

***“The lakes are drying
and the fish are scarce”:***

**Community Identified Climate Change and
Health Priorities in the Peruvian Amazon**



**Peruvian Amazon report in support of the
development of the IHACC research program**

Introduction

The IHACC project aims to work with two Indigenous groups of the Peruvian Amazon: the Shipibo-Konibo in of the Ucayali region and the Shawi of the Loreto region. Between April and August 2010 the research team visited four communities to explore their interest in participating in the project: Panaillo (Shipibo), Puerto Consuelo (Shipibo), Nuevo Progreso (Shawi), and Puerto Porvenir (Shawi). The closest urban center in the Ucayali region was the capital Pucallpa, and in the Loreto region, the city of Yurimaguas. Communities were selected based on recommendations from local Indigenous federations and identified interest in the project. Community meetings were held in all four to introduce project goals, receive community approval, and identify research needs. In addition, interviews were held with Indigenous leaders, government officials and NGOs across the country. In two settlements – Panaillo and Nuevo Progreso – participatory methodologies were used to identify research needs during a four week research visit.

Interviews with Partner Organizations and Collaborators

Before beginning fieldwork, semi-structured open-ended interviews (see appendix 1 for interview guide) were held with key stakeholders from the government, indigenous organizations, and NGOs at the national and regional level (see table 1). The aim of the interviews was to first, understand the current state of knowledge on Indigenous health and climate change in both regions in order to guide future research objectives, and second, to seek local support for the research project. Interviewing took place the month of June 2010. All interviews were confidential and held at participants' workplace.

Table 1 List of Interviewees

Organization	Name	Position	Region
Indigenous organizations			
AIDSESP - Interethnic Association for the Development of the Peruvian Amazon	Isolina Valdez (Nurse)	Coordinator indigenous women's program	National – headquarters Lima
	Alfredo Rodriguez (Anthropologist)	Coordinator indigenous health program	
ORAU – Regional Organization AIDSESP Ucayali	Josué Faquin	President	Ucayali (Pucallpa)
	Esderas Silvano	Health Unit	
CORPI – Regional Coordinator of the Indigenous Peoples of San Lorenzo	Jamner Marihuani	Vice-president	Loreto (Yurimaguas)
FECONAU – Federation of Native Communities of the Ucayali River and Tributaries	Becky Linares (nurse)	Vice-president	Ucayali (Yarinacocha)
FECONACHA – Federation of Native Communities of Chayahuitas	Segundo Pizango	President	Loreto (Yurimaguas)
Ministry of Health			
DIRESA Loreto – Regional direction of Health Loreto	Dr. Carlos Manrique	Director	Loreto (Iquitos)
	Dr. Quiñones	Director Santa Gema Hospital	Loreto (Yurimaguas)

Red de Salud Alto Amazonas – Health network Alto Amazonas	Dr. Fernando Fernandez	Director	Loreto (Yurimaguas)
	Silvia Tarada	Coordinator external funds projects	
	Yadira Valdenau	Coordinator epidemiology	
	Lupe Flores	Coordinator quality management & indigenous health	
	Eddy Rodriguez	Coordinator environmental health	
DIRESA Ucayali – Regional direction of Health Ucayali	Dr. Cayo Leveau	Director epidemiology	Ucayali (Pucallpa)
	Andrea Rios	Coordinator sanitary services in Indigenous communities	
DESA Ucayali – Direction of environmental health Ucayali	Luis Saenz	Executive director	Ucayali (Yarinacocha)
	Simon Dextre	Projects coordinators	
Government			
Ucayali regional government	Richard Soria	Director IRDECOM – Office for the protection of Indigenous Communities	Ucayali (Pucallpa)
	Franz Tang	Deputy director natural resources and environmental management	
IIAP – Peruvian Amazon Research Institute	Fausto Hinojosa	Chief of technical administrative coordination office in Lima	National (Lima)
	Luis Campos	President	Loreto (Iquitos)
	Luis Limachi	Coordinator research program on integral forest management and ecosystem services (PROBOSQUES)	
	Virginia Montoya	Director research program on Amazonian socio-culture and economic diversity	
	Carlos Linares	Coordinator flooded forests project	Ucayali (Pucallpa)
	Francisco Sales	Regional manager – Ucayali branch	
	Diego Garcia	Research program on the sustainable forest management	
	Manuel Soudre	Research program on the sustainable forest management	
	José Choy	Research program on the information of Amazonian biodiversity	
SENAMHI – National Meteorology and Hydrology services	Marco Paredes	Regional Director	Loreto (Iquitos)
Others			
ILO – International Labour Organization	Liliam Landeo	Regional coordinator PRO 169	National (Lima)
IBC – Instituto del Bien Comun	Carlos Arana	Regional coordinator Ucayali	Ucayali (Pucallpa)
	Mario Osorio	Coordinator SICNA – Information System on Native Communities of the Peruvian Amazon	
Environmental Education Program	Loyda	President	Ucayali (Yarinacocha)

Fieldwork in Panaillo (Shipibo)

Community:

In-depth field work took place in July 2010 in the community of Panaillo, home to approximately 200 Shipibo-Konibo peoples. In the dry season (July to November), the community is accessible by road from Yarinacocha, the closest urban center, half an hour from Pucallpa, the closest city.

A 2hr drive into the jungle, alongside a tributary, takes you to the shores of the Ucayali River and to Panaillo. Across the Ucayali River, a 30min boat ride from Panaillo, is Tacshitea, a mestizo community of approximately 3,000 inhabitants. This proximity to Tacshitea is important to Panaillo. In the dry season, Panaillo acts as stopover location as it is the last stop before the river crossing, creating an opportunity for commerce in the village. Additionally, Tacshitea is a center for trade, where Panaillo villagers go to buy goods and sell produce.

In typical Shipibo-Konibo custom, Panaillo is organized as a “boulevard” alongside the tributary, with each house having direct access to the river. This is important given the dependency on the river for their livelihoods, especially fishing. Houses are built on stilts as the whole village floods over in the rainy season (December-June). The village has both primary and secondary schools as well as a health post.

Methods:

Fieldwork focused on using participatory research methods to identify important climate-related health outcomes and identify priority areas for research. Alongside ethnographic observation, two primary research methodologies were employed.

First, community members were invited to participate in **PhotoVoice workshops**. PhotoVoice is a tool that empowers marginalized communities to communicate their needs through the visual medium of photography. Participants were asked to answer the following questions: “*How does the environment affect health?*” using photography. There were three groups of study. The first was composed of the seven community leaders, a mix of both men and woman aged 20 to 65. The second group of eight were solely women aged 20 to 68. The last group were solely men aged 25 to 45. In recruiting participants an effort was made to have a diversity of age groups in order to have a variety of viewpoints. A first workshop trained individuals in the use of digital cameras, explained research ethics and the power of photography. Participants were given two to three days to take pictures which were then collected by the researcher. Together with the researcher, participants chose two pictures for group discussion at the second workshop. After a group lunch, the second workshop was dedicated to discussing the meaning of each photograph.

The second methodology was **Rapid Rural Assessment (RRA) workshops**. Community members were invited to take part in transect walks, risk ranking workshops, and biographies. Two male elders, two children, the chief, and the researcher went on a 5hr walk around the community, explaining to the researcher the different land uses by area and where the community territory ended. Fifteen villagers of both sexes and all ages took part in the two risk ranking workshops. In the first they were split into two groups and asked to free list their worries. Subsequently they were asked to classify their worries as a current problem or a future problem and as climate related or not climate related. At the second

workshop, the group was asked to explain the reasoning behind each worry. Finally the group organized the worries into categories and ranked each category from most pressing to least pressing issue. For the biographies, three villagers were interviewed.

Results summary:

PhotoVoice:

Over the three groups of participants, a total of 59 photographs were discussed. Photographs were sorted into eight main themes by participants, organized in table 2 by order of recurrence: water, medicinal plants, fishing, agriculture, deforestation, nutrition, people’s health, and pollution.

Table 2 PhotoVoice Results

Themes	Example Photo	Participants comment
<p>Water</p>		<p><i>“I know this water makes my baby sick, it’s yellow and smells like iron, but we have no alternative.”</i></p>
<p>Medicinal plants</p>		<p><i>“There’s no longer any big catahua* trees around us, you can only find it in the monte**. We use it for [describes uses]. We also used to make dug-out canoes from it.”</i></p> <p><small>*catahua: <i>hura crepitans</i> ** monte: deep rain forest</small></p>
<p>Fishing</p>		<p><i>“Mestizo fishers are a threat to our livelihoods (...) their nets empty our rivers of small fishes (...) they poison the water.”</i></p>
<p>Agriculture</p>		<p><i>“My rice is yellowing (...) when the river flooded it brought sand rather than mud (...) I’m afraid I’ll have less tons this year.”</i></p>

<p>Deforestation</p>		<p><i>“Woodcutters take away all the big trees (...) a lot of our medicinal trees also have a commercial value (...) our children won’t be able to recognize all the different species.”</i></p>
<p>Nutrition</p>		<p><i>“During the flood all we would eat was Pandisho* because no bananas would grow.”</i></p> <p>* pandisho: <i>artocarpus altilis</i></p>
<p>Peoples health</p>		<p><i>“Our traditional homes are uncomfortable (...) my wife wakes up with backaches (...) when it is cold we are completely exposed and get ill.”</i></p>
<p>Pollution</p>		<p><i>“When cars pass, they lift up all this dust that gets in everywhere, my clothes, food, and everything in my house.”</i></p>

RRA: Risk ranking:

After the first risk ranking workshop, the two groups had come up with a list of thirty worries combined. These were then arranged into a master list of fifteen, discarding duplicates. In the second workshop, participants were explained each worry and defined it as an immediate or future threat. At the end of the workshop, worries were grouped into “risk categories” and ranked, summarized in table 3.

Table 3 Risk Ranking Summary

Rank	Risk	Problems / Worries
1	Water	River water only source of water – inadequate for human consumption. Effluent from Pucallpa sewage (community is downstream).

		Accumulation non-biodegradable waste (plastics), especially wet season. Drying of tributary in dry season.
2	Health	Lack of medical services. Irregular supply of food, especially in wet season. Parasitic infection in children.
3	Agriculture & fishing	Drying of crops. Unexpected flooding which ruins crops. Scarcity of fish due to mestizo overfishing.
4	Climate	Hot summers make it too warm to harvest. No clothes for cold weather during cold spells. Impacts of illegal logging and deforestation.

Study Findings:

The primary finding from both the PhotoVoice and the RRA workshops was the concern for unsafe drinking water and water-related issues in general. Villagers only source of water is from the rivers or lakes surrounding them. Climate change could potentially increase this stressor as the dry season could be characterized by even less water. Already villagers mentioned that an increasing number of surrounding lakes are drying out: of the twenty lakes, five more than last year dried out this dry season. In addition, lower river height in the dry season makes the exit to the Ucayali River from the village tributary difficult. Boats must be pushed through the tributary as they get stuck on the river bed, complicating access to the village and daily fishing.

Findings also showed that changes in climate have resulted in a warmer dry season which is having an impact on agriculture. Villagers reported that this year's rice harvest had to be pushed a month earlier since the rice was already yellowing, taking the villagers by surprise. This might pose a threat for food-security as villagers are expecting a smaller rice harvest this year. Rice is both sold, representing the primary source of income for most villagers, and stored for personal consumption during the wet season, a time when food is scarce.

Participants mentioned worries about the increasing cold snaps. During the research period, a week-long cold snap occurred, with temperatures dropping as low as 8°C. Villagers are not prepared with adequate clothes or blankets for this type of weather, increasing their vulnerability to cold related illnesses such as upper respiratory tract infections. Results also showed that the traditional Shipibo housing directly exposes them to weather threats. Community members mentioned that they could no longer rely on natural signs used to predict the weather. For example, after a foggy morning, a warm day is expected, but during the cold spell every morning was foggy and the days never warm.

Overall, priority health priorities were defined as water-borne diseases and food security. Vulnerability to climate stressors was mainly due to indirectly from deforestation and directly from changes in local weather patterns (warmer summers and cold snaps).

Appendix 1:

Generic interview guide for IHACC IDRC project IHACC – written by Dr. James Ford, May 2010

This is a generic interview guide aimed at identifying key themes to be addressed in interviews. The aim of the interview guide is to develop a baseline understanding of the health issues affecting Indigenous peoples in the case study regions, how they are experienced and managed, links to climate and climate change, and research priorities. The information obtained will compliment the knowledge of Indigenous peoples, expert assessment, and literature review. The guide also aims to create some degree of structure between the research needs assessment in the different regions.

For each interview, record the following (at the end we will calculate characteristics of the sample population):

Organization the person represents: national, regional, local / municipal government; health practitioner (i.e. doctor, nurse etc); NGO; traditional health provider, researcher)

Persons' role in the organization:

Number of years in the position:

Direct interaction with Indigenous peoples: Yes or No

Introduce the project

We are developing a project to examine the vulnerability of Indigenous peoples and their health systems to health problems that are linked to climatic conditions and climate change. At this stage we are interviewing people to see what some of key health research priorities are and how our project can address these. The project, if successful, will be a 5 year initiative involving working closely with Indigenous peoples, stakeholders, and scientists, and will include epidemiological modeling, baseline health assessment, documentation of Indigenous knowledge on health risks and management through interview and workshops, assessment of health provision etc.

Personal introductions and background information

What role does your organization / dept. play with regards Indigenous health?

Can you tell me about what role you have and what some of your responsibilities are?

Are there other organizations / people providing similar expertise / services?

Who funds your organization?

What kinds of interaction do you / your organization / dept have with Indigenous peoples or Indigenous peoples organizations?

Do you or your organization face challenges in achieving your mandate?

Is this changing over time?

General health risks affecting Indigenous populations (current and future)

Health exposures / health risks of importance to Indigenous peoples

Can you describe some of the main health problems currently affecting Indigenous people in this region? [Water-borne, food-borne, infectious disease, chronic, food systems, mental health, intentional / unintentional injury (e.g. from natural hazards, suicide)]

Which are the most problematic health issues?

Is risk increasing or decreasing over time? [i.e. what are the trends]

Why?

Do any of these health problems have a link to climate / weather?

Do you see future health problems being the same as today?

Sensitivity to health problems

Are certain people / regions at greater risk of experiencing health problems mentioned above?

Why? [livelihoods, health status, socio-economic inequality, physiological predisposition, region of habitation etc]

Adaptive capacity (i.e. prevention, preparedness and response)

How are these health problems managed through formal means (e.g. government, NGOs, doctors etc)?

Are there prevention, preparedness, or response interventions?

Are there early warning systems in place? [developed by who and for how long]

Are there surveillance / monitoring systems that are used? [developed by who and for how long]

Are there education initiatives?

Have they been successful?

What are some of the key challenges?

What are some opportunities to better manage health problems?

How are / were these health problems traditionally managed?

Are traditional responses to preventing, preparing for and responding to health problems still utilized [give examples]?

How successful have they been?

Are they under stress?

Do they ever conflict with western medical approaches?

Are there examples of traditional responses being developed to new health problems?

Does the formal health system incorporate traditional approaches to health?

Do you see traditional approaches to health continuing to be important?

Emerging / New health problems

What do you see as the main health problems in the future?

Are there health risks that are affected by climate (directly or indirectly) which could become more problematic with climate change?

Will health systems be able to cope?

What are some of the key challenges?

Research needs

What needs to be done to begin to address some of the health problems affecting Indigenous peoples? [prevention, preparedness, education, response, surveillance, monitoring, research]

What are some of the knowledge gaps that need to be tackled to address existing and emerging health problems?

What would the priority areas be?

Can you suggest priorities for our project – we are looking to focus our work on three domains, e.g. infectious disease, chronic disease hazards etc