ ] 3	
	- No Sabes	*[ ]99*	
E22	En los últimos 15 días, ¿cuántos días ha tenido luz? *88=No Procede (no hay electricidad), 99=No Sabes*	___ ___	E22ELEC
E23	En los días que sí tuvo luz, en promedio, ¿cuántas horas diarias tuvo luz? *88=No Procede (no hay electricidad), 99=No Sabes*	___ ___	E23ELEC

ENCUESTADOR(A): OBSERVE EL MATERIAL DE CONSTRUCCIÓN PREDOMINANTE

E31	**PAREDES:**		E31PAR
	- Ladrillo / Concreto	[ ] 1	
	- Adobe / Tierra	[ ] 2	
	- Madera / tronco	[ ] 3	
	- Calamina / Fierro	[ ] 4	
	- Esteras	[ ] 5	
	- Quincha	[ ] 6	
	- Piedra con barro	[ ] 7	
	- Otro: ***ESPECIFICAR*** _____	[ ] 8	E31PARES
E32	**TECHO:**		E32TEC
	- Paja / Esteras	[ ] 1	
	- Adobe / Tierra	[ ] 2	
	- Madera / Hojas	[ ] 3	
	- Calamina /Fierro	[ ] 4	
	- Concreto/Cemento	[ ] 5	
	- Tejas/Losetas	[ ] 6	
	- Otro: ***ESPECIFICAR*** _____	[ ] 7	E32TECES
E33	**PISO**		E33PIS
	- Tierra/Arena	[ ] 1	
	- Madera	[ ] 2	
	- Piedra/Ladrillos	[ ] 3	
	- Cemento/Losetas	[ ] 4	
	- Material Laminado/ Vinillo	[ ] 5	
	- Otro: ***ESPECIFICAR*** _____	[ ] 6	E33PISES

E41	¿Cuál es la fuente principal de agua para beber que utiliza su familia?		E41AGUA
	- Tubería que llega a la casa/lote/terreno	[ ] 1	
	- Pozo, entubado con bomba manual	[ ] 2	
	- Caño público/fuente/pileta/pozo público	[ ] 3	
	- Lago/río/manantial, acequia/canal no protegido	[ ] 4	
	- Camión tanque, aguatero	[ ] 5	
	- Otra: ***ESPECIFICAR*** _____	[ ] 6	E41AGUAES
	- No Sabe	*[ ]99*	
E42	En los últimos 15 días, ¿cuántos días ha tenido agua? *88 = No Procede, 99 = No Sabe*	___ ___	E42AGUA
E43	En los días que sí tuvo agua, en promedio cuántas horas diarias tuvo agua? *88 = No Procede 99 = No Sabe*	___ ___	E43AGUA
E5	¿Qué tipo de baño usan en su hogar?		E5BANO
	- Inodoro con agua / Pozo séptico dentro de la casa	[ ] 1	
	- Letrina dentro de la casa	[ ] 2	
	- Letrina pública/comunal	[ ] 3	
	- Rio, acequia, canal, cocha quebrada	[ ] 5	
	- Ninguno (campo, cerro, huerto, corral, etc)	[ ] 6	
	- Otra: ***ESPECIFICAR*** _____	[ ] 7	E5BANOES
	- No Sabe	*[ ]99*	

E6	¿Cuál es El Principal tipo de combustible que usan para cocinar?.		E6COC
	- Madera, leña	[ ] 1	
	- Kerosene/parafina	[ ] 2	
	- Carbón de palo	[ ] 3	
	- Gas	[ ] 41	
	- Electricidad	[ ] 42	
	- Carbón de piedra	[ ] 5	
	- Bosta de vaca	[ ] 6	
	- Ninguno	[ ] 7	
	- Otro: **ESPECIFICAR** _____	[ ] 8	E6COCES
	- No Sabe	*[ ]99*	

ENCUESTADOR/A: PREGUNTE LEYENDO CADA UNA DE LOS BIENES:

E7	¿Ud. o Alguien en su casa, (hogar), tiene estos artículos, de su propiedad:	**Sí**	**No**	***No Sabe***	
E7.1	¿Alguna radio que funciona?	[ ] 1	[ ] 2	*[ ] 99*	E71RAD
E7.2	¿Refrigeradora que funciona (eléctrica/kerosene)?	[ ] 1	[ ] 2	*[ ] 99*	E72REF
E7.3	¿Plancha que funciona?	[ ] 1	[ ] 2	*[ ] 99*	E73PLA
E7.4	¿Licuadora / batidora que funciona?	[ ] 1	[ ] 2	*[ ] 99*	E74LIC
E7.5	¿Cocina a gas o a electricidad, que funciona?	[ ] 1	[ ] 2	*[ ] 99*	E75COC
E7.6	¿Bicicleta que funciona?	[ ] 1	[ ] 2	*[ ] 99*	E76BIC
E7.7	¿Televisor que funciona?	[ ] 1	[ ] 2	*[ ] 99*	E77TEL
E7.8	¿Tocadiscos, equipo de música que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E78EQU
E7.9	¿Ventilador que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E79VEN
E7.10	¿Videocasetera que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E710VID
E7.11	¿Lavadora de ropa que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E711LAV
E7.12	¿Secadora de ropa que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E712SEC
E7.13	¿Lustradora / aspiradora que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E713LUS
E7.14	¿Motocicleta / motoneta / moto car que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E714MOT
E7.15	¿Vehículo (carro, camión, taxi, etc.) que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E715VEH
E7.16	¿Tractor que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E716TRA
E7.17	¿Herramienta o equipo agrícola / Ganadero?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E717HER
E7.18	¿Teléfono celular que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E718CEL
E7.19	¿Teléfono fijo que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E719FIJ
E7.20	¿Máquina de coser que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E720COS
E7.21	¿Máquina de tejer que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E721TEJ
E7.22	¿Terma eléctrica / a gas que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E722TER
E7.23	¿Computadora / notebook que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E723COM
E7.24	¿Horno microonda que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E724HOR
E7.25	¿Canoa operativo?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E725CAN
E7.26	¿Bote operativo	*[ ] 1*	*[ ] 2*	*[ ] 99*	E726BOT
E7.27	¿Moto peque-peque que funciona?	*[ ] 1*	*[ ] 2*	*[ ] 99*	E727PEQ

DIGA: AHORA LE VOY A PREGUNTAR SOBRE SU ALIMENTACION

E8	En los últimos 15 dias, ¿compraron, recibieron como remuneración o como regalo? o ¿Han autoconsumido o se han autosuministrado (incluyendo lo que han cultivado o criado Uds o consumido de su negocio) los siguientes alimentos:	1=Sí 2=No 8= No Proc 9=No Sabe	
01	➢ Arroz (corriente, superior, granel o embolsado)	___ ___	E801ARR
02	➢ Trigo, harina de trigo, sémola, maíz, maicena, derivados del maíz	___ ___	E802TRI
03	➢ Avena, cebada, quinua, harina de quinua, h. de cebada u otros derivados de la quinua o cebada	___ ___	E803QUI
04	➢ Pan (blanco, integral, de yema, etc)	___ ___	E804PAN
05	➢ Galletas, pasteles, biscochos, etc	___ ___	E805GAL
06	➢ Fideos de todos los tipos	___ ___	E806FID
07	➢ Carnes rojas (carne de monte, sachavaca, majas, añuge, venado, sajino, huangana, res, cerdo, carnero, auquénidos, etc)	___ ___	E807ROJ
08	➢ Carnes de aves (pollo, pato, pavo, pinsha, pahuajil, etc)	___ ___	E808AVE
09	➢ Sub-productos de carne (tocino, chorizo, jamón, paté, salchicha, huesos, etc)	___ ___	E809CAR
10	➢ Pescados y mariscos frescos, congelados, ahumados, en conserva, camarrones.	___ ___	E810PES
11	➢ Leche	___ ___	E811LEC
12	➢ Yogurt, mantequilla, queso, manjarblanco,etc.	___ ___	E812YOG
13	➢ Huevos	___ ___	E813HUE
14	➢ Aceites comestibles, margarina vegetal, etc.	___ ___	E814ACE
15	➢ Sal y especies sazonadoras (guisador, ají, canela, sibarita, pimienta, vinagre..)	___ ___	E815SAL
16	➢ Salsas (tomate, mayonesa, mostaza, quetchup,etc)	___ ___	E816SAL
17	➢ Tubérculos y raíces (papa, camote, yuca, etc)	___ ___	E817TUB
18	➢ Menestras (arvejas, garbanzos, lentejas, habas, soya, etc)	___ ___	E818MEN
19	➢ Hortalizas y legumbres frescas (verduras) (aji dulce, sachaculantro, zapollo, etc)	___ ___	E819LEG
20	➢ Frutas frescas (mamay, guava, cocono, caimito, sidra, cara, etc....)	___ ___	E820FRU
21	➢ Hortalizas, legumbres, congeladas, en conservas, etc	___ ___	E821CON
22	➢ Frutas secas, en conservas, etc.	___ ___	E822FRU
23	➢ Azúcar blanca y rubia	___ ___	E823AZU
24	➢ Café, té, cacao, yerbas	___ ___	E824YER
25	➢ Alimentos instantáneos (gelatinas, refrescos, flan, mazamorras, sopas, etc)	___ ___	E825INS
26	➢ Caramelos, chocolates, miel, chancaca, etc.	___ ___	E826CAR
27	➢ Productos alimenticios preparados comprados fuera y consumidos EN el hogar	___ ___	E827PRE
28	➢ Productos alimenticios preparados comprados y consumidos FUERA del hogar (tipo restaurantes, menú)	___ ___	E828FUE
29	➢ Refrigerios y otros alimentos recibidos como parte de su remuneración que aún no se hayan considerado	___ ___	E829REF
30	➢ Bebidas alcohólicas (vinos, cerveza, aquardiente, masato fuerte,licores, etc.)	___ ___	E830ALC
31	➢ Bebidas gaseosas (Inca Kola, Coca Cola, Cola Real, etc)	___ ___	E831GAS
32	➢ Platano (maduro)	___ ___	E832PLA
33	➢ Masato	___ ___	E833MAS
34	➢ Otros alimentos***(ESPECIFICAR)*** _____	___ ___	E834OTR
35	➢ Otros alimentos ***(ESPECIFICAR)***: _____	___ ___	E835OTR

E84	¿Recibe Ud. o alguien en su hogar alimentos donados?		E84ALIMD
	- Sí	[ ] 1	
	- No → ***PASE A PAGINA 18***	[ ] 2	
	- No Sabe	*[ ] 99*	

E85	¿De qué organización o grupo los recibe? 1=Sí, 2=No, 88=No Procede 99= No Sabe			E86	¿Hace cuánto tiempo? 00=<1 mes, 88= No Procede 99=No Sabe			
					En meses		En Años	
	- Vaso de leche	__ __	E851VAS		__ __	E851MES	__ __	E851ANO
	- Desayuno/Almuerzo Escolar	__ __	E852ESC		__ __	E852MES	__ __	E852ANO
	- PRONA/Comedores Populares	__ __	E853PRO		__ __	E853MES	__ __	E853ANO
	- PEPISCO	__ __	E854PEP		__ __	E854MES	__ __	E854ANO
	- Papilla (PIN)	__ __	E855PAP		__ __	E855MES	__ __	E855ANO
	- Otro ***ESPECIFICAR*** _____	__ __	E856OTR		__ __	E856MES	__ __	E856ANO
	- Otro ***ESPECIFICAR*** _____	__ __	E857OTR			E857MES		E857ANO

E87	¿En los últimos 12 meses, que alimentos donados han recibido?					
	1.Nombre de alimentos recibidos	2.Código ***CODIGO DE E8***	3.Frecuencia ***VER CODIGOS ABAJO***	4.¿Qué Cantidad le dieron la <u>ultima vez</u>?		
				Cantidad	Unidad de medida	
	E87-NOM	E87-COD	E87-FRE	E87-CAN	E87-UNI	
		__ __	__ __			E871ALID
		__ __	__ __			E872ALID
		__ __	__ __			E873ALID
		__ __	__ __			E874ALID
		__ __	__ __			E875ALID
		__ __	__ __			E876ALID
		__ __	__ __			E877ALID
		__ __	__ __			E878ALID
		__ __	__ __			E879ALID
		__ __	__ __			E8710ALID
		__ __	__ __			E8711ALID
		__ __	__ __			E8712ALID
		__ __	__ __			E8713ALID
		__ __	__ __			E8714ALID
		__ __	__ __			E8715ALID

CUADRO 7: CODIGOS DE FRECUENCIA		
01=Semanal	*05=Trimestral*	*88=No Procede*
02=Quincenal	*06=Semestral*	*99=No Sabe*
03=Mensual	*07= Anual*	
04=Bimestral	*08 = Otro* ***[ESPECIFICAR]***_____	

→SI HAY ALGUN(OS) NIÑO(S) MENORES DE 5 AÑOS EN EL HOGAR, COMPLETE LA SECCION 6.

→SI NO HAY, PASE A PAGINA 24.

SECCION F: SALUD DE LOS NIÑOS

***DIGA*:** AHORA LE VOY A HACER AULGUNAS PREGUNTAS SOBRE LA SALUD DE LOS NINOS MENORES DE 5 AÑOS

F01	Quien contesta esta sección? Nombre: _____		F01NOM
F02	*Usar código de identificación de la Tabla 2*	___ ___	F02ID

F1	Nombre del niño: _____		F1NOMN
F12	*Usar código de identificación de la Tabla 2*	___ ___	F12CODN
F21	¿Donde nació [NOMBRE]?		F21NAC
	- En su casa → ***PASE A F22***	[ ] 1	
	- Hospital → ***PASE A F23***	[ ] 2	
	- Otro servicio de salud → ***PASE A F23***	[ ] 3	
	- Otro: **ESPECIFICAR** _____ → ***PASE A F23***	[ ] 4	F21NACES
	- No Sabe → ***PASE A F23***	*[ ] 99*	

F22	¿Por qué dio a luz en su casa?		F22PQ
	ESCRIBA respuesta, luego codifique _____		
	- Por Costumbre / Tradición	[ ] 1	
	- No tenía dinero para ir a Hospital	[ ] 2	
	- La atención del servicio de salud no es buena	[ ] 3	
	- No tuvo tiempo para ir	[ ] 4	
	- Centro de Salud está lejos	[ ] 5	
	- Otro: ***ESPECIFICAR*** _____	[ ] 6	F22PQES
	- No Procede	*[ ] 88*	
	- No Recuerda	*[ ] 99*	

F23	¿Quién lo atendió durante el parto de [NOMBRE] ***(LEA** alternativas. **MARQUE** más de uno, si es necesario)*	**Sí**	**No**	***No Sabes***	
	- Doctor, Médico	[ ] 1	[ ] 2	*[ ] 99*	F23MED
	- Enfermera, otras de Salud	[ ] 1	[ ] 2	*[ ] 99*	F23ENF
	- Obstetriz	[ ] 1	[ ] 2	*[ ] 99*	F230BS
	- Partera Tradicional	[ ] 1	[ ] 2	*[ ] 99*	F23PAR
	- Familia	[ ] 1	[ ] 2	*[ ] 99*	F23FAM
	- Nadie (sola)	[ ] 1	[ ] 2	*[ ] 99*	F23NAD
	- Otra: ***ESPECIFAR***_____	[ ] 1	[ ] 2	*[ ] 99*	F23OTRES
	- No Procede	[ ] 1	[ ] 2	*[ ] 99*	F23NOP

F3	¿Le dio Ud. de lactar / Le dio pecho, a [NOMBRE]?		F3LAC
	- Sí	[ ] 1	
	- No → ***PASE A 6.4***	[ ] 2	
	- No recuerda → ***PASE A 6.4***	*[ ] 88*	
F31	¿Por cuántos meses le dio de lactar a [NOMBRE]? *77=Sigue lactando, 88=No Procede 99=No Recuerda*	___ ___	F31LACTIE

DIGA: AHORA LE VOY A PREGUNTAR SOBRE LA SALUD DE [NOMBRE]

F4	¿Comparando con otros niños de su edad, Ud. diría que la salud de [NOMBRE] es igual, mejor o peor?		F4SAL
	- Igual	[ ] 1	
	- Mejor	[ ] 2	
	- Peor	[ ] 3	
	- No Sabe	*[ ] 99*	

		Sí	**No**	***NK***
F51	¿[NOMBRE] ha tenido fiebre en las últimas dos semanas?	[ ] 1	[ ] 2	*[ ] 99*
F52	¿[NOMBRE] ha tenido tos en las últimas dos semanas?	[ ] 1	[ ] 2	*[ ] 99*
F53	¿[NOMBRE] tuvo diarrea en las últimas dos semanas?	[ ] 1	[ ] 2	*[ ] 99*

F6	¿Desde ayer hasta esta hora, (hasta este momento), ha tenido?	**Sí**	**No**	***NK***
F61	- ¿3 ó más deposiciones sueltas o líquidos?	[ ] 1	[ ] 2	*[ ] 99*
F62	- ¿Sangre mezclada con sus heces?	[ ] 1	[ ] 2	*[ ] 99*
F63	- ¿Fiebre alto?	[ ] 1	[ ] 2	*[ ] 99*
F64	- ¿Tos?	[ ] 1	[ ] 2	*[ ] 99*
F65	- ¿Respiración rápida, agitación?	[ ] 1	[ ] 2	*[ ] 99*
F66	- ¿Vomito todo lo que comió?	[ ] 1	[ ] 2	*[ ] 99*
F67	- ¿Pérdida importante del apetito/habilidad para lactar?	[ ] 1	[ ] 2	*[ ] 99*
F68	- ¿Convulsiones, ataques?	[ ] 1	[ ] 2	*[ ] 99*
F69	- ¿Pérdida de la consciencia?	[ ] 1	[ ] 2	*[ ] 99*
F610	- ¿Somnolencia extrema, muy decaído, muy débil?	[ ] 1	[ ] 2	*[ ] 99*

F7	¿Alguna vez [NOMBRE] ha tenido una enfermedad seria o un accidente que Ud. pensó realmente que se podía morir?	
	- Sí	[ ] 1
	- No →**PASE A F8**	[ ] 2
	- No Sabe →**PASE A F8**	[ ] 8

F71	¿Cual fue esa enfermedad o accidente que tuvo?		Código
	No. 1. Nombre de enfermedad o accidente: ***ESCRIBA el*** *nombre de la enfermedad o accidente, ubique su Código en el recuadro de abajo y anótelo* _____	F71ENFNOM	___ ___
F72	¿Llevo a [NOMBRE] a cualquier Servicio de Salud/hospital para su tratamiento?		
	- Sí	[ ] 1	

	- No	[ ] 2
	- No Procede	[ ] 8
	- No Recuerda	[ ] 9
F73	¿[NOMBRE] Estuvo hospitalizado por esa enfermedad o accidente?	
	- Sí	[ ] 1
	- No	[ ] 2
	- No Procede	[ ] 8
	- No Recuerda	[ ] 9

CUADRO 8: CODIGOS: ENFERMEDADES SEVERAS Y ACCIDENTES		
01= Fiebre alta/malaria/paludismo	06= Accidente de transito	11=Otra
02= Neumonía, tos muy severa	07= Casi se ahoga	12=Asma, bronco espasmo
03= Convulsiones, epilepsia, ataques	08=Sofocación, Asfixia	88=No procede
04= Diarrea	09= Ojo, susto	99=No Sabe
05= Quemadura	10=Mal mágico. Cacho, Aire, Frio, etc	

F74	¿Cual fue esa enfermedad o accidente que tuvo?		Código
	No. 2. Nombre de enfermedad o accidente: ***ESCRIBA el*** *nombre de la enfermedad o accidente, ubique su Código en el recuadro de abajo y anótelo* _____	F74ENFNOM	___ ___
F75	¿Llevo a [NOMBRE] a cualquier Servicio de Salud/hospital para su tratamiento?		
	- Sí	[ ] 1	
	- No	[ ] 2	
	- No Procede	[ ] 8	
	- No Recuerda	[ ] 9	
F76	¿[NOMBRE] Estuvo hospitalizado por esa enfermedad o accidente?		
	- Sí	[ ] 1	
	- No	[ ] 2	
	- No Procede	[ ] 8	
	- No Recuerda	[ ] 9	

F77	¿Cual fue esa enfermedad o accidente que tuvo?		Código
	No. 2. Nombre de enfermedad o accidente: ***ESCRIBA el*** *nombre de la enfermedad o accidente, ubique su Código en el recuadro de abajo y anótelo* _____	F77ENFNOM	___ ___
F78	¿Llevo a [NOMBRE] a cualquier Servicio de Salud/hospital para su tratamiento?		
	- Sí	[ ] 1	
	- No	[ ] 2	
	- No Procede	[ ] 8	
	- No Recuerda	[ ] 9	

F79	¿[NOMBRE] Estuvo hospitalizado por esa enfermedad o accidente?	
	- Sí	[ ] 1
	- No	[ ] 2
	- No Procede	[ ] 8
	- No Recuerda	[ ] 9

CUADRO 8: CODIGOS: ENFERMEDADES SEVERAS Y ACCIDENTES		
01= Fiebre alta/malaria/paludismo	06= Accidente de transito	11=Otra
02= Neumonía, tos muy severa	07= Casi se ahoga	12=Asma, bronco espasmo
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04= Diarrea	09= Ojo, susto	99=No Sabe
05= Quemadura	10=Mal mágico. Cacho, Aire, Frio, etc	

F8	¿Tiene [NOMBRE] algún problema crónico de salud? (Incluir cada enfermedad crónica, estacional o discapacidad física – No lea alternativas)		F8SALCRO
	- Sí	[ ] 1	
	- No ***→PASE A F.10***	[ ] 2	
	- No Recuerde	[ ] 9	

F91	¿Cuáles son (enfermedad o discapacidad física)?		Código	
F912	No. 1. Nombre de la enfermedad: ***ESCRIBA*** *el nombre de la enfermedad o discapacidad, ubique su Código en el recuadro de abajo y anótelo)* _____	F91ENF	___ ___	F91COD
F913	¿ Llevo a [NOMBRE] a cualquier Servicio de Salud o Centro especializado para su tratamiento?			F91LLEV
	- Sí	[ ] 1		
	- No	[ ] 2		
	- No Procede	[ ] 8		
	- No Recuerde	[ ] 9		
F914	¿[NOMBRE] Estuvo hospitalizado por esa enfermedad o problema?			F91HOS
	- Sí	[ ] 1		
	- No	[ ] 2		
	- No Procede	[ ] 8		
	- No Recuerde	[ ] 9		

CUADRO 9: CODIGOS: ENFERMEDADES CRÓNICOS Y DISCAPACIDADES FISICAS		
01=Incapacidad Física	*06=Anemia*	*11=Otra*
02=Incapacidad, Retardo mental	*07=HIV/SIDA*	
03= Convulsiones, Epilepsia Ataques	*08=Falla de crecer o desnutrición*	*88= No Procede*
04=Problemas de piel	*09=Susto, ojo*	*99= No Sabe*
05=Asma, Problemas Respiratorios, TBC	*10=Congénitas*	

F92	¿Cuáles son (enfermedad o discapacidad física)?		Código	
	No. 2. Nombre de la enfermedad: ***ESCRIBA** el nombre de la enfermedad o discapacidad, ubique su Código en el recuadro de abajo y anótelo)* _____	F92ENF	___ ___	F92COD
F921	¿ Llevo a [NOMBRE] a cualquier Servicio de Salud o Centro especializado para su tratamiento?			F92LLEV
	- Sí	[ ] 1		
	- No	[ ] 2		
	- No Procede	[ ] 8		
	- No Recuerde	[ ] 9		
F922	¿[NOMBRE] Estuvo hospitalizado por esa enfermedad o problema?			F92HOS
	- Sí	[ ] 1		
	- No	[ ] 2		
	- No Procede	[ ] 8		
	- No Recuerde	[ ] 9		

F93	¿Cuáles son (enfermedad o discapacidad física)?		Código	
	No. 3. Nombre de la enfermedad: ***ESCRIBA*** *el nombre de la enfermedad o discapacidad, ubique su Código en el recuadro de abajo y anótelo)* _____	F93ENF	___ ___	F93COD
F931	¿ Llevo a [NOMBRE] a cualquier Servicio de Salud o Centro especializado para su tratamiento?			F93LLEV
	- Sí	[ ] 1		
	- No	[ ] 2		
	- No Procede	[ ] 8		
	- No Recuerde	[ ] 9		
F932	¿[NOMBRE] Estuvo hospitalizado por esa enfermedad o problema?			F93HOS
	- Sí	[ ] 1		
	- No	[ ] 2		
	- No Procede	[ ] 8		
	- No Recuerde	[ ] 9		

CUADRO 9: CODIGOS: ENFERMEDADES CRÓNICOS Y DISCAPACIDADES FISICAS		
01=Incapacidad Física	*06=Anemia*	*11=Otra*
02=Incapacidad, Retardo mental	*07=HIV/SIDA*	
03= Convulsiones, Epilepsia Ataques	*08=Falla de crecer o desnutrición*	*88= No Procede*
04=Problemas de piel	*09=Susto, ojo*	*99= No Sabe*
05=Asma, Problemas Respiratorios, TBC	*10=Congénitas*	

***DIGA*:** AHORA LE VOY A PREGUNTAR SOBRE LAS VACUNAS QUE HA RECIBIDO [NOMBRE] DESDE QUE NACIÓ.

F10	¿Ha recibido [NOMBRE] algún vacuna desde que nació?		F10VAC
	-Sí	[ ] 1	
	- No ***→PASE A PAGINA 24***	[ ] 2	
	- No Sabe	[ ] 9	

F101	¿Ha recibido [NOMBRE] una vacuna BCG, contra la tuberculosis? Es una inyección en el hombro, normalmente cuando el bebe es recién nacido.		F101BCG
	-Sí	[ ] 1	
	- No	[ ] 2	
	- No Sabe	[ ] 9	

F102	¿Ha recibido [NOMBRE] una vacuna contra el sarampión? Es una inyección en el hombro, normalmente cuando el bebe tiene de 9 a12 meses.		F102SAR
	- Sí	[ ] 1	
	- No	[ ] 2	
	- No Sabe	[ ] 9	

F103	¿Ha recibido [NOMBRE] una vacuna contra el Polio?		F103POL
	- Si	[ ] 1	
	- No	[ ] 2	
	- No Sabe	[ ] 9	

→ REPITA LA SECCION 6 PARA CADA NIÑO MENOR DE 5 AÑOS EN EL HOGAR.

DIGA: AHORA LA ENCUESTA HA TERMINADO. MUCHAS GRACIAS POR SU TIEMPO Y SU COLABORACION.
USTED TIENE ALGUNAS PREGUNTAS SOBRE LA ENCUESTA?

A3.5 Cross-sectional demographic and health survey participation

Figure X shows the numbers of households which were present, absent and participated in the survey, by community.

	Community 1	Community 2	Community 3	Community 4	Community 5	**Total** *(%)*
Households expected[1]	20	39	25	17	29	130
Households identified	21	35	26	22	25	129
Households present	20	27	22	20	20	109 *84.5%*
Households absent	1	8	4	2	5	20 *15.5%*
Households not approached	0	2[2]	0	0	2[3]	4 *3.1%*
Households which declined to participate	1	3	1	2	2	9 *7.0%*
Total households surveyed *(% of households identified)*	19 *90.5%*	22 *62.9%*	21 *80.8%*	18 *81.8%*	16 *64.0%*	96 *74.4%*

Figure X Household participation in household survey by community

In total 96 households were surveyed out of a possible 129 across the 5 communities visited, an overall response rate of 74.4%. This is 4.7% lower than the 79.1% of recorded residents weighed and measured in the 2007 PEPISCO survey, i.e. those present and willing to participate. The two figures compare slightly different units, as the 20.9% absent/not measured in the PEPISCO survey is calculated at the individual level, including data missing for either part of a household or a whole household, whereas my calculations refer to whole missing households. Community members had an incentive to participate in the

[1] Based on 2007 Census (PEPISCO 2007). Based on advice from FECONACO and PEPISCO staff I anticipated that there may be an increase of approximately 5% i.e. 1 new household per 20. This would have given an overall case study size of 106 households (101+5%

[2] One household mourning a recent death; one household evacuated to Villa Trompeteros Health Centre.

[3] These households consisted of one or two older people living alone (grandparent generation) with no young children.

PEPISCO survey, as it was used to allocate distribution of emergency food rations, while we were careful to make it clear that the household survey was separate, optional and not directly related to food distribution.[4]

Implications for data analysis

During data collection I was aware of issues related to completeness of data, particularly the 'missing' families who were not present. Altman highlights the importance of thinking about why data are missing, warning that 'in particular we ought to know if there is a reason related to the nature of the study'(Altman 1991:131). As the survey was not a complete cross-section of the case study population, I was alert to any factors which could skew the description of the communities built up from analysis, potentially making the 'sample' of households different to the actual population of households, in any way of significance to the study. The following section describes measures taken to establish whether the households who did not want to participate or were absent were likely to be systematically different from those who did participate, according to any particular characteristics which could influence the research findings

Households which declined to participate

Nine households declined to participate. There were several circumstances in which this happened:

- One household did not want to speak to us and one passed a message on via a child that they were not interested in participating.
- Two households did not want to participate because of signature issues.
- In two households in which the male household head was absent their partner did not want to participate in their absence (this was not the case in every household where the male household head was absent).
- Two households repeatedly asked us to come back later when it would be a 'better' time and then either the household heads were absent from the house, or they asked us again to return another time; after 3-5 attempts we concluded they did not want to participate.
- One household began to participate, then withdrew when we reached the questions in Section E (socio-economic status).

[4] The household survey was not intended to inform the food distribution programme, but food consumption questions in Section E frequently prompted discussion of misallocation of food rations, which we noted to update the food distribution database.

Absent Households

Twenty households, 15.5% of households across the five communities, were absent when the survey took place. We spoke to their neighbours to find out where and why they were away, to check whether this gave any indication of ways in which the missing households may systematically differ from their neighbours. If they had all been away taking children with symptoms of malaria to the Villa Trompeteros Health Centre for example, their absence may have skewed data about prevalence of childhood fever.

Eight households from Community 2 were away on a several week food hunting and gathering trip in preparation for a community event. Several school age children from one household had been left in the care of another household in the community, and were not included in the household survey as they were not usual residents of the household they were staying with. The other seven households, which according to their neighbours did have young and school age children, had travelled away from the community with their children for an extended period during the school term, contrary to FECONACO staff's accounts of household behaviour. These households may have contained a high proportion of children who did not attend school regularly. Alternatively they may have had less reliable or plentiful food sources in their chakras than other households in the community, hence needed to go hunting and gathering to supplement their daily diet, or to find sufficient foods to contribute to the community event. They may have included pregnant women, who were reported to go '*al monte'* with their families to find particular foods sought after during pregnancy.

Similarly to this group, two families in Community 5 were reported to be away together on a fishing trip. Other missing households were reported to be away on extended visits of several months visiting family in other Corrientes River communities. One family from Community 5 was reported to be away in Pucallpa, a regional city, while the parents undertook Evangelist training with the ILV.

Overall, apart from the possibilities noted above regarding families hunting/gathering/fishing, no systematic differences were evident between missing households and other households based on the information gathered from neighbours.

Missing households: use of existing quantitative data

As well as gathering information about missing households during data collection, existing quantitative data sources were used for comparative analysis.

Comparing age and sex distributions

The household survey dataset was compared to data for the five communities from the 2007 PEPISCO census to determine whether there were significant differences in the age and sex structure between the two population data sets. Age and sex composition are key characteristics of demographic analysis (UNFPA 1993) and while similarity between data sets is not a direct measure of reliability, identification of significant differences would indicate possible lack of representativeness in the household survey. The comparison used cross-sectional data gathered for the same five communities twenty-two months apart. This had the disadvantage that some differences in population sex and age structure may be expected over this time period, and these possible changes are not accounted for in analysis. However as it is a relatively short period in demographic terms, and the population of the five communities is not known to have experienced significant epidemics, introduction of new contraception practices or change in in/out migration during this period, hence the comparison is likely to give a useful indication of whether there were basic demographic differences between the two reported population structures.

Reliability of Census data

This comparison is made on the basis that the PEPISCO Census is reasonably accurate. Newell (1988) identifies two main categories of error in census taking, regarding (i) incomplete coverage, where areas or sub-groups are missed, and (ii) data quality, where responses are misrecorded, the respondent does not understand the question, or a wrong answer is given intentionally. Incomplete coverage of residents is unlikely in this case, as the community populations are small and households are aware of the location of any neighbours living on the outskirts of or in between main settlements. As this census formed the basis of a register to receive food supplements, community heads and neighbours are likely to have given information about any households who were not present. This is supported by responses which do not contain date of birth or height and weight data, likely to have been given by a proxy. Census data was cleaned before analysis, and inconsistencies in recording were identified. Where possible based on existing information errors were corrected, for example if an individual with a man's name, recorded as 'father' in the family was coded as female, this was changed to female. In some cases correction was not possible, for example if age appeared incorrect but there was no other indication of incorrect age (i.e. a household head, confirmed by their position and family and surname

in relation to other family member's surnames, aged 0-15 years). In these cases incorrect values were recoded as missing.

Sex

The sex ratio of human populations at birth is usually approximately 105 male births per 100 female births. The overall population sex ratio is determined by the sex ratio at birth, sex differences in mortality and differential migration (Newell 1988).

The sex ratio of the recorded population in the PEPISCO Census is 95.5 males per 100 females, compared to 92.1 males per 100 females in the household survey.

Source	Recorded male population (n) (%)	Recorded female population (n) (%)	Total	Sex ratio (male(n)/ female(n) x 100)	z-test to compare proportions of males and females in two populations
PEPISCO Census	404 48.9%	423 51.1%	827 100%	95.5	difference =0
Household Survey	293 48.0%	318 52.0%	741 100%	92.1	difference =0

Figure X Sex ratios and *z*-test for difference in proportions, total population (Communities 1-5)

Using the *z*-test, the normal test to compare two sample proportions (Kirkwood and Sterne 2003:152)[5], to compare the proportions of males and females recorded in the two data sources, there is no evidence that they differ significantly from each other at the .05 level; i.e. that the proportions in the two data sets are not equal.

These calculations were repeated for each community to determine whether there were any significant differences between data sources at the community level, which could have been masked in the combined figure. This was necessary given the variation in response rates across communities in the Household Survey. Results are shown in Figure X.

[5] The *z*-test is a valid approximation to test the difference between two sample proportions provided that $n_1 + n_0$ is greater than 40 (Kirkwood and Sterne 2003), this condition is met for both the total case study population (Figure X) and disaggregation by community (Figure X)

Community	Data Source								Comparison	
	(a) PEPISCO Census				(b) Household Survey					
	Recorded males (n) (%)	Recorded females (n) (%)	Total	Sex ratio (male(n)/ female(n) x 100)	Recorded males (n)(%)	Recorded females (n)(%)	Total	Sex ratio (male(n)/ female(n) x 100)	Diff. between sex ratios a and b	z-test Evidence of diff.[6]
1	57 51.4%	54 48.6%	111	105.6	49 49.5%	50 50.5%	99	98.0	7.6	No
2	126 46.3%	146 53.7%	272	86.3	80 49.1%	83 50.9%	163	96.4	-10.1	No
3	85 52.1%	78 47.9%	163	109.0	62 48.1%	67 51.9%	129	92.5	16.5	No
4	48 42.5%	65 57.5%	113	73.8	50 42.7%	67 57.3%	117	74.6	-0.8	No
5	88 52.4%	80 47.6%	168	110	52 50.5%	51 49.5%	103	102.0	8	No

Figure X Sex ratios and *z*-test for difference in proportions by community

Community 2, where the lowest proportion of communities identified was surveyed in the household survey (62.9%), had a difference in sex ratios between the two datasets of 10.1, less than the greatest difference (16.5) for Community 3. Community 4, which had the sex ratio furthest from 100 of 73.8 in the PEPISCO Census and 74.6 in the household survey showed the greatest similarity between the two data sources (difference = 0.8).

Despite the differences in the ratios the z-test comparing the proportions of the males and females in the two data sources for each community found no evidence at that the population proportions differed.

Age

The measure of age used in both data sources is 'age last birthday', rounded down to the last whole year.(Newell 1988 p. 23) Age was recorded in this way for all respondents aged five and over in the household survey. Date of birth and age in years and months of

[6] Comparing proportions of males and females in two populations. Evidence at 0.05 level that proportions of males and females in source a) and b) differ.

children aged less than 5 years were recorded where known, and rounded down to age at last birthday for this analysis. The PEPISCO Census recorded dates of birth for all respondents who knew them, reporting age in years and months, which was rounded down to age at the last birthday for comparison between the two data sources. Age distribution of the case study population according to the two data sources is shown in Figures X, X and X.

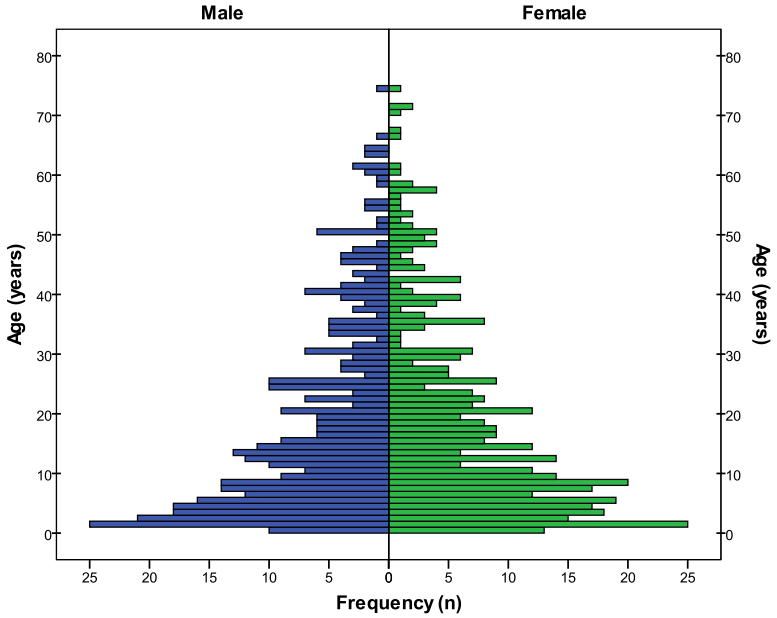

Figure X Population Pyramid Case Study Communities: PEPISCO Census Data 2007

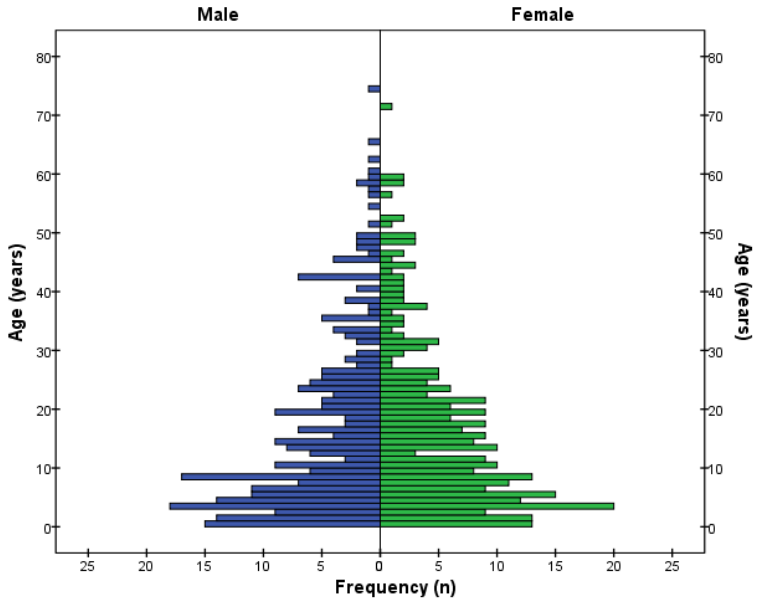

Figure X Population Pyramid Case Study Communities: Household Survey Data 2009

Appendix A

Table X shows the proportions of males and females by age category according to each data source. The Z-test indicates no difference in the proportion of males and females between data sources within each age category.

Age Category (years) [7]	Data Source						Z test:
	a) PEPISCO Census (2007)			b) Household Survey (2009)			evidence at 0.05 level that proportions of males and females in source a) and b) differ
	Male (n) (% of total (a))	Female (n) (% of total (a))	**Overall** (n) (% of total (a))	Male (n) (% of total (b))	Female (n) (% of total (b))	**Overall** (n) (% of total (b))	
0-4	92 11.5%	88 11.0%	**180** **22.6%**	70 12.2%	67 11.6%	**137** **23.8%**	No
5-9	65 8.2%	82 10.3%	**147** **18.4%**	52 9.1%	56 9.7%	**108** **18.9%**	No
10-14	53 6.6%	50 6.3%	**103** **12.9%**	35 4.3%	40 6.9%	**75** **13.0%**	No
15-19	33 4.2%	40 5.0%	**73** **9.2%**	26 4.5%	40 6.9%	**66** **11.5%**	No
20-24	32 4.0%	37 4.6%	**69** **8.7%**	27 4.7%	29 5.0%	**56** **9.7%**	No
25-29	23 2.9%	27 3.4%	**50** **6.3%**	17 3.0%	14 2.4%	**31** **5.4%**	No
30-39	36 4.5%	35 4.4%	**71** **8.9%**	19 3.3%	25 4.3%	**44** **7.6%**	No
40-49	29 3.6%	24 3.0%	**53** **6.6%**	20 3.5%	19 3.3%	**39** **6.8%**	No
50+	25 3.1%	26 3.3%	**51** **6.4%**	11 1.9%	9 1.6%	**20** **3.5%**	No
Total	388 48.7%	409 51.3%	**797** **100%**	277 48.1%	299 51.9%	**576** **100%**	No

Figure X: Proportions of males and females by age category

[7] Note different sized age categories

The chi squared test was used to test the difference in proportions of each age group between the two data sources, and no evidence of difference was found (X^2= 9.03 (8 d.f), p = 0.340).

Age is not normally distributed, but as noted by the UNFPA: 'because of the action of mortality, the percents for age groups tend to grow smaller with each successive span of age. This causes the age distribution to have a unique shape'(1993:1-18). Both population pyramids for the case study communities follow this pattern, displaying higher frequencies in the younger age groups, resulting in a right skew to the distributions.

Figure X shows the mean, median and mode of both population distributions.

	Data Source					
	(a) PEPISCO Census (2007)			(b) Household Survey (2009)		
	Male	Female	Overall	Male	Female	Overall
Total surveyed	404	423	827	293	318	741
Age missing	16	14	30	16	18	34
Age known	**388**	**409**	**797**	**277**	**300**	**577**
Modal age (years)	1	1	1	3	3	3
Median age (years)	13	13	13	12	13	13
Mean age (years)	18.2	18.0	18.1	16.7	16.4	16.5

Figure X: Population distribution by age and sex: mean, median and mode

In both data sources the mean age is greater than the median age, consistent with the right skew of the distributions. The mode corresponds with very young age groups; in 2007 children aged one year, and in 2009 children aged three years. This difference is consistent with the same cohort of children ageing over time, and suggestive of a high number of surviving live births in 2006.

The Mann-Whitney-Wilcoxon[8] test, a non-parametric statistical test[9] to compare data from two independent groups, was used to examine the difference between the entire age distributions in the two data sources (Altman 1991, Kirkwood and Sterne 2003). The test compares the rank sums of both sets of data to test the null hypothesis that they are both from the same distribution. Tests were conducted comparing data from the two sources both at the community level and using the combined case study dataset. Results are shown in Figure X.

Level of analysis	*P*	Evidence against null hypothesis of identical age distribution in two sources
Community 1	0.513	No
Community 2	0.536	No
Community 3	0.490	No
Community 4	0.541	No
Community 5	0.508	No
All Communities	**0.521**	**No**

Figure X Mann-Whitney-Wilcoxon test comparing age distributions from PEPISCO Census 2007 and Household Survey 2009

No evidence was found against the null hypothesis of identical age distribution in both data sets. The non-parametric *K*-sample test of the equality of medians was used to test the null hypothesis that both data sets were drawn from populations with the same median age (Acock 2008:157).

[8] There are two derivations of the test attributed to Wilcoxon (1945) and Mann and Witney (1947). Mann-Witney-Wilcoxon is used here to avoid confusion with the Wilcoxon signed rank test.
[9] Appropriate given the skewed distributions

Level of analysis	Pearson X^2	*P*	Evidence against null hypothesis of identical median age in two sources
Community 1	0.019	0.889	No
Community 2	0.619	0.432	No
Community 3	0.851	0.356	No
Community 4	1.803	0.179	No
Community 5	0.021	0.884	No
All Communities	**0.317**	**0.574**	**No**

Figure X *K*-sample test comparing median age from PEPISCO Census 2007 and Household Survey 2009

Again, no evidence was found against the null hypothesis of identical median ages in the two data sources.

Conclusions

Based on these analyses of the 2007 Census and the 2009 Household Survey data, there is no evidence of difference in population age and sex distribution between the two data sets. This indicates that the 74.4% response rate in the Household Survey did not result in a skewed representation of the population with regard to basic demographic structure.

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A4 Appendices for Interviews

A4.1.1 Interview Information Sheet and Consent Form for Employed Professionals [not translated]

Documento de Información y Ficha de Consentimiento

El bienestar de los niños de las comunidades Achuar del río Corrientes

Instituciones: London School of Hygiene and Tropical Medicine, University of London (Londres, Reino Unido)
Federación de Comunidades Nativas del Río Corrientes,(FECONACO) (Iquitos, Perú)
Universidad Peruana Cayetano Heredia (Lima, Perú)
Investigadora: Ruth Willis

Este Formato de Consentimiento Informado tiene dos partes:
• Parte I: Hoja de Información – para brindarle información acerca del estudio
• Parte II: Certificado de Consentimiento – para recabar su firma si decide participar
Usted recibirá una copia completa de éste Formato de Consentimiento Informado

PARTE I: HOJA DE INFORMACION

Introducción

Soy una investigadora de la Universidad de Londres, Inglaterra, y me gustaría invitarlo a participar en un estudio de investigación que estoy realizando sobre la salud de los niños del rio Corrientes. Esta hoja brinda información sobre la razón por la que estoy haciendo este estudio y su participación en él. Por favor lea la siguiente información y si hay algo que no quede claro o le gustaría recibir más información no dude en preguntarme.

1) ¿Cuál es el propósito de la investigación?

El propósito del presente estudio es comparar la salud de los niños de 5 comunidades del rio Corrientes con la de los otros niños en el Perú y de identificar los factores que afectaron la salud de los niños en estas comunidades.

2) ¿Qué implica su participación en el estudio?

Una parte del estudio es la recolección de datos en el campo, con los niños y sus familias. Otra parte es las entrevistas con los trabajadores profesionales como usted que tiene experiencia en el campo, para preguntarles sus opiniones.

Estoy pidiendo su apoyo para conocer más sobre los factores que afectaron la salud y el bienestar de los niños en estas comunidades, las políticas del gobierno regional sobre los niños y como estas políticas son realizadas. De aceptar mi invitación a tomar parte de este estudio le pediré me conceda una entrevista a profundidad.

Si accede a participar, quedaremos en una fecha y hora para la entrevista en el lugar que usted prefiera. La entrevista durará aproximadamente una hora. Si usted no desea contestar cualquiera de las preguntas de la entrevistas lo puede indicar y yo pasaré a la

siguiente pregunta. Nadie más estará presente a menos que usted lo solicite. Si usted está de acuerdo, quisiera grabar la entrevista. La razón por la que grabamos la entrevista es que de otra manera sería muy difícil registrar sus experiencias y recordarlas a largo plazo. Al grabar yo puedo poner completa atención a lo que usted me dice sin necesidad de tomar apuntes y puedo volver a escuchar la grabación en el futuro para analizar la información. También, puedo buscar algunas palabras que no entiendo bien la primera vez. No utilizare su nombre en la grabación y la información proporcionada será confidencial

3) ¿Cuáles son los posibles riesgos y beneficios de participar en el estudio?

Esta investigación no representa ningún riesgo para usted dado que solo se trata de una entrevista en la que conversaremos sobre sus experiencias y opiniones. Tampoco tiene beneficios directo.

4) ¿Cómo manejaremos la información que tú nos proporciones?

Toda la información que nos dé en la entrevista será almacenada de forma confidencial y anónima, de manera que su nombre no aparecerá en ningún documento. La única persona que tendrá acceso a las grabaciones seré yo y la persona que las transcriba, pero ella no sabrá su nombre ni nada sobre usted. Sin embargo, es posible que otras personas pudieran reconocerlo por las cosas que describe, porque solo hay un pequeño grupo de trabajadores similares a usted en esta región.

Los resultados del estudio serán resumidos en los informes, en artículos y en un documento que será mi tesis doctoral.

5) ¿A quién puedo llamar si tengo alguna pregunta o problema?

Si tiene cualquier pregunta sobre la investigación y sus derechos como participante antes o después de la entrevista, puede contactarme: Ruth Willis. Tel: 065 965 623140 (hasta octubre 2009) o +00 44 7779 023 980 (después de octubre 2009). E-mail: Ruth.Willis@lshtm.ac.uk

6) ¿Tengo que participar?

Su participación en este estudio es completamente voluntaria. Si decide participar y luego cambia de opinión es libre de retirarse en cualquier momento de la entrevista sin dar ningún tipo de explicación y esto no tendrá ningún tipo de consecuencia para usted.

7) ¿Otros datos más que necesitas saber?

Le daré una copia de esta hoja de información para que la conserve.

El presente estudio cuenta con la aprobación del Comité de Ética de la Universidad Cayetano Heredia en Perú y de la London School of Hygiene and Tropical Medicine en el Reino Unido.

Si tiene preguntas sobre los aspectos éticos del estudio, puede contactar al Comité Institucional de Ética de la Universidad Peruana Cayetano Heredia, al teléfono 319-0000 anexo 2271

MUCHAS GRACIAS POR TOMARSE EL TIEMPO DE LEER ESTA INFORMACION

PARTE II: CERTIFICADO DE CONSENTIMIENTO INFORMADO

Código:

Nombres y Apellido del entrevistada/o:

Nombre y Apellidos de entrevistadora:

Fecha:

Ubicación:

	Pone un círculo alrededor de su respuesta:	
¿Está de acuerdo con ser entrevistada/o?	Sí	No

Si Usted está de acuerdo, quisiera grabar la entrevista, así yo podre escucharla otra vez cuando regrese a mi país. La grabación será confidencial. Si Usted prefiere que no grabemos la entrevista, yo puedo tomar nota de sus respuestas.

	Pone un círculo alrededor de su respuesta:	
¿Tengo su permiso para:		
- Grabar nuestra conversación?	Sí	No
- Citar cosas que usted diga (sin decir su nombre)?	Sí	No
Como puedo describir su rol?		
- Trabajadora/o de salud de la comunidad	Sí	No
- Profesora/o de la escuela de la comunidad	Sí	No
- Otro rol (especificar) _____	Sí	No
Con o sin el nombre de su comunidad (si aplicable)		
- Si sí, especificar _____	Sí	No

Firma:

A4.1.2 Interview Guide for Interviews with Professionals [S]

¿Tiene alguna pregunta antes de empezar?

1) ¿Primero, podría describir su rol, en su trabajo como _____?

[Explorar]

- ¿Cuáles son sus responsabilidades principales?
- ¿Quién es su empleador?
- ¿Cómo describiría un día típico de su trabajo? ¿Qué hace…?

¿Hace cuánto que trabaja en este tipo de trabajo?

¿Hace cuánto que vive/trabaja en este lugar/comunidad/región?

2)¿Podría contarme sobre como son los niños aquí? Los bebes y los niños de 2, 3, 4 añitos?

- ¿Cómo son? Como lo consideras?

3) ¿Como es, para las familias (en las comunidades, su comunidad..), 'vivir bien'?

- que necesitan, una familia, para vivir bien?
- que cosas, comida, entorno, para vivir bien

4) ¿Podría contarme sobre que hacen los padres para cuidar a sus niños?

¿Las mamas? ¿Y las papas? Para cuidar a sus niños?

5) ¿Podría contarme sobre que hacen las familias para proteger a sus niños?

- ¿Cómo los protegen?
- ¿Tiene que protegerlos contra:

6) Podría contarme sobre cuál es el peligro o el problema más grave aquí, para los niños pequeños?

- ¿Podría explicarme porque este es el más importante?
- ¿Por qué, piensa usted, que los niños aquí tienen el [problema]? En su opinión?
- ¿Podría explicarme cuales son las causas del [problema]?
- ¿De dónde proviene [el problema]? '

- ¿Todos los niños son afectados con la misma gravedad por el [problema]? ¿O algunos niños o familias más que otros? ¿Por qué puede un niño tener este problema, y otros niños no?
- ¿Si no, porque algunos son afectados más que otros?

7) ¿En su opinión, que pudiéramos hacer para reducir este peligro/problema, o para mejorar la situación para los niños pequeños?

- Por ejemplo que podrían hacer las familias, los miembros de las comunidades, el gobierno local, el estado…
- ¿De estas cosas, cuáles cree usted que son las más importantes?

8) Si un niño de 9 meses en una comunidad tendría fiebre, diarrea, no quería comer, ni lactar durante 3 días…

- ¿Cuáles serian las causas de este malestar?
- ¿Que podrían hacer los padres? ¿lo cuidaría en la casa?
- ¿lo llevaría a alguien para que le ayude?
    - ¿los abuelos? ¿Y cómo se pueden ayudar
    - ¿el curador? ¿Y cómo se pueden ayudar
    - ¿el promotor? ¿Y cómo se pueden ayudar
    - ¿el pastor? ¿Y cómo se pueden ayudar
    - ¿el puesto de salud/PEPISCO?
- ¿Que podría hacer, usted, (como promotor)?

¿Cómo podría proteger a los niños contra este malestar?

a) Para los trabajadores de salud

¿Usted, como piensa que sus ideas sobre el bienestar de los niños de los comunidades comparan con los ideas de los padres?

¿Podría contarme sobre algunas políticas o programas específicos relacionados con los niños con quienes trabaja como parte de su trabajo?

[Explorar]

- ¿Cómo, por ejemplo, programas de vacunas, chequeos de salud rutinarios para los bebes..?
- ¿Para los bebes, los niños pequeños, los niños mayores…?

- ¿Para algunos grupos específicos de alto riesgo? Por ejemplo los bebes con bajo peso ..
- ¿Que incluyen, estas políticas o programas?
- ¿Es fácil o difícil desarrollar o implementar estas políticas o programas? La gente, los niños, quieren participar?

b) Para los Profesores

¿Usted, como piensa que sus ideas sobre el bienestar de los niños de los comunidades comparan con los ideas de los padres?

¿Podría contarme sobre algunas políticas específicas relacionadas con la salud de los niños con quienes trabajar como parte de su trabajo?

[Explorar]

- Como, por ejemplo el Vaso de Leche, el Almuerzo Escolar, .. ¿Qué incluye?
- ¿Hay algunas clases sobre la salud en la escuela?
- ¿Podría contarme un poco mas sobre ellos?

¿Tiene alguna otra idea o comentario que le gustaría hacer antes de terminar nuestra entrevista?

A4.1.2 Interview Guide for Interviews with Professionals [E]

Do you have any questions before we start?

1) First, could you describe your role, in your work as.....?

[Explore]

- What are your main responsibilities?
- Who is your employer??
- How would you describe a typical day's work? What do you do…?

How long have you worked in this kind of role?

How long have you lived /worked in this place/community/region?

2) Could you tell me about how the children are here? Babies and children of 2,3,4 years?

How are they? What do you think ?

3) What is 'living well' for the families? (in the communities, in your community)

What does a family need, to live well?

What things, food, environment, to live well?

4) Could you tell me about what parents do to care for their children?

The mothers? And the fathers? To care for their children?

5) Could you tell me about what families do to protect their children?

How do they protect them?

What do they have to protect them from?

- Dangers (what kind?), illnesses….?
- How do they protect them?

6) Could you tell me about what is the most serious danger or problem here, for small children?

- Could you explain why this is the most important?
- Why do you think that children here have this problem? In your opinion?
- Could you explain what are the causes of it?
- Where does it come from?
- Are all children affected with the same severity? Or some children or families more than others?

7) In your opinion, what could we do, to reduce this danger/problem, or improve the situation for young children?

- For example what could families do, community members, the local government, the state…
- Which do you think are the most important?

8) If a child of 9 months old in a community had fever, diarrhoea, didn't want to eat or feed, for 3 days….

What would be the causes of this ill-being?

What could the parents do? Care for them at home? Take them to anyone to help?

- the grandparents? How could they help?
- the healer? How could they help?
- the promotor? How could they help?
- the Pastor? How could they help?
- the health post/PEPISCO? How could they help?

What could you do, as (…)?

How could you protect children from this ill-being?

a) For health workers

How do you think your ideas about the well-being of children in the communities compare with parent's ideas?

Can you tell me about any specific programmes or policies related to children that you're involved with as part of your work?

- Vaccinations etc…
- for babies, small children, older children,
- what do they include?
- Is it easy or difficult to develop or carry out these policies or programmes? Do the people, children, want to participate?

b) For teachers

How do you think your ideas about the well-being of children in the communities compare with parent's ideas?

Could you tell me about any policies or programmes related to child health that you're involved in as part of your work?

- For example Vaso de Leche, el Almuerzo Escolar…what do they include?
- Are there any classes about health in school?
- Could you tell me a bit more about them?

Do you have any other thoughts or comments before we finish the interview?

A4.1.3 Interview Information Sheet and Consent Form for Community Members [not translated]

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El bienestar de los niños de las comunidades Achuar del río Corrientes

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• Parte II: Certificado de Consentimiento – para recabar si decide participar
Usted recibirá una copia completa de éste Formato de Consentimiento Informado

PARTE I: HOJA DE INFORMACION

Buenas días. Soy una investigadora de la Universidad de Londres, Inglaterra. No soy medico ni enfermera. Estoy realizando una investigación sobre el bienestar de los niños del rio Corrientes, para conocer como se comparan estos con los niños de otras comunidades en el Perú, y que factores son importantes para su bienestar.

Me gustaría invitarlo a participar en el estudio. La primera parte era una encuesta sobre las personas de cada hogar aquí. El segundo es algunas discusiones sobre el bienestar de los niños. Si Usted accede a participar, quisiera hacerle algunas preguntas sobre sus opiniones.

Su participación en este estudio es completamente voluntaria. Si usted no desea contestar cualquiera de las preguntas de la discusión lo puede indicar y yo pasaré a la siguiente pregunta. Si decide participar y luego cambia de opinión, es libre de retirarse en cualquier momento de la discusión sin dar ningún tipo de explicación y esto no tendrá ningún tipo de consecuencia para usted.

Si usted está de acuerdo, quisiera grabar la discusión. La razón por la que grabamos la discusión es que de otra manera sería muy difícil registrar sus experiencias y recordarlas a largo plazo. Al grabar yo puedo poner completa atención a lo que usted me dice sin necesidad de tomar apuntes y puedo volver a escuchar la grabación en el futuro para analizar la información. También, puedo buscar algunas palabras que no entiendo bien la primera vez. No utilizare su nombre en la grabación y la información proporcionada será confidencial.

La información que usted me diga será almacenada en un lugar seguro, sin su nombre, de esta forma nadie podrá relacionarlo con la información que usted nos proporcione.

Esta discusión no representa ningún riesgo para usted dado que solo se trata de una entrevista en la que conversaremos sobre sus experiencias y opiniones. Tampoco tiene beneficios directo.

Este estudio cuenta con la aprobación del FECONACO, del Comité de Ética de la universidad Cayetano Heredia en Perú y de la London School of Hygiene and Tropical Medicine en Inglaterra.

Si tiene preguntas sobre los aspectos éticos del estudio, puede contactar al Comité Institucional de Ética de la Universidad Peruana Cayetano Heredia, al teléfono 319-0000 anexo 2271.

Si tiene cualquier pregunta sobre la investigación puede contactarme: Ruth Willis. Tel: 065 965 623140 (hasta octubre 2009, enero y febrero 2010), o +00 44 7779 023 980 (después de octubre 2009). E-mail: Ruth.Willis@lshtm.ac.uk

PARTE II: CERTIFICADO DE RECORD DE CONSENTIMIENTO INFORMADO VERBAL PARA LOS MIEMBRES DE LAS COMMUNIDADES

Nombres y Apellido del entrevistada/o(s):

Nombre y Apellidos de entrevistadora:

Fecha:

Ubicación:

	Pone un círculo alrededor de su respuesta:	
¿Ha leído la hoja de información a la encuestada/os?	Sí	No
¿Ha respondido a alguna pregunta que la encuestada/os hayan hecho?	Sí	No
¿Están de acuerdo con ser entrevistada/os?	Sí	No

Si Usted está de acuerdo, quisiera grabar la entrevista, así yo podre escucharla otra vez cuando regrese a mi país. La grabación será confidencial. Si Usted prefiere que no grabemos la entrevista, yo puedo tomar nota de sus respuestas.

	Pone un círculo alrededor de su respuesta:	
¿Tengo sus permisos para:		
- Grabar nuestra conversación?	Sí	No
- Citar cosas que ustedes digan (sin decir sus nombres)?	Sí	No
Con o sin el nombre de su comunidad (si aplicable) - Si sí, especificar _____	Sí	No

Firma de la encuestadora: **Firma del testigo:**

A 4.1.4 Interview Guide for Interviews with Community Members [S]

¿Tiene alguna pregunta antes de empezar?

1) ¿Usted tiene ( ) hijos pequeños? el _____ (y la…)

¿Dar mi su opinión de su niño….

¿Podría contarme de _____ / Habla mi de la _____

¿Cómo es? Como lo consideras?

2) ¿Como es, para su familia, 'vivir bien'?

¿que necesitan, su familia, para vivir bien?

¿que cosas, comida, entorno, para vivir bien…

3) ¿Podría contarme sobre que hacen usted, como mama, para cuidar a sus niños?

¿Y su esposo? Para cuidar a sus niños?

4) ¿Podría contarme sobre que hacen usted, como mama, para proteger a sus niños?

¿Cómo los protegen?

¿Tiene que protegerlos contra: enfermedades? otros peligros?

Y su esposo? Para proteger a sus niños?

¿Como los protegen?

(¿este es difícil? ¿Por su trabajo, en la casa, para viajar……que va a pasar….?)

5) ¿Podría contarme sobre cuál es el peligro o el problema más grave aquí, para los niños pequeños?

¿Podría explicarme porque este es el más importante?

¿Por ejemplo porque ha habido muchos niños con este problema, o

por la gravedad…… o por falta de tratamiento…..?

¿Por qué, piensa usted, que los niños aquí tienen el [problema]? En su opinión?

¿Podría explicarme cuales son las causas del [problema]?

¿De dónde proviene [el problema]? ´

¿Todos los niños son afectados con la misma gravedad por el [problema]? ¿O algunos niños o familias más que otros? ¿Por qué puede un niño tener este problema, y otros niños no?

¿Si no, porque algunos son afectados más que otros?

6) ¿En su opinión, que pudiéramos hacer para reducir este peligro/problema, o para mejorar la situación para los niños pequeños?

Por ejemplo que podrían hacer las familias, los miembros de las comunidades, el gobierno local, el estado…?

¿De estas cosas, cuáles cree usted que son las más importantes?

7) Si un hijito o hijita de 9 meses tendría fiebre, diarrea, no quería comer, ni lactar durante 3 días…

¿Cuáles serian las causas de este malestar?

¿Que podrían hacer usted, como mama? O su papa? ¿lo cuidaría en la casa?

¿lo llevaría a alguien para que le ayude?

- ¿los abuelos? ¿Y cómo se pueden ayudar?
- ¿el curador? ¿Y cómo se pueden ayudar?
- ¿el promotor? ¿Y cómo se pueden ayudar?
- ¿el pastor? ¿Y cómo se pueden ayudar?
- ¿el puesto de salud/PEPISCO? ¿Y cómo se pueden ayudar?

8) ¿Cómo podría proteger a su hijo o a los niños contra este malestar?

¿Tiene alguna otra idea o comentario que le gustaría hacer antes de terminar nuestra conversación?

A 4.1.4 Interview Guide for Interviews with Community Members [E]

Do you have any questions before we start?

1) You have ( ) young children? (name) _____ (and…)

Give me your thoughts about your child.

Tell me about your child (name) / talk to me about (name)

How are they? What do you think?

2) How/what is it, for your family, 'living well'?

What does your family need, to live well?

What things, food, environment, to live well?

3) Could you tell me about what you do, as a mother, to care for your children?

And your partner? To care for your children?

4) Could you tell me about what you do, as a mother, to protect your children?

How do you protect them?

What do they have to protect them from? Dangers (what kind?) , illnesses….?

And your husband?

How do you protect them?

(is this hard? When you're working, in the house to travel…what happens?)

5) Could you tell me about what is the most serious danger or problem here, for small children?

Could you explain why this is the most important?

Why do you think that children here have this problem? In your opinion?

Could you explain what are the causes of it?

Where does it come from?

Are all children affected with the same severity? Or are some children or families more than others?

6) In your opinion, what could we do, to reduce this danger/problem, or improve the situation for young children?

For example what could families do, community members, the local government, the state…

Which do you think are the most important?

8) If a child of 9 months old in a community had fever, diarrhoea, didn't want to eat or feed, for 3 days….

What would be the causes of this ill-being ?

What could you do, as a mother? Or their father? Would you care for them at home? Take them to anyone to help?

the grandparents? How could they help?

the healer? How could they help?

the promotor? How could they help?

the Pastor? How could they help?

the health post/PEPISCO? How could they help?

8) How could you protect children from this ill-being?

Do you have any other thoughts or comments before we finish the interview?

A4.2 Summary of interviews completed

Summary of Interviews: Parents

Interview Code	Community Code	Respondents	Languages spoken during interview	Young children* (n)	Audio Recorded (Yes/No)
0203	4	Both parents	Achuar/Spanish	2	N
0204	4	Both parents	Achuar/Spanish	1	Y
0205	4	Both parents	Achuar/Spanish	2	Y
0206	4	Mother	Achuar/Spanish	4	Y
0207	4	Both parents	Achuar/Spanish	1	Y
0208	4	Mother* *	Achuar/Spanish	0	Y
0209	4	Father (2 mothers present)	Achuar/Spanish	1	N
0210	4	Father (mother present)	Achuar/Spanish	3	N
0211	4	Mother	Achuar/Spanish	1	Y
0212	4	Mother	Spanish	2	Y
0213	4	Mother	Achuar/Spanish	3	N
0214	4	Mother	Achuar/Spanish	2	Y
0215	3	Mother	Achuar/Spanish	4	Y
0216	3	Mother (child deceased)***	Achuar/Spanish	0	Y
0217	3	Mother	Achuar/Spanish	1	Y
0218	3	Both parents	Achuar/Spanish	2	Y
0219	3	Mother	Achuar/Spanish	4	Y
0220	3	Mother**	Achuar/Spanish	0	Y
0221	3	Both parents	Achuar/Spanish	4	Y
0222	3	Mother	Achuar/Spanish	4	Y
0223	3	Father (mother present)	Achuar/Spanish	4	Y
0224	3	Father (mother present)	Achuar/Spanish	3	Y
0225	3	Both parents	Achuar/Spanish	2	Y
0226	3	Both parents	Achuar/Spanish	4	Y
0227	3	Both parents	Achuar/Spanish	1	Y
0228	3	Mother	Spanish	4	Y
0229	3	Father (mother present)	Achuar/Spanish	5	Y
0230	3	Father (mother present)	Achuar/Spanish	6	Y

*We aimed to interview parents with one or more children aged less than five years. Some also talked about their slightly older children, up to 8 or 9 years old. During the course of the interviews we found that one interviewee (**) had had one child who had died and had no further children, and two interviewees (***) who also had older children were caring for other's infants at the time of the interview.

Appendix A

Summary of Interviews: Community members with formal community roles

Interview Code	Respondents' Role	Languages spoken during interview	Community Code	Audio Recorded (Yes/No)
0101	*Promotor*	Spanish	4	Y
0104	*Madre Indigenas*	Spanish	3	Y
0105	*Apu*	Achuar/Spanish	4	Y
0106	*Promotor*	Achuar/Spanish	4	Y
0107	*Pastor*	Achuar/Spanish	4	N
0108	*Promotor*	Spanish	3	Y
0109	*Apu*	Achuar/Spanish	3	Y
0110	*Promotor* and *Pastor*	Achuar/Spanish	3	Y

Summary of Interviews: Individuals employed to provide services to communities

Interview Code	Role	Main location of work	Audio Recorded (Yes/No)
0102	Health Technician	Health Post, upper Corrientes community	Y
0103	Nurse	Health Post, upper Corrientes community	Y
0111	Senior Medical Staff*	Health Centre, Villa Trompeteros	Y
0112	Nurse	Health Centre, Villa Trompeteros	Y
0113	Health Technician	Health Centre, Villa Trompeteros	Y
0114	Health Technician	Health Centre, Villa Trompeteros	Y
0115	Senior Medical Staff	Health Centre, Villa Trompeteros	Y
0116	Health Technician	Health Centre, Villa Trompeteros	Y
0117	Obstetrician	Health Centre, Villa Trompeteros	Y
0118	Health Technician	Health Centre, Villa Trompeteros	Y
0119	Senior Medical Staff	Health Centre, Villa Trompeteros	Y
0120	Health Technician	Health Centre, Villa Trompeteros	Y
0121	Head of Community Affairs, Pluspetrol Norte	Pluspetrol Base, Villa Trompeteros	Y
0122	Senior Medical Staff	Health Centre, Villa Trompeteros	Y
0123	Health Technician	Health Centre, Villa Trompeteros	N
0124	Community Health Educator, *Cáritas del Perú*	Iquitos/ Villa Trompeteros/ 10 upper Corrientes communities	Y
0125	Community Health Educator, *Cáritas del Perú*	Iquitos/ Villa Trompeteros/ 6 lower Corrientes communities	Y
0126	Community Health Educator, *Cáritas del Perú*	Iquitos/ Villa Trompeteros/ 6 lower Corrientes communities	Y
0127	Community Health Educator, *Cáritas del Perú*	Iquitos/ Villa Trompeteros/ 10 upper Corrientes communities	Y
0128	Community Affairs Liason, Pluspetrol Norte	Villa Trompeteros / Communities	Y
0129	Senior Medical Staff	Health Centre, Villa Trompeteros	Y
0130	Teacher	Community 3	Y

All interviews conducted in Spanish only

*'Senior Medical Staff' included four Doctors, one Nutritionist and one Obstetrician

A5 Data sources used in quantitative analysis (Chapters 5 and 6)

Data source	Date	Population represented	Details
Primary data			
Cross-sectional Household Survey	May 2009	5 Case Study Communities, Corrientes River,	Household level data: 96 households Individual level data:611 residents Child health : 137 children aged <5 years Maternal birth history: 92 women
Cáritas 'Healthy Families' Project			
Baseline Survey (Cáritas del Perú 2006) Intervention Evaluation Survey (Cáritas del Perú 2009)	2006 2009	Sample from 10 low-mid river Communities, Corrientes River. Sampling strategy involved selecting 3 clusters of 19 mothers (total = 57), selection criteria not known.	Household level data ((n) households not specified) Anthropometric measures: 18 children aged 3 years, 15 children aged 4 years.
PEPISCO/ Villa Trompeteros Health Centre			
CCNN Census (PEPISCO 2007)	Sept 2007	36 Communities, Corrientes River All residents	Basic household level data Individual level data: 5587 residents Height/weight: 1058 children <5 years, and 4419 of total residents
CCNN Census (PEPISCO 2008a)	Oct 2008	36 Communities, Corrientes River All residents	Basic household level data. Based on 2007 census with updates sent from communities.
CCNN Census (PEPISCO 2009a)	2009	36 Communities, Corrientes River All residents	Basic household level data. Based on 2007 census with updates sent from communities.
Nutrition database (PEPISCO 2008d)	Oct 2008	36 Communities, Corrientes River Children	Height/weight: 1315 children <5 years
Health Centre Monitoring Data: Diarrhoeal Disease (PEPISCO 2008b)	2008	Reported cases	Children <5 years
Health Centre Monitoring Data: Acute Respiratory Infection (PEPISCO 2008c)	Jan 2008-Feb 2009	Reported cases	Children
Health Centre Monitoring Data: Monthly Malaria Report (PEPISCO 2009b)	Jan 2008-Jun 2009	Children with laboratory identified cases	Children 0-9 years
Brigada data (PEPISCO 2009c)	June-July 2009	11 mid- up-river communities, Corrientes River	Height/weight: 304 children <5 years
YL Study			
Cross-sectional household survey, *Selva*	2002	One poor community cluster	308 households 308 children aged 6-17 months

Data source	Date	Population represented	Details
region (YL 2003)			
Cross-sectional household survey, Peru (YL 2003)	2002	Households from 20 poor rural and urban community clusters	2052 households 2052 children aged 6-17 months
Other			
National Census of Indigenous Communities of the Peruvian Amazon (INEI 2008)	2007	Amazonian Indigenous Population	Achuar population (including some Corrientes River communities): 1607 households in 57 communities Total population: 66 116 households
Demographic and Health Survey (DHS) (INEI 2009)	2009	Peru national population.	Nationally representative sample, 26 605 households surveyed.
National Census 2007 (INEI 2007)	2007	Peru national population	6 400 131 households

A5 Data sources used in quantitative analysis *(Chapters 5 and 6)*

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List of Appendices B

Referred to in Chapter 5: The local context for health: public health perspectives.

B1 Proximal factors

B2 Distal Factors

Appendix B

Referred to in Chapter 8: Vivimos así [We live like this]

B3.1 Grouping of parent's descriptions of 'how their children are'

Bibliography for Appendices B

Appendix B

B1 Proximal Factors

Population	5 Case Study Communities Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census: (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Number of rooms	Frequency[1] (n)(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency[2] (n)(%)
1	31 33.3%	-	-	122 39.6%	588 28.7%	1 475 430 23.1%
2	34 36.6%	-	-	90 29.2%	635 40.0%	1 652 310 25.8%
3	23 24.6%	-	-	49 15.9%	384 18.7%	1 249 952 19.5%
4	3 3.2%	-	-	29 9.4%	250 12.2%	935 853 14.6%
5	2 2.1%	-	-	15 4.9%	97 4.7%	463 755 7.2%
6 or more	0	-	-	3 1.0%	98 4.8%	622831 9.7%
Total	93 100%	-	-	308 100%	2052 100%	6 400 131 100%
Mean[3]	2.04	-	-	2.12	2.48	2.86

B1.1 Number of rooms in house

[1] Total number of rooms excluding kitchen (no houses have bathrooms/garages)
[2] Total number of rooms excluding bathroom, kitchen and garage
[3] All means except that for the Corrientes are slightly reduced as 6 or more rooms were counted as 6

Population	5 Case Study Communities Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census: (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Wall Material	Frequency (n)(%)					
Wood	68 71.6%	1329 82.7%	48 831 73.8%	130 42.2%	162 7.9%	617 742 9.7%
Tile, brick, cement block, Adobe	0	49 3.0%	2 911 4.4%	128 41.6%	1546 75.3%	5 221 342 81.6%
Quincha (cane and mud)	0	6 0.4%	7 014 10.6%	26 8.4%	91 4.3%	183 862 2.9%
Other (of which)	27 28.4%	223 13.9%	7 411 11.2%	24 7.8%	253 12.3%	377 185[4] 5.9%
(Aluminium/iron)	(3) (3.1%)			1 0.3%	2 0.1%	
(Plastic sheeting)	(1) (1.0%)					
(No walls)	(23) (24.2%)					
Total households surveyed	95 100%		66 116 100%	308	205	6 400 131 100%
Floor Material	Frequency (n)(%)					
Wood	95 100%	853 53.1%	27 174 41.1%	0	36 1.75%	217 547 3.4%

[4] Category 'other' in National Census 2007 includes houses in the *selva* which do not have solid walls (INEI 2007)

Population	5 Case Study Communities Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census: (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Soil	0	567 35.3%	35 901 54.3%	219 71.1%	1239 60.4%	2 779 676 43.4%
Cement	0	143 8.9%	2 182 3.3%	80 26.0%	760 37.0%	2 441 884 38.2%
Other materials	0	44 2.7%	860 1.3%	0	17 0.8%	961 024 15.0%
Total	95 100%	1607 100%	66 116 100%	308 100%	2052 100%	6 400 131 100%
Roof Material	Frequency (n)(%)					
Wood/leaves	92 96.8%		-	7 2.3	53 2.58%	-
Aluminium/iron	3 3.1%		-	226 73.4%	917 44.7%	-
Straw/thatch/earth/mud	0		-	53 17.2%	278 13.5%	-
Tiles/slate/concrete/ cement	0		-	16 5.2%	773 37.7%	-
Other	0		-	6 2.0%	31 1.51	-
Total	95 100%		-	308 100%	2052 100%	-

B1.2 House construction material

Population	5 Case Study Communities, Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census: (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Main water source	Frequency (n)(%)					
Mains network supply within house	0	199 12.4%	2 168 3.3%	215 69.81%	1,581[5] 77.1%	3 504 658 54.8%
Mains network supply outside house but within building	0	62 3.9%	1 432 2.2%			568 800 8.9%
Public tap	75 78.1%	234 14.6%	1 624 2.5%	12 3.9%	71 3.5%	243 241 3.8%
Well	0	194 12.1%	9 947 15.0%	39 12.7%	217 10.6%	515 589 8.1%
River, spring, ditch or similar	21 21.9%	814 50.7%	48 493 73.3%			1 024 654 16.0%
Other	0	104 6.5%	2 452 3.7%	42 13.6%	183 8.9%%	543189 8.5%
Total Households	96 100%	1 607 100%	66 166 100%	308 100%	2052 100%	6 400 131 100%

B1.3 Main water source for household consumption

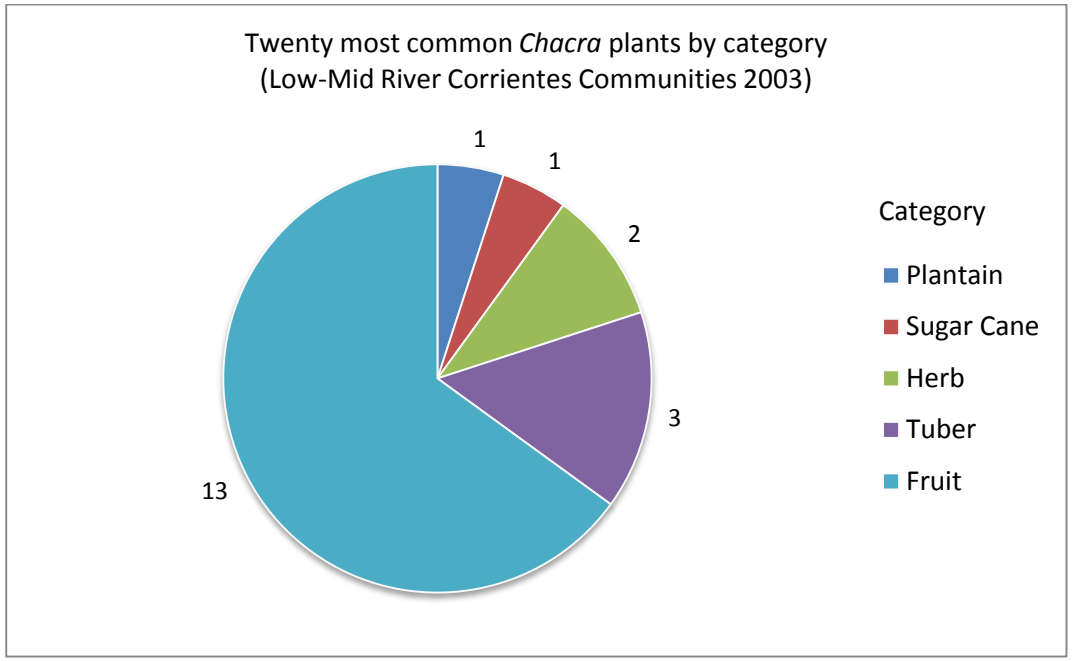
[5] Piped into dwelling/yard/plot

Population	5 Case Study Communities Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Sanitation	Frequency (n)(%)					
Latrine inside or outside house connected to public sanitation system	0	128 8.0%	877 1.3%	67* 21.8%	906* 44.2%	3 466 833 54.2%[6]
Latrine connected to septic tank (treated)	0	78 4.9%	2 988 4.5%			312 043 4.9%
Pit latrine (untreated)		415 25.8%	33 782 51.1%			1 396 402 21.8%
Private latrine separate from house connected to untreated pit	22 22.9%			193 62.7%	676 32.4%	
Public/communal latrine connected to untreated pit	10 10.4%			10 3.3%	29 1.4%	
River, stream, pond, ditch/ other	2 2.0%	74 4.6%	4 238 6.4%	6 2.0%	53 2.58%	114 074 1.8%
None	62 64.6%	912 56.8%	24 231 36.6%	32 10.4%	388 18.91	1 110 779 17.4%
Total Households	96 100%	1607 100%	66 116 100%	308 100%	2052 100%	6 400 131 100%

B 1.4 Household sanitation facilities

* in dwelling

[6] Of which 3 073 327 (48.0% of total) are inside house, 393 506 (6.1% of total) are outside house but inside building



B1.5 Twenty most common chacra plants by category, low-mid river Corrientes communities (2003)[7]

[7] Figure based on original data from Perrault-Archambault and Coomes (2008:122)

Population	5 Case Study Communities Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census: (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Main fuel source for cooking	Frequency (n)(%)					
Wood	95 98.9%	-	-	229 74.4%	1067 52.0%	2 036 901 30.2%
Gas	1 1.1%	-	-	69* 22.4%	695* 33.9%	3 751 930 55.6%
Electricity	0	-	-			103 343 1.5%
Kerosene	0	-	-	8 2.6%	233 11.4%	199 860 3.0%
Coal	0	-	-	0	6 0.3%	170 643 2.5%
Dung	0	-	-	0	17 0.8%	282 660 4.2%
Other	0	-	-	0	26 1.2%	12 417 0.2%
Don’t cook/none	0			1 0.3%	6 0.3%	196320 2.9%
Total	96 100%	-	-	308 100%	2052 100%	6 754 074 100%

B1.6 Main fuel source for cooking

Population	5 Case Study Communities Corrientes River
Data source	Household Survey (2009)
Household ownership of boat transport	Frequency (n)(%)
Household has no boat transport	28 29.2%
Household has boat transport	68 70.8%
Of which: *Canoe*	*57* *59.4%*
Small boat	*23* *24.0%*
Both canoe and small boat	*12* *12.5%*
Household has boat motor	57 59.4%
Of which: *Has both boat motor and boat Transport*	*50* *52.1%*
Has boat motor and no boat	*7* *7.3%*
Total Households	96 100%

B1.7 Household ownership of boat transport

B2 Distal Factors

Language spoken to respondent by their mother during childhood	Female Household Heads	Male Household Heads	Combined Household Heads
	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)
Achuar	82 87.23%	69 81.18%	151 84.36%
Spanish	12 12.77%	13 15.29%	25 13.97%
Quechua	0	2 2.35%	2 1.12%
Don't know	0	1 1.18%	1 0.56%
Total	94 100%	85 100%	179 100%

B2.1 Mother tongue (household heads)

Population	5 Case Study Communities Corrientes River	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally
Data source	Household Survey (2009)*	Amazonian Indigenous Census (2007)	Young Lives Study (2002)**	Young Lives Study (2002)**
Ethnicity	Frequency (n)(%)			
White	0	0	8 2.6%	93 4.5%
Mestizo	4 2.2%	0	257 83.4%	1900 92.6%
Native of the Selva	167 93.3%	332 975 100%	43 13.6%	48 2.3%
Of which: *Achuar*	*165* *92.2%*	*11 087* *3.3%*		
Aymara	*1* *0.6%*	*0*		
Yagua	*1* *0.6%*	*5679* *1.7%*		
Black	0	0	0	9 0.4%
Asian	0	0	0	2 0.1%
Don't know	8 4.5%	0	0	0
Total	179[8] 100%	332 975 100%		2052 100%

B2.2 Ethnicity (household heads)

*Respondent was asked which ethnic category they belonged to (see discussion in main text).

**Interviewer stated which ethnic category they thought interviewee belonged to.

[8] N=94 females (52.5%) and 85 males (47.5%)

Population	5 Case Study Communities Corrientes River		
Data source	Household Survey (2009)		
Languages spoken by household heads	Female Household Heads	Male Household Heads	Combined Female and Male Household Heads
	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)
Total household heads surveyed	94	85	179
Achuar	84 89.4%	75 88.2%	159 88.8%
Spanish	59 62.8%	81 95.3%	140 78.2%
Quechua	0	8 9.4%	8 4.5%
Candoshi	0	1 1.1%	1 0.6%
Inca	0	1 1.1%	1 0.6%

B2.3 Languages spoken: overview (household heads)

Population	5 Case Study Communities Corrientes River			1 Poor Selva Community	20 Poor Communities Nationally
Data source	Household Survey (2009)			Young Lives Study (2002)	Young Lives Study (2002)
	Female Household Heads	Male Household Heads	Combined Female and Male	Caregiver	Caregiver
	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)		
Total Surveyed	94	85	179	308	2052
First language					
Native Amazon *selva* language Of which: *Achuar*	83 88.3% *83* *88.3%*	68 80% *68* *80%*	151 84.4% *151* *84.4%*	16 5.2%	16 0 .8%
Spanish	11 11.7%	16 18.8%	27 15.1%	290 94.2%	1,750 85.3%
Quechua	0	1 1.17%	1 0.6%	2 0.7%	281 13.7%
Other	0	0	0	0	5 0.2%
Second Language					
Native Amazon *selva* language Of which: *Achuar*	1 1.1% *1* *1.1%*	4 4.7% *4* *4.7%*	5 2.8% *5* *2.8%*	24 7.8%	24 1.2%
Spanish	48 51.1%	62 72.9%	110 61.5%	14 4.6%	128 6.2%
Quechua	0	5 5.6%	5 2.8%	27 8.8%	420 20.5%
Other					62 3.0%
N/A				243 78.9%	1,418 69.1%
Total speaking second language	49 52.1%	71 83.5%	120 67.0%		
Third language					
Achuar	0	3 3.5%	3 1.7%		
Spanish	0	3 3.5%	3 1.7%	2 0.6%	2 0.1%
Quechua	0	2 2.3%	2 1.1%		3 0.2%
Candoshi	0	1 1.2%	1 0.6%		-

Population	5 Case Study Communities Corrientes River			1 Poor Selva Community	20 Poor Communities Nationally
Data source	Household Survey (2009)			Young Lives Study (2002)	Young Lives Study (2002)
	Female Household Heads	Male Household Heads	Combined Female and Male	Caregiver	Caregiver
	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)		
Inca	0	1 1.2%	1 0.6%		-
Other					11 0.5%
N/A				306 99.4%	2036 99.2%
Total speaking third language	0	9 10.6%	9 5.0%	2 0.6%	16 0.8%

B2.4 First, second and third languages spoken (household heads)

Population	5 Case Study Communities Corrientes River			1 Poor Selva Community	20 Poor Communities Nationally
Data source	Household Survey (2009)			Young Lives Study (2002)	Young Lives Study (2002)
Reported ability to speak Spanish	Female Household Heads	Male Household Heads	Combined Female and Male Household Heads	Caregiver	Caregiver
	Frequency (n)(%)				
Yes	59 62.8%	81 95.3%	140 78.2%	306 99.4%	1,874 91.3%
No	35 37.2%	4 4.7%	39 21.8%	2 0.7%	178 8.7%
Total	94 100%	85 100%	179 100%	308 100%	2052 100%

B2.5 Reported ability to speak Spanish (household heads)

Population	5 Case Study Communities Corrientes River		
Data source	Household Survey (2009)		
Reported level of spoken Spanish	Female Household Heads	Male Household Heads	Combined Female and Male Household Heads
	Frequency (n)(%)		
Fluent/good	30 50.9%	58 71.6%	88 62.9%
Can understand	24 40.7%	19 23.5%	43 30.7%
Basic level/with mistakes	5 8.5%	4 4.9%	9 6.4%
Total	59 100%	81 100%	140 100%

B2.6 Reported level of spoken Spanish (household heads)

Population	5 Case Study Communities Corrientes River			1 Poor Selva Community	20 Poor Communities Nationally
Data source	Household Survey (2009)			Young Lives Study (2002)	Young Lives Study (2002)
Reported ability to read and understand a letter in Spanish	Female Household Heads	Male Household Heads	Combined Female and Male Household Heads	Caregiver	Caregiver
	Frequency (n)(%)				
Can easily	18 19.2%	47 55.3%	65 36.3%	218 70.8 %	1,477 72.0%
Can with difficulty	15 16.0%	19 22.4%	34 19.0%	59 19.2%	304 14.8%
Cannot	54 57.4%	19 22.4%	73 40.8%	31 10.1%	271 13.2%
Don't know	7 7.4%	0	7 3.9%	0	0
Total	94 100%	85 100%	179 100%	308 100%	2052 100%

B2.7 Reported ability to read and understand a letter in Spanish (household heads)

Population	5 Case Study Communities Corrientes River		
Data source	Household Survey (2009)		
Language spoken to children	Female Household Heads	Male Household Heads	Combined Female and Male Household Heads
	Frequency (n)(%)		
Achuar	73 77.7%	59 69.4%	132 73.7%
Spanish	19 20.2%	25 29.4%	44 24.6%
Undecided (eldest child not speaking yet)	2 2.1%	1 1.2%	3 1.7%
Total	94 100%	85 100%	179 100%

B2.8 Language spoken with children (household heads)

Appendix B

Table x Religion

Population	5 Case Study Communities Corrientes River	Rural Trompeteros Population	Urban and Rural Trompeteros Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Household Survey (2009)	Amazonian Indigenous Census: (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Religion	Frequency (n[9])(%)	Frequency (n[10])(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)
Catholic	17 9.5%	1325 52.2%	3095 58.7%	| 182 59.1%	1659 80.9%	16956722 81.3%
Evangelist	146 81.2%	943 37.2%	1721 32.7%	88 28.6%	286 13.9%	2606055 12.5%
Other	1 0.6%	35 1.4%	115 2.2%	6 1.9%	19 0.9%	679291 3.3%
None	7 3.9%	234 9.2%	331 6.3%	32 10.4%	88 4.3%	608434 2.9%
Don't know	8 4.5%	0	0	0	0	0
Total	179 100%	2535 100%	5262 100%	308 100%	2052 100%	20850502 100%

B2.9 Religion (household heads)

[9] Male and female household heads
[10] Population aged 12 years and over

Population	5 Case Study Communities Corrientes River Female household heads
Data source	Household Survey (2009)
Maternal education level	Frequency (n)(%)
None	34 36.2%
Primary (Incomplete)	44 46.8%
Primary (Complete)	9 9.6%
Secondary (Incomplete)	4 4.3%
Superior (not University), Incomplete	1 1.1%
Superior (University), (Complete)	1 1.1%
Unknown	1 1.1%
Total	94 100%

B2.10 Maternal Education level

Population	5 Case Study Communities Corrientes River 3-18 year-olds		
Data source			Household Survey (2009)
Current school attendance (3-18 year-olds)	Males (n)(%)	Females (n)(%)	Total (n)(%)
Attending school	110 80.9%	104 65.4%	214 72.5%
Not attending school	26 19.1%	55 34.6%	81 27.5%
Total	136 100%	159 100%	295 100%

B2.11 Current school attendance (3-18 year-olds)

Population	5 Case Study Communities Corrientes River All ages	5 Case Study Communities Corrientes River Age ≥5 years	National Population Rural areas All ages	National Population Urban and rural areas All ages
Data source	Household Survey (2009)	Household Survey (2009)	National Census (2007)	National Census (2007)
National Registration: Birth Certificate	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)
Have birth certificate	366 59.9%	330 69.8%	6 446 141 97.6%	27 036 480 98.6%
Do not have birth certificate	225 36.8%	124 26.2%	122 183 1.9%	277 596 1.0%
Don't know Not stated	20 3.3%	19 4.0%	33 545 0.5%	98 081 0.4%
Total	611 100%	473 100%	6 601 869 100%	27412157 100%

B2.12 National Registration: Birth certificate (all household members)[11]

Population	5 Case Study Communities Corrientes River Age ≥18 years[12]	National Population Rural areas Age ≥18years	National Population Urban and rural areas Age ≥18 years
Data source	Household Survey (2009)	National Census (2007)	National Census (2007)
National Registration: ID Document	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)
Have National ID document	162 64.5%	3457517 93.6%	16 834 940 96.8%
Do not have National ID Document	85 33.9%	234 532 6.4%	564 487 3.2%
In process of application	2 0.8%	-	-
Don't know/ not stated	2 0.8%	-	-
Total	251 100%	3692049 100%	17399427 100%

B2.13 National Registration: ID Document (household members aged ≥18 years)

[11] No significant difference in proportions of males and females with/without in case study communities (chi square test statistic = 0.55 for 5 years and over, 0.06 for ages 0-4).

[12] Includes 35 individuals aged over 5 years whose exact age was not known, and who are unlikely to be aged 5-17 years based on family position.

Population	5 Case Study Communities Corrientes River Age ≥17 years[13]		
Data source	Household Survey (2009)		
National Registration: ID Document	Males Age ≥17 years	Females Age ≥17 years	Combined
	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)
Have National ID document	98 78.4%	64 46.4%	162 61.6%
Do not have National ID Document	25 20%	72 52.2%	97 36.9%
In process of application	1 0.8%	1 0.7%	2 0.8%
Don't know/ Not stated	1 0.8%	1 0.7%	2 0.8%
Total	125 100%	138 100%	263 100%

B 2.14 National Registration: ID Document (household members aged ≥17 years)

[13] Includes 35 individuals aged over 5 years whose exact age was not known, and who are unlikely to be aged 5-17 years based on family position.

Population										5 Case Study Communities, Corrientes River
Data source										Household Survey (2009)
Three main daily activities reported in order of importance	Males				Females				All	Gender difference (p-value)[14]
			Main daily activities 1-3 (n)	Total (row) (n)(%)			Main daily activities 1-3 (n)	Total (row) (n)(%)	Total (n)(%)	
	1st	2nd	3rd		1st	2nd	3rd			
Cultivation	32	20	5	57 48.7%	80	19	5	104 80.6%	161 65.4%	0.000
Employment by *empresa*	10	10	35	55 47.0%	0	0	0	0 0.0%	55 22.4%	0.000
Making *masato*	0	0	0	0 0	6	27	11	44 34.1%	44 17.9%	0.000
Fishing	9	13	5	27 23.1%	2	5	5	12 9.3%	39 15.9%	0.008
Hunting/gathering	9	14	5	28 23.9%	0	0	0	0 0.0%	28 11.4%	0.000
Cooking	0	0	0	0 0.0	4	13	9	26 20.2%	26 10.6%	0.000
Minga (communal work)	9	9	2	20 17.1%	1	3	1	5 3.9%	25 10.2%	0.001
Total responses for a daily activity 1-3[15]	117	96	67		129	93	52			
Total respondents				117				129	246	

B 2.15 Three main daily activities (gender analysis for seven most frequently reported activities)

[14] P-value <0.05 indicates significant difference between males and females.

[15] Three activities were not reported for all respondents; this total includes responses in other categories not shown (see Figure 5f).

Population	5 Case Study Communities, Corrientes River
Data Source	Household Survey (2009)
Length of employment	Males employed by *empresa* in previous 12 months (n)(%)
1-3 months	39 70.9%
Of which: 1 month	13 23.6%
2 months	14 25.5%
3 months	12 21.8%
4-6 months	8 14.5%
7-9 months	4 7.3%
10-12 months	4 7.3%
Total	55 100%

B2.16 Length of employment by *empresa* during previous 12 months

Population	5 Case Study Communities Corrientes River	Achuar Population	Amazonian Indigenous Population	1 Poor Selva Community	20 Poor Communities Nationally	National Population
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census[16] (2007)	Young Lives Study (2002)	Young Lives Study (2002)	National Census (2007)
Availability of electricity			Frequency (n)(%)			
Yes	67 63.5%	606 37.7%	9 116 13.8%	157 51.0%	1,338 65.2%	4 741 730 74.1%
From community network powered by generator	65 67.7%					
From personal generator	2 2.1%					
No	29 30.2%	1001 62.3%	57 000 86.2%	151 49.0%	714 34.8%	1 658 401 25.9%
Total	96 100%	1607 100%	66 116 100%	308 100%	2052 100%	6,400,131 100%

B2.17 Availability of electricity (household level)

[16] 'Availability of electric light from public network' (INEI 2009:135)

Population	5 Case Study Communities Corrientes River Population Aged ≥3 years	Achuar Population Aged ≥3 years	Amazonian Indigenous Population Aged ≥3 years	National population speaking Native language as mother tongue[17] Aged ≥3 years	National Population Aged ≥3 years
Data source	Household Survey (2009)	Amazonian Indigenous Census (2007)	Amazonian Indigenous Census (2007)	National Census (2007)	National Census (2007)
Education level	Frequency (n)(%)	Frequency (n)(%)	Frequency (n)(%)	Frequency (n[18])(%)	Frequency (n)(%)
None	96 17.9%	2219 22.1%	71 182 23.9%	63 134 26.1%	2 820 935 10.9%
Initial (Pre-school)	60 11.2%	279 2.8%	7823 2.6%	6519 2.7%	691 494 2.7%
Primary	248 46.2%	4042 40.3%	153 375 51.5%	116 426 48.1%	8 087 558 31.3%
Secondary	73 13.6%	2479 24.7%	56076 18.8%	44 829 18.5%	8 287 670 32.1%
Superior (not University), Incomplete	1 0.2%			3 547 1.5%	1 289 464 5.0%
Superior (not University), Complete	1 0.2%			3 099 1.3%	1 582 597 6.1%
Superior (University), Incomplete	1 0.2%	1018 10.1%	9202 3.1%	1 971 0.8%	1 192 157 4.6%
Superior (University), Complete	2 0.4%			2 609 1.1%	1858456 7.2%
Total	537 100%	10037 100%	297 658 100%	242 134 100%	25810331 100%

B2.18 Education level, population aged ≥3 years

[17] Marker used in National Census – 'native' referring to indigenous populations from the *selva* rather than Quechua and Aymara speakers, who are categorised separately.

Population			Amazonian Indigenous Communities
Data Source			Amazonian Indigenous Census (2007)
Main 'economic activities' undertaken by community members[19]	All Peruvian Amazonian communities surveyed	All Achuar communities surveyed	25 Achuar communities, Trompeteros district
		Frequency (n)(%)	
Agriculture	1748 97.9%	51 89.5%	25 100%
Fishing	921 51.6%	24 42.1%	7 28%
Animal rearing	914 51.2%	45 78.9%	14 56%
Hunting	989 55.4%	40 70.2%	19 76%
Artesania	396 22.2%	12 21.1%	0 0%
Other	292 16.3%	13 22.8%	10 40%
Total	1786 100%	57 100%	25 100%

B2.19 Main 'economic activities', Amazonian Indigenous Communities (community level)

[19] Activities were recorded at community level. Community leaders were asked to chose one or more options from a list which also included 'gathering' and 'mineral extraction' (INEI 2007: 47).

Description		Number of children (n)(%)
***Bien* – good/well/normal** *Of which:*		57 83.8%
Fully *bien*	Example: *'He lives tranquilly, a healthy boy, he doesn't have any type of illness'* (Mother describing son aged 8, Community 4)	44 64.7%
Mainly *bien*	Example: *'He has fever, he gets ill sometimes, when there are illnesses around they catch him, but he is growing up like a healthy boy*' (Father describing son aged 9, Community 4)	13 19.1%
***Mal* – bad/ill** *Of which:*		11 16.2%
Mainly *mal*	Example: *'He was born half ill...[...]...now recently he is getting better..[..]...but he is not getting chubby, like this just skinny he is growing up...'* (Father describing son aged 1, Community 3)	2 2.9%
Fully *mal*	Example: *'Sometimes she is stopped by fever....she is ill, you can see that there are blisters coming out on her body, everywhere like this blister blister on her body, she has this illness. Since she was born, she is like this, they come out on her body, weal, weal. She has this illness she doesn't sleep tranquilly'* (Mother describing daughter aged 2, Community 3)	9 13.2%
Total		68 100%

B3.1 Grouping of parent's descriptions of 'how their children are'

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