

INDIGENOUS WOMEN, CLIMATE CHANGE & FORESTS



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Indigenous Women, Climate Change and Forests
Tebtebba Foundation

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PREFACE

Victoria Tauli-Corpuz
Executive Director, Tebtebba
Convenor, Asian Indigenous Women's Network (AIWN)

This book contains the results of two research projects which we, in Tebtebba, supported and did jointly with our partners in several countries. One research theme was on the impacts of climate change on indigenous women. This was done so that we make more visible the differentiated impacts of climate change on indigenous women towards identifying policy and programmatic proposals, which are more sensitive to this particular sector.

Another research area was on the roles of indigenous women in traditional forest ecosystem and resource management.

We deemed it important to investigate indigenous women's situations and distinct roles and contributions to forest ecosystem management, which includes access to, conservation and use of forest resources. By understanding these more deeply, we can develop jointly with our partners indicators which are more gender-sensitive. These indicators can be used to measure the effectiveness and appropriateness of forest-related climate change and biodiversity approaches, policies and programmes in terms of addressing the distinct situation of indigenous women.

The results of these researches were also fed into two events. One was the "Global Conference on Indigenous Women, Climate Change and REDD Plus," which was held in the Philippines in 18-21 November 2010. Another was the "Global Training-of-Trainors for Indigenous Women on Climate Change and REDD Plus" held from 24-29 April 2011, also in the Philippines.

Most of those who took part in these research projects are our partners under the “Indigenous Peoples’ Partnership on Climate Change and Forests.”¹ This is a partnership we established in 2010 to implement a programme called “Ensuring Rights Protection, Enhancing Effective Participation of and Securing Fair Benefits for Indigenous Peoples in REDD Plus Policies and Programmes” which is supported by the Norwegian Climate and Forest Initiative through NORAD (Norwegian Agency for Development Cooperation). The general objective of this programme is:

‘to ensure that the protection and respect for indigenous peoples’ rights, fair and equitable benefit-sharing, recognition and integration of traditional knowledge, practices and customary governance on forests, and effective participation of indigenous peoples and local communities are reflected in the design, implementation, monitoring and evaluation of REDD Plus policies and programmes at the global and national levels.’

Initially, the partnership was composed of indigenous peoples’ organizations and networks from Indonesia, Kenya, Nepal, Nicaragua, Peru, and Vietnam who agreed with the objectives of the program and the partnership. These countries were chosen because NORAD specifically required that our partners come from countries which are considered REDD countries as they are included as target countries of the World Bank’s Forest Carbon Partnership Facility (FCPF) and the UN-REDD Collaborative Programme. Along the way, we included Maleya, our partner in Bangladesh, who did not benefit from the NORAD money but would like to take part in the activities done by the partnership using their own resources.

When we were able to get additional resources from the Climate Land Use Alliance (CLUA) in late 2009, we included partners from Brazil and Mexico. For the second phase of our NORAD-

funded project (2011-2013), we included the Philippines which by 2011 is already considered a REDD Plus country.

To achieve our objectives, we and our partners engage in research and documentation, awareness raising, training and education, and policy advocacy work at the local, national, regional and global arenas. Our partners also identified specific communities as demonstration areas where they undertake research and promote activities to reinforce the traditional forest ecosystem management practices. In these communities, they also aim to strengthen traditional livelihoods or develop alternative small-scale livelihood projects which will help them lessen their pressures on the forests. Since forests are one of the main sources of carbon dioxide emissions which contribute to climate change, we believe it is important to strengthen ways in which indigenous peoples are able to decrease emissions from forests.

In 2010, the research on the themes indigenous women and forests already started and those mainly involved are indigenous women, themselves. We got some indigenous women who are not part of the Partnership but are members of other networks such as the Asian Indigenous Women's Network (AIWN) and the Indigenous Peoples' Global Research and Education Network (IPGREN). Tebtebba serves as the secretariat for these networks.

This year, 2011, has been declared by the UN as the International Year of Forests. Getting indigenous women to write their own stories on how climate change is affecting them and what they are doing to ensure that forests contribute to solving this problem is a good way of celebrating this year. For too long, indigenous women have been kept out of the picture in the discourse on forests and forest-related traditional knowledge. Yet, they play vital roles in sustaining the forest ecosystems in their territories and in transmitting the traditional knowledge to the younger generations.

Before the International Year of Forests ends, it would do indigenous women more justice if their stories gain more visibility. It is hoped that recommendations emerging from forest-related global processes and mechanisms such as the International Year, the UN Forum on Forests, UNFCCC (UN Framework Convention on Climate Change), forest processes and programmes of the CBD (Convention on Biological Diversity), and national processes and bodies will address indigenous women and acknowledge their knowledge and contributions in sustaining the last remaining forest ecosystems and biodiversity hotspots in the world today.

We certainly hope that this book will be used by States and non-state actors to make their policies and programmes on forests, biodiversity and climate change, including REDD Plus, more responsive and relevant to indigenous women's situations and needs. We also hope that indigenous women, especially those who are forest-dwellers and forest-dependent, will gain more confidence in asserting their place, knowledge and rights as the keepers of traditional forest-related knowledge and practitioners and custodians of the world's remaining forests and biodiversity.

I would like to thank all our partners, some of which were the researchers and writers of the various chapters of this book, and some who identified and supervised the researchers. I also thank all my colleagues in Tebtebba—from the Research Desk (Helen Magata, Marissa Maguide-Cabato, Jo Ann Guillao, and Mikara Jubay-Dulay) and the Gender Desk (Ellen Dictaan-Bang-oa, Christine Golocan and Beth Bugtong), who worked closely with all the researchers and writers; and the editors (Dr. Willy Alangui, Ruth Tinda-an and Grace Subido). I thank Raymond De Chavez, Paul Nera and Marly Cariño of the Publication and Communication Desk for doing the book design, lay-out, copy editing, proof reading, and press work; and to Bong Corpuz of the Administration Desk for constantly reminding all of us of the timelines we needed to meet.

Endnote

¹ Our partners in the 11 different countries are the following: **Indonesia** - AMAN (National Federation of Indigenous Peoples' in the Archipelago) and Tanjung in West Kalimantan through ID (Institut Dayakologi) and AMAN-JK (AMAN chapter in Tanjung); **Nepal** - NEFIN (National Federation of Indigenous Nationalities) and Khasur Village in Lamjung through NEFIN-Lamjung District Coordinating Committee District; **Vietnam** - CERDA (Center for Research and Development in Upland Areas) and Binh Long Commune and Cuc Duong Commune in Vo Nhai District, Thai Nguyen Province; **Bangladesh** - Maleya; **Kenya** - MPIDO (Mainyoto Pastoralists Integrated Development Organisation) and LDF (Loita Development Foundation); **Nicaragua** - CADPI (Centro para Autonomia y Desarrollo de los Pueblos Indigenas) and Tasba Pri Community; **Peru** - CHIRAPAQ (Center for Indigenous Peoples' Cultures in Peru) and Reserva Communal Yanesha, Sector Pampa Hermosas, Junio Siete through FECONAYA (Federacion de Comunidades Nativas de Yanesha); **Philippines** - MRDC (Montanosa Research and Development Center) and Tinoc, Ifugao and SILDAP (Silangang Dapit sa Sidlakang Amihang Mindanao) and Maco, Compostela Valley, Mindanao; **Brazil** - CIR (Conselho Indigena de Roraima); **Cameroon** - Lelewal; and **Mexico** - SER-Mixe (Servicio de Pueblos Mixes) and ASAM-DES (Asamblea Mixe Para Desarrollo Sostenible in Santiago, Malacatepec, Oaxaca).

INTRODUCTION

Victoria Tauli-Corpuz,
Executive Director, Tebtebba and Convenor,
Asian Indigenous Women's Network (AIWN)
Eleanor P. Dictaan-Bang-oa, Gender Desk, Tebtebba
Secretariat, AIWN

Introduction

Indigenous peoples and civil society actors, together with some States Parties, succeeded in getting climate change decisions and agreements to recognize the link between human rights and climate change. The Cancun Agreements of the 16th UNFCCC Conference of Parties (COP 16) included references to human rights and also noted the existence of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).¹ This is a significant development because this affirms the importance of differentiating vulnerabilities and potentials on the basis of geography, gender, age, minority or indigenous status, and disability when analyzing and addressing climate change impacts.

The process of differentiating impacts of climate change on women, indigenous peoples, farmers, among others, and their contributions to mitigation and adaptation are crucial when climate change policies are formulated and programmes are designed, implemented and evaluated. The extent of work done around differentiation can define the success or failure of projects and programmes. Addressing climate change from this perspective helps surface issues of social justice, equality and empowerment, which sometimes are ignored in the climate change debates.

Vulnerability and Potentials of Indigenous Women in Relation to Climate Change

Indigenous women are among those who are highly vulnerable to climate change impacts because of several factors. First, most of them are highly dependent on natural resources and the integrity of the ecosystems or territories they inhabit to be able to perform their productive and reproductive roles and responsibilities in their societies. The majority of indigenous peoples live in territories or ecosystems which are very fragile and vulnerable to climate change. These territories include the Arctic, high montane areas, small islands and low-lying coastal regions, forests, grasslands and the savannah. Generally, indigenous women are the ones responsible for provision of food, fodder, water and fuel, care of the young, elderly and the sick and the transmission of traditional knowledge to the younger generations. Any development which diminishes their access to resources needed by them to perform these responsibilities will have serious repercussions on everyday lives of their families and communities.

Secondly, they are still subjected to the worst forms of racism and discrimination, physical, sexual and psychological violence, human rights violations, and social and political exclusion. This is because they are women and because they are indigenous. Patriarchy is still dominant in both traditional and dominant cultures. While there are remnants of matriarchal and matrilineal societies among indigenous peoples, the influence of modernity eroded much of these. Discriminatory and racist behavior and mindsets against indigenous peoples are still prevalent, despite the existence of international norms and standards established and ratified by these States Parties. The inequalities and injustices related to access to climate change finance, technologies and technical assistance are very much linked with discrimination. The invisibility of indigenous women in the big picture of climate change impacts and

solutions is a function of the general insensitivity or blindness to gender and ethnicity perspectives and issues.

Thirdly, according to statistics, indigenous peoples are over-represented among the world's poor. They compose around five per cent of the world's population, but they constitute around 15 per cent of the poorest of the poor (UN 2009, 21). It is safe to assume that indigenous women compose the majority of this 15 per cent. Their vulnerability to climate change impacts is higher as they do not have the resources needed to adapt to when more frequent droughts, floods, stronger hurricanes, etc. strike their territories and homes.

But indigenous women also have strong potentials to contribute to climate change mitigation and adaptation. Since they greatly depend on the various ecosystems and the services emanating from these, they have the knowledge on how to sustain and manage these and how to adapt when changes occur. Many of them are traditional knowledge holders and practitioners of sustainable development. They are among those sectors of society who have the smallest ecological footprints.

Indigenous Women as the Researchers and Subjects of Research

It is within this context that we, in Tebtebba, and our partners endeavored to do research on how indigenous women's general productive and reproductive roles are affected by climate change. We started with some assumptions which are based from our long years of work with indigenous peoples, in general, and indigenous women, in particular. Our first assumption is that indigenous women are disproportionately impacted by climate change. Researchers are asked to investigate these impacts. The second as-

sumption is that indigenous women have significant knowledge and contributions in sustaining their ecosystems or territories, especially in relation to conserving and sustainably using biodiversity, and in forest and water management.

The main researchers and writers of the chapters of this book are indigenous women. Most of them still live in the territories where they did the research. They are also engaged in the daily work of empowering their own communities to be able to mitigate and adapt to climate change.

As mentioned in the Preface, this research project is part of the project of Tebtebba on climate change. This project is called “Ensuring Rights Protection, Enhancing Effective Participation of and Securing Fair Benefits for Indigenous Peoples in REDD Plus Policies and Programmes.” Our collaborators in this research project are mainly our project partners who organized themselves in a network called “Indigenous Peoples’ Partnership on Climate Change and Forests.” The members of this partnership are mentioned in the footnote of the Preface. We also included colleagues who are not officially part of the project but whom we encouraged to contribute because their work is relevant for the issue under consideration.

Our partners who contributed to this work are the Centre of Research and Development in Upland Areas (CERDA) in Vietnam, Nepal Federation of Indigenous Nationalities (NEFIN), the Mainyoito Pastoralists Integrated Development Organisation (MPIDO) in Kenya, Lelewal in Cameroon, the Center for Indigenous Peoples’ Cultures of Peru (Centro de Culturas Indígenas el Perú or CHIRAPAQ) in Peru and the Center for Empowerment and Development of Indigenous Peoples (Centro para la Autonomía y Desarrollo de los Pueblos Indígenas or CADPI) in Nicaragua. Except for CERDA, all these organizations are run and managed by indigenous peoples.

The other two researches in Bangladesh and China were done by member organizations of the Asian Indigenous Women's Network (AIWN)—the Maleya Foundation in Bangladesh and the Yulong Culture and Gender Research Center in China. Wangki Tangni is not a direct partner of Tebtebba but they are part of the Foro Internacional de Mujeres Indigenas (FIMI), an indigenous women's network which Tebtebba is a member of.

Normative Frameworks

The UNDRIP is the main normative framework for this research project. The social safeguards for REDD Plus contained in Appendix 1 of the Cancun Agreements of COP 16 noted the adoption of the UNDRIP by the UN General Assembly. In terms of safeguarding human rights, the need to respect the rights and knowledge of indigenous peoples and ensure their full and effective participation in all REDD Plus processes were acknowledged. Gender issues was also identified as an important element to be addressed.

The UNDRIP enshrines the collective and individual human rights of indigenous peoples and is underpinned by the basic principles of International Human Rights Law, which are equality and non-discrimination. It includes, among others, the rights to lands, territories and resources; the right to self-determination; right to development; and the right to have their free, prior and informed consent obtained before any development project is brought to their communities. Article 44 specifically provides that all the rights and freedoms recognized under the Declaration are equally guaranteed to indigenous men and indigenous women.

Some of the articles of the UNDRIP are also reiterated in other environmental and human rights conventions. The vital role

of women in the conservation and sustainable use of biological diversity is recognized by the Convention on Biological Diversity (CBD). The CBD also affirmed the need to ensure “the participation of women at all levels of policymaking and implementation for biological diversity conservation.” It further provides for a specific framework for the participation of indigenous women in the programme of work on the implementation of Article 8(j), the CBD article on traditional knowledge of indigenous and local communities.

Many other UN processes have emphasized the need to integrate the gender dimension in sustainable development that recognizes the importance of women’s traditional knowledge and practices. These include Agenda 21, the outcome document of the UN Conference on Environment and Development held in 1992; and the Beijing Platform of Action (1995), the outcome document of the 4th World Conference on Women.

Indigenous Women in Forests

Statistics show that “more than 1.6 billion people around the world depend on varying degrees on forests for livelihoods. At least 350 million of these live inside or close to dense forests, largely dependent on these areas for subsistence and income while about 60 million indigenous peoples are wholly dependent on forests” (World Bank 2006c). These numbers, we believe, is an underestimation.

Recent data on India shows that the population of tribals/indigenous peoples or those called Adivasi is around 84.3 million (IWGIA 2009). The big majority of this population, 84 per cent, are tribals or indigenous peoples living in forests (Gregersen et al. 2011 and Sunderlin et al. 2007). Roughly, this will be 70.8 million

which exceeds already the World Bank estimation of 60 million forest dependent indigenous peoples. The estimated population of indigenous peoples in Indonesia is between 30 to 40 million (IWGIA 2009). Again, the big majority are also forest-dwelling and forest dependent. Thus, just from India and Indonesia alone, there can be a total population of more than 100 million indigenous individuals depending and living in forests.

If we include those who are from forests in the Philippines, Bangladesh, Mekong region and the rest of Asia; then those from Africa, Latin America, the Pacific, North America, the Arctic, Eastern Europe and Russia, the numbers can easily add up to more than 200 million. Much more work needs to be done to empirically establish these numbers, which is not the focus of these researches. If indigenous women compose half of the population of those who are living and dependent on forests, then their population can be around 100 million. This is not an insignificant number.

Our history as human beings and our relationship with forests dates back millions of years ago. Historians say that our original homes are the forests and our ancestors lived there for 90 per cent of human evolutionary history. It has only been in the last few hundred years that most of humankind separated from this evolutionary history.

Among those who still remain in the last remaining forest ecosystems are indigenous peoples. They have sustained these at the risk of life and limb especially when colonizers and post colonial nation-states wrested ownership and control over these forests from them through decrees and laws. This explains why most of the remaining forest ecosystems and biodiversity-rich areas today are found in indigenous peoples' territories. Since many indigenous peoples rely on forests for their very survival, it would be foolish for them to destroy that which provides them sustenance and life.

Impacts of Climate Change on Indigenous Women and their Roles in Forests

The chapters in this book attempted to cover the following areas:

- Indigenous women's traditional knowledge and practices in tropical forest ecosystems in Cameroon, Kenya, Nepal, Nicaragua, Peru, Vietnam;
- Description of the social, cultural and political context within which indigenous women developed their knowledge and practices on forest ecosystems management;
- Impacts, issues and challenges caused by climate change which are faced by indigenous women which affect their productive and reproductive roles and responsibilities; and
- Actions and responses to these issues and challenges, including adaptation strategies indigenous women employed in the areas of livelihood, food and energy security, and recommendations on how to address some of these.

The first part of the book deals with the situation of women who depend on forests and their stories on how they are coping with climate change.

The first two papers are stories from Autonomous Region of the Atlantic Coast of Nicaragua (RAAN). Rose Cunningham Kain, a Miskita herself, wrote the paper "The Grandmothers of the Wangki." She engaged in free-wheeling conversations with women elders of Wangki, or the Coco river, in the municipality of Wasparam, Northern Nicaragua. They told her stories of their day-to-day observations and interpretations of changes taking place in their physical and social environment. According to her, listening to these stories is like "being in front of a living encyclopedia," which describes their origins and histories as a people. Most of their stories deal with their belief systems and their comparisons on

how life has been in the past and how it is at present. Cunningham describes how indigenous knowledge is orally transmitted and explained the essence of indigenous peoples' spirituality:

'The spirituality of our peoples manifests itself in conceptions of and relations with nature, as well as in practices that involve nature during ceremonies, in relationships with family and neighbors, and in children's games. These also make up a part of the large learning space that is present in daily life and are similar to the cultural and productive practices that differentiate us from other sectors.'

These intimate conversations reflect the Miskito women's rich knowledge and deep relationship with land and nature as they describe in detail climatic changes through the years. Based on their lifetime experiences and observations, the grandmothers of Wangki share the impacts of climate change on their culture and belief and value systems.

The second paper, entitled "Forests and Indigenous Women in Tuapi: Return to Auhbi Piakan," is written by Nadia Fenley. It focuses on how Miskito women from the Tuapi community in Puerto Cabezas survived Hurricane Felix in 2007. Hurricane Felix was a wakeup call for the indigenous communities of Nicaragua, even as the changes brought about by extreme climate conditions have been observed for the past 30 years. The study provides a glimpse of how traditional knowledge and traditional structures interact with the formal governance structures to advance community recovery from the devastating impacts of Hurricane Felix. It presents how Miskito women regard relief and rehabilitation efforts extended by external actors and their proposals for disaster risk-reduction that address the balance between man and nature.

Rooted in the Miskito notion of *yamni iwanka*, these two studies associate climate change with the erosion of values and re-

sponsibility over nature and the “ambition to extract from nature.” Both studies argue that such a change in the values towards nature arises from the increasing monetization of the local economy and other external influences. Cunningham and Fenly draw on women’s stories and approach the issue of climate change from an intergenerational perspective. They underscore the significance of traditional knowledge, values and practices, and the need to collectively build on what is left to foster community resilience, both for the present and future generations. The Miskito women in the study areas described the traditional system of mutual help called *pana-pana/bakahnu*, which they believe should be further strengthened and practiced more often.

The fourth paper on Cameroon written by Lelewal presents how, hunting and gathering—a traditional way of life that has been sustained through generations—is fast disintegrating due to the cumulative impact of industrial logging and conservation projects. This is exacerbated by the impacts of climate change. The Baka Pygmies from the different villages in Tha Te town of Djoum, Cameroon, have been displaced from their forests by government and conservation authorities. From a hunting and gathering culture, they are pushed to live by the roadside to a semi-sedentary lifestyle. They had to learn how to do crop domestication in order to survive, as they are curtailed from doing their traditional hunting and gathering practices in the Congo Forest, their traditional home and territory.

One of the main impacts of climate change is the reduction of rain and the exceedingly long and hot dry seasons which have reduced significantly the volume of water in their springs, streams, rivers and wetlands. This led to the reduction of the number and size of a fish called *Nbwakha*, which is very important in the initiation rites of Baka girls into the Yeyi. This is a rite of passage to Baka womanhood. The initiation ritual for girls aged 15-23 is done in the forest as part of the annual *Libanji* Festival. According to

Lelewal, the disappearance of the large-sized Nbwakha, was observed since 1997. As this is what is required for this ritual, no such initiation rite has been done in Djoum since that time. This has serious cultural repercussions for the Baka women.

They interpret this disappearance as a sign of the wrath of *Komba* (the Creator) and they blamed themselves for this. However, when they learned that this is a possible result of climate change and they can still increase the amount of water by planting *Raffia* palms, this led them to learn how to plant trees. According to the Baka, planting trees in the forests or crops for food have never been a part of their culture and livelihoods. So now they have to do these to adapt to the changes.

The fifth paper is on Nepal. The villages which were studied were Khasur and Kalleri, Banjket VDC-1 of Lamjung District in Western Nepal. Khasur is dominated by Gurung peoples and Kalleri by the Bhujet peoples. The forests of Khasur, around 337 hectares, have been classified as community forests since 1992. This is the result of the Community Forestry Act of Nepal which was enacted after a situation of massive deforestation in the whole country. Part of this law mandates the establishment of a Community Forest Users Group (CFUG) which is the main body in charge of overseeing the use and management of the forest. Very strict rules are developed which guide the community people on how to utilize the forest resources.

According to the authors, Tsering Sherpa and the women of Khasur Village, some of these rules are consistent with traditional or customary laws regarding forest management which are called *Riti-Thiti Phaiba* or *Riti Badhne*. These rules determine when the forest is closed to cattle grazing and when this is open, when they are allowed to cut trees for timber, when to gather fuel, fodder and medicinal plants. Failure to abide by these rules requires the violator to pay fines or other penalties. The forest is a center of spirituality. Community worship of a huge rock or tree called

Sachi-Sildo, which is considered as a god or goddess, is done. They regard the forest a nature god and they call this god *Shim-Bhume*.

Sacred groves within the forests are highly protected. No filth is allowed in those places and women who have their menstrual periods are also banned from entering these groves. The roles of women and men are strictly delineated. Women collect fuel, food (wild fruits, berries, nuts, spices, etc.), fodder, and medicinal plants. They are in charge of bush clearing. Both women and men do pruning, cleaning and collecting of dirt but men are the ones in charge of cutting branches and selective tree felling. As expected, women's participation in decision making are lower compared to men. However, through the years, due to the assertion of women themselves, their numbers increased in the CFUG committee and they are actually the more active members now. Another factor which led to this is the increasing outmigration of men to work-places, such as construction sites in the urban areas.

Unfortunately, the women of Kalleri are not in the same situation. Their participation is very low and the authors attest this to the fact that they have a high level of illiteracy and poverty compared to the Khasur women. Also because of poverty, the indigenous women also go out of their villages to work in construction sites, as well.

As far as impacts of climate change are concerned, the communities have experienced a significant decrease in food production because of erratic rainfall which disturbed the usual agricultural cycles. The disappearance of the snowcap in their mountains also contributed to this decline. One of their beliefs is that the snow in the mountains contribute to bountiful harvests. To adapt to these developments, they are now planting crops which require less water and the seeds for these the so-called improved commercial varieties. This is causing the disappearance of native seed varieties.

The women elders still recall the earlier times when they were highly dependent on their thick forests and their customary land tenure systems were respected. It was after the Nepal government nationalized their forests and declared that these belong to the King, that massive deforestation happened. The research for this paper shows how marginalized women are in terms of ownership of private lands. From an earlier research done by ANWA (All Nepal Women's Association), it was established that men owned 90 per cent of private lands and only 10 per cent are owned by women. This ownership pattern also applies to women from Khasur and Kalleri.

Senjuti Khisa, who wrote the last paper for this part of the book, describes the perspectives of indigenous women in the Chittagong Hill Tracts of Bangladesh on the impacts of climate change, especially in their practice of *jum* cultivation. She enumerates several strategies they have taken concerning food security, forest biodiversity conservation, environmental balance, and livelihood. The study presents the story of Dil Rani Tripura who was able to keep traditional *jum* rice seeds up to the present despite the massive acceptance and use of new and better yielding varieties in the area. Today, Dil Rani has remained firm in propagating and practicing her knowledge of preserving seeds of traditional *jum* crops through her granddaughter and other interested members of the village.

What is common in these papers is the erosion of knowledge, values and norms that govern traditional forest management. This erosion results from a multiple of interacting factors like the introduction of state laws and formal concepts of private ownership, profit-oriented economic development, exclusive forest conservation schemes, as well as the influences of religion and modernization. The differential impacts of climate change on indigenous women and their territories exacerbate the prevailing situation.

There is a common appeal for the need to address the loss and erosion of valuable traditional knowledge and customary governance systems, which has allowed the continuing existence of some forests which are still with us today. These can come in the form of specific recommendations for policy reforms and more appropriate designs and implementation of climate change adaptation and mitigation measures which address the differential impacts on indigenous women and which affirm and reinforce the systems which work not only for them but for the planet.

While recognizing complementarity in the roles of women and men in traditional forest management, the studies at the same time, point out the need to strengthen women's full and effective participation in the decision making structures and processes, both traditional and contemporary. To do this, there is a need to increase support for capacity enhancement that will build on their knowledge, skills, and initiatives. The goal is to increase and strengthen their visibility as well as their access to and control over forest resources.

Part 2 of this book is on "Indigenous Women and Traditional Forest Management." The five studies in this section dwells, mainly, on indigenous women's knowledge and practices that have contributed to the sustenance of the last forest stands and biologically diverse frontiers in their countries. These are studies done in indigenous communities in Nicaragua, Kenya, Peru, Vietnam, and China.

Julie Ann Smith Velasquez wrote the first paper on the challenges faced in the struggle for equality in Tasba Raya, in the RAAN in Nicaragua. She discusses the concept of territoriality and the Miskito notion of well being. How do the Miskito women in Nicaragua define *yamni iwanka* (good living) and what is the significance of the Miskito territory in attaining this concept? She summed up what good living means based on what she got from women she interviewed:

‘Good living is characterized by families living in harmony. Further, it is life wherein there is balance between men and women, as well as between humans and nature and environment. It is living in unity with the community, living in an organized manner, having space in which one can sow seeds in order to have food to eat, and it is one which recognizes equality in the social, political and economic spheres.’

She explores how Miskito women are realizing *yamni iwanka* by looking at their use, access to and control of resources within the territory and their participation in decision making spaces. Based on this, Velazquez identifies several challenges that the Miskito women face in their search for *yamni iwanka* and offers recommendations on how such challenges could be addressed.

While very particular to the Miskito women of Tasba Raya in Nicaragua, Velazquez presents a context by which indigenous women, globally, identify with their territories, which are their “spaces of life” from which the elements of good living like spirituality, values, rights, roles and responsibilities arise. Forests, the main subject of the case studies, are considered by indigenous peoples worldwide as a vital part of this space of life; hence, without them there is imbalance, and the indigenous way of life is put at risk.

The studies that follow further elucidate the centrality of forest in the lives and existence of indigenous women and their communities. While describing the forest-related activities of indigenous women, each paper at the same time highlights the extent of their knowledge and their roles in the protection and sustainable use of forest resources.

Stanley Kimaren, who authored the second paper, writes on the dependence on the forests by the Loita Maasai indigenous women who are mainly pastoralists. The research site were Olorte

and Entasekera locations within the Loita Division, Narok South District, Kenya. The Loita Division is almost 99 per cent Maasai. The Maasai pastoralists are highly dependent on the ecosystem services provided by the forest such as provisioning services (food, water, fiber, fuel, fodder); supporting services (nutrient cycles, soil formation, primary production); regulating services (climate regulation, flood regulation, disease control, water purification); and cultural services (spiritual, educational, aesthetics, recreational). He underscores the forest-associated element of fire and its cultural significance in the Maasai lifecycle.

The Loita Forest, which is also called *Entim e Naimina Enkiyio* (Forest of the Lost Child), according to Riamit, is “one of the few non-gazetted and largely undisturbed indigenous forests in Kenya.” He described the Loita Forest as an ecosystem which:

‘demonstrated existence of intricate, fluid and differentiated forms of ownership, access and control of sections or specific forest resources, ranging from rights of and access to grazing and watering areas for livestock use; sacred sites and trees for spiritual activities; sites for enactment of various cultural practices including rites of passage, sections for firewood and honey harvesting, among others... The distribution of rights, roles and responsibilities is determined by the socially ascribed roles to perform certain duties related to particular forest sites and resources...’

The role of cultural norms and taboos in forest management are effective ways of ensuring sustainable forest management. The importance of strengthening traditional structures and processes, Riamit argues, is one of the ways to ensure better conservation and protection of forests and sustainable use of forest resources. The Maasai culture is not very different from other cultures which perpetuates the system whereby the women are rel-

egated mainly to do domestic work and other household duties in the private domain. The men are the ones mainly working in the public domain and are the primary decision makers:

'In the customary pastoral context, women have reduced access to land and natural resources, reduced ability to earn a living and less voice in decision-making. Influenced by cultural practices, the socialization processes has perpetrated gender inequalities in Maasai land.'

The Maasai argument, according to Riamit, is that community women's absence in these traditional structures and processes does not necessarily reflect the non-recognition of women's role in forest management. While this idea may need further elaboration, it nonetheless demonstrates that even in traditional institutions where women are seemingly invisible, there are spaces through which indigenous women are channeling their voices and agency.

This paper contains several recommendations to address the inequalities Loita Maasai women suffer from. He mentioned the recent gains the Maasai achieved in the recent amendment of the Kenya Constitution. This recognizes the need for affirmative action on women. One of his recommendations is to operationalize this provision. He calls on the States to "address societal structures and patterns that perpetuate injustices, including ensuring women's rights of access, control and ownership of property, especially land."

CHIRAPAQ, the author of the third paper, focused on the situation of the Yánesha women and involved two Yánesha women in doing the interviews. The areas covered were Shiringmazú and Siete de Junio communities, Palcazú District, Oxapmapa Province in the Pasco Region in the Amazon forests of Peru. The authors shared the concepts of the Yánesha on what is a good forest:

'For the Yáneshas, a forest that is in good condition is a favorable habitat for mammals, birds, mollusks, fish and insects—all of which provide protein. A large forest is where succeeding generations of Yáneshas can access arable land in the pampas or in the river banks. It is where fruits, seeds, leaves, lianas (or creepers), reeds and palm trees are accessible to families for food, healthcare, upkeep of a house, musical instruments, clothes and other things. It is also a place where rivers and streams stay cool rather than heat or dry up during summer months.'

This is clearly a description from a female perspective as it basically reflects the multiple function of forests especially as these support the productive and reproductive roles of the women. The authors enumerated the guiding principles which the Yánesha peoples use in relation to the way they relate and manage their forests in the Amazon. These are the principles of complementarity, self-sufficiency and redistribution, diversity, intergenerational learning, spirituality, and diligence.

The study illustrates the way these principles are used in the day-to-day activities of indigenous women, including in the way the forest governance systems are shaped and in the way the *ponapnora*, an important traditional ceremony for womanhood, is performed. This is a ceremony done when the Yánesha girl has her first menstruation. She undergoes fasting and follows a strict diet of yuca. A hut is built for her in the forest to give her privacy for her physical and spiritual purification. While she is here, she learns how to sow and sing. This traditional ritual “strengthens the role of women in the family and their relationship to the forest...which is considered a place of cleanliness and preparation for teenagers who will have their own families and who will preserve the forests...”

Interestingly, these principles and regard for forests are common among several indigenous peoples as can be gleaned from the other studies in this book. This is seen also in the study on the Loita Maasai in Kenya and on the Gurung peoples of Lamjung District in Nepal. What is also interesting in this paper is the identification of threats to the transmission of traditional knowledge and practices. Among others, what were identified were the need for indigenous children to go to the cities for their secondary education, the influence of Evangelical and Adventist Churches and the lack of policies and programs to recover, disseminate and teach the Yáneshas their own history.

CERDA's study, which is the fourth paper, was done in North of Cuc Duong Commune, Vo Nhai District, Binh Son in Vietnam. This paper focused on the story of Dien Ma Thi, an 81-year old Tay woman whose knowledge and advocacy on the importance of a healthy forest was a major factor in arresting deforestation and forest degradation. Deforestation was facilitated by the shift from a subsistence economy to a cash economy. Another factor is the declaration by the State that it owns these forests. This happened in 1980. The State gave itself the license to freely exploited the forests and to provide licenses to the private sector to do likewise. These moves are justified in the name of national development.

Amidst this situation of deforestation, Dien Ma Thi's knowledge, experience and passion for forest protection and conservation influenced the establishment of community-defined forest rules and regulations, which are dutifully implemented and monitored by women. She strongly believed that a forest with diverse species is much more useful and healthy than monoculture forests which are being promoted by the State. So she revived the traditional knowledge and systems of forest protection and, together with other women, developed strict rules and regulations in accordance with the principles of diversity, respect and sustainability.

They developed this forest protocol or convention where they identified where the important watersheds are, which need to be protected.

In the interviews done by the researchers, the indigenous women or ethnic minority women (as the State refers to them), related how they used the local forest convention to protect the forests. They claim that they have a better understanding of the forests compared to the men. Their vigilance in terms of monitoring, reporting and preventing cases of illegal forest activities led to the imposition of high penalties to these illegal loggers. They are also consciously teaching their children and grandchildren about the value of forests and what they should do to protect these.

Siyu Li of the Yulong Culture and Gender Research Center wrote the last paper for this section. She provides a snapshot of how Naxi women in Shitou Bai Ethnic Township in Yulong Naxi Autonomous County in China, are transmitting knowledge and values about the forest. They still observe traditional rites and rituals, and still practice their folk songs, dances and festivals. Aside from the division of roles, she also distinguishes the different ways in which women and men put value on forests based on use and function.

Among indigenous peoples, the forest is a resource base governed by traditional knowledge and values that are deeply embedded in culture and spirituality. Food, housing, medicines, and water are just some of the benefits indigenous women and their communities directly derive from the forests. According to Siyu Li, the main challenge facing indigenous women's participation in forest management is their restricted participation in formulating, planning and implementing forest policies. They have marginal participation also in village and forest management committees including the Village Communist Party Branch. She says:

'As can be observed, the village is still largely patriarchal in structure and this social arrangement does not include a lot of space for the acknowledgment of women's potential and contribution. With their exclusion in forest management coupled with their lack of chances to voice opinion or acquire further education, indigenous women, to some extent, seem to have lost initiative to even do their traditional roles such as planting trees. They also feel powerless and helpless in adapting to climate change.'

In this context, she presents some recommendations on how the problems of women can be addressed. She calls for the establishment of laws which will increase the number of indigenous women in decision making bodies and to increase their participation in forest management at village and county levels. She recommends that the capacity and confidence of indigenous women be further enhanced through awareness raising and education and training activities.

The last section of this book is the Mandaluyong Declaration of the Global Conference on Indigenous Women, Climate Change and REDD Plus. This was the Unity Declaration agreed upon by the indigenous women who took part in the Global Conference in 2010. This summarizes the differential impacts of climate change on indigenous women which were shared by the participants in the conference. It also contains the recommendations on how indigenous women can effectively adapt to and mitigate climate change. The participants offered their knowledge and skills in finding solutions that respect rights and their ways of life, and uphold their dignity as women and as indigenous peoples.

Endnote

¹ The Preamble of the Cancun Agreements (Decision 1/CP.16 of Doc. FCCC/CP/2010/7/Add.1, p.2) says; “Noting Resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of human rights and that the effects of climate change will be felt most acutely by those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability.”

In addition to this, the Section on “Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries” “recognized the need to safeguard human rights of indigenous peoples. Appendix 1 of the Cancun Agreements which spelled out these safeguards noted the UN Declaration on the Rights of Indigenous Peoples.

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INDIGENOUS
WOMEN &
CLIMATE
CHANGE

VULNERABILITY AND
POTENTIALS OF
INDIGENOUS WOMEN
IN CLIMATE CHANGE

PART



THE GRANDMOTHERS OF THE WANGKI

BY ROSE CUNNINGHAM KAIN
CENTER FOR THE INDIGENOUS
PEOPLES' AUTONOMY AND
DEVELOPMENT (CADPI)
WANGKI TANGNI



Traditional Folktale

The woman who wanted to see her land and turned into a buzzard.

There once was a woman who was very sad to leave her home by the Coco River when the Sandinistas forced her and her people to move to Tasba Pri.¹

She wanted to fly over the land of her memories to see the condition of the river (in the 1980s). So, the woman put a cloth on her head as if it were a pair of wings, climbed the stairs in her house, and tried to fly like she did in her dreams. Naturally, this left her with a few bruises. She kept trying as if a strange force was moving her until her neighbor gave her some advice:

‘Go to the healer,’ she said with an air of certainty. ‘The Sukia will make you fly.’

So, she went to the Sukia’s house. After a thorough examination and some words of advice, he made her sleep.

‘Close your eyes,’ the Sukia ordered firmly. ‘Imagine your body is light. You are shedding the weight of the world, your skin is turning little by little into feath-

ers. You will see with the eyes of the soul. But be careful. There is the danger of seeing what you don't want to see: harsh reality. If sadness traps you, you will become part of the landscape of your desires.'

Somewhere between slumber and reality, she began to fly. She felt as if her body had turned into a light structure. She moved her arm and did not feel any weight. Her legs were light. She extended her arms and began to fly. From above she could see the beauty of the mountains, but sadly, she could also see the destruction of Waspam. Its color had changed to a dull, dry hue, and she could see terrible rain that made her flight difficult.

During her trip, she noticed how animals were dying from drinking water poisoned by the mines, as well as how people were poisoning the rivers in order to fish.

'Don't stop!' she said to herself. 'Keep flying until you arrive home.'

Her first trip was over. She was filled with a mixture of sadness and yearning.

Despite the images of destruction she saw on her first flight, she returned to the Sukia's house for a second time and asked him to make her fly again.

'Very well,' said the Sukia timidly. 'But remember my warning.'

She flew again, but now all was destroyed. She no longer recognized the countryside, as it was now darker and more desolate. She felt pain in her feathered body, and did not know what to do. In a second, the color of the countryside was reflected in her body. Every feather became black. Sadness trapped her,

and the Sukia's prediction came true. With a painful black soul she now flies without direction, like a buzzard.

Introduction

The Grandmothers of the Wangki, or Coco River, affirm that Mother Earth wants to warn us that we are greatly harming our future, the future of our successive generations, and, consequently, our Miskitu indigenous peoples.

“We must recognize it. We must stop it. No more abuse. No more razing of our forest. No more poison in the water. If we continue having this bad attitude, we are going to sink into disgrace.”

In this paper, we have collected some of the warnings and knowledge from the Grandmothers of the Wangki River on climate change and the degradation of the environment. We have also included traditional indigenous knowledge on the resources that are currently being lost, are vulnerable, or have been negatively altered; this includes traditional ecological knowledge that is part of the wisdom of the peoples and maintains the ecosystem of many of our territories.

The knowledge of the Miskitu indigenous peoples on plants, ecosystems, legends of the beings that protect our natural resources, and behavioral norms of certain plants, places and water sources that aid in the conservation of the life cycles of biodiversity is vast. This information has been passed from generation to generation by our first teachers: our Grandmothers.

The care of our Mother Earth and the demand for respect for the intellectual right of traditional indigenous knowledge of the

Miskitu people, are issues that have arisen during the development of this study. Some Grandmothers were hesitant to share some of their “secrets.” They said that there have been people and organizations that came simply to obtain information without giving anything in return, or contributing to the culture of the peoples and the struggle to protect the fragile earth. For the Grandmothers, rather than helping nature, these people have made nature more vulnerable by using the knowledge for unknown goals. Therefore, they took care not to divulge details on plant usage and other knowledge that we share in this text.

Sharing traditional indigenous knowledge has been a key element in the survival of our people, a responsibility that has been mainly imposed on the Grandmothers. Today, we are faced with the challenges posed by the global emergency—climate change—and indigenous women are the bearers and transmitters of traditional wisdom that may help in addressing this challenge.

Situating Ourselves in Space and Context

The Grandmothers of the Wangki is a collection of knowledge related to the elderly women who live on the banks of the Wangki River (its Miskitu name), also known as the Coco River, which is located in Northern Nicaragua and is part of the border with the Republic of Honduras. On the Honduran side of the river in the region of La Mosquitia live indigenous peoples that make up *La Gran Nación de la Moskitia* (the Great Nation of La Moskitia) (Honduras-Nicaragua). The Miskitu and Mayagna/Tuwaska indigenous peoples are divided geographically by a border (The Hague Convention 1960).

Nicaragua occupies a land mass of 130,334.54 km², of which the Autonomous Region of the Atlantic (RAAN) occupy 60,366

km², or 46 per cent of the national territory. The regions, which have been granted autonomous status, have a population density of 9.5 inhabitants per square kilometer. The Municipality of Waspam, located in the RAAN, has an area of 33,105.98 km².

Along the Wangki River, there are 114 Miskitu villages that belong to the indigenous territories of the Special Regime (Jinotega Department) and others belonging to the RAAN. Ninety five per cent of these villages are Miskitu, with Waspam as the administrative center.

One of the most pressing issues within the RAAN, one that also affects Wangki communities, is the continuing presence of mestizos, a result of the expansion of the agricultural frontier. This new population has introduced different lifestyles and concepts of land that are diametrically opposed to the indigenous peoples' concept of land and territory.

The current population distribution of indigenous peoples and Ethnic Communities in the RAAN (by per cent) follows:

Mestizo ethnic community	42%
Miskitu Indigenous People	40%
Creole ethnic community	10%
Mayagna -Sumu Indigenous People	8%

The advances in the process of demarcation and titling, in conjunction with the Constitution of the Territorial Governments, are processes within the framework of the self-determination of the peoples and form part of the current restitution of the rights of our indigenous peoples and ethnic communities that are legally supported by the Constitution of Nicaragua, the Atlantic Coast Autonomy Law of Nicaragua (Law 28), and the Law of Property Regime of the Indigenous Peoples of the Autonomous Regions of the Atlantic Coast of Nicaragua and of the Rivers Bocay, Indio and Maiz (Law 445).

The territorial governments, as well as the municipal governments, are formed by leaders who are known as the Traditional Indigenous Authorities, and these structures form part of the bodies of the Autonomous Regional Autonomy. They are elected to municipal and territorial assemblies overseen by regional authorities who certify the results of the elections in writing. The elections may occur annually or whenever the assembly decides to hold them (Law 445 and Law 28).

Another characteristic of the Wangki is the large amount of natural resources on which they rely, most notably the large BOSAWAS Biosphere Reserve, the pine forests of the plains, the Morobila mines and their surroundings (which are located within the reserve), the large number of water sources such as the Waspuk and Wangki (Coco) Rivers, the creeks and large and small lagoons such as the Bihmuna Lagoon, which manatees inhabit, and the Cape *Gracias a Dios* Lagoon. These lagoons, together with the Caribbean Sea, comprise an enormous water system rich in floral, faunal and mineral wealth.

We usually speak to each other about how it was in the past and how it is today. Often, we recall how the forests of Wangki Twi (Waspam Plain) were once dense and filled with animals, with many sections known as the places inhabited by beings (spirits, sprites, *liwa mairin*, *unta dukia*, and others) who are the caretakers of the forest and waters.

Today, we talk about climate change. We all feel the effects and destruction caused by this situation, which has created a global emergency.

We, the indigenous peoples of the world, are more exposed and vulnerable to the negative effects and consequences for which indigenous peoples pay a high price, even if we are not responsible for this situation.

We, the indigenous peoples of the Wangki (Coco) River, confirm this when we say that our Mother Earth (*Yapti Tasba*) is ill and in agony, and the river is at risk of dying. We, indigenous women, are declaring, discussing and contributing our thoughts and words so that action can be taken at all levels, including our own. We are presenting our proposals and plans of action before the Municipal and Regional Council, Non-Governmental Organizations and Cooperation Agencies.

In this text, we will present the accounts of several Grandmothers who are concerned for the future and believe that future generations are in danger as we are living in a “dangerous” situation.

Indigenous knowledge is passed on orally; that is, people accumulate this knowledge by listening, observing and communicating with others. The spirituality of our peoples manifests itself in conceptions of and relations with nature, as well as in practices that involve nature during ceremonies, in relationships with family and neighbors, and in children’s games. These also make up a part of this large learning space that is present in daily life and are similar to the cultural and productive practices that differentiate us from other sectors of the population.

Indigenous knowledge has maintained our equilibrium that, for more than 500 years, others have wanted to take away from us. Among these groups are the foreigners of the colonial period. Then came the multinational and national corporations, and today, they are unscrupulous loggers and narcotraffickers who, together with corrupt systems at place in the local level, pose a threat to our identity, natural resources, and consequently, our lives as indigenous peoples.

For all the reasons listed above, our case study has been able to collect knowledge that may be redeployed in this contemporary context to enable us to make the changes needed to allow us to

rescue ourselves from this crisis known as climate change and pave the way for the Good Living.

General Objectives and Methodology

Through the collection of generational dialogues, we strive to highlight some of the experiences and anecdotes of the Grandmothers of the Miskitu indigenous peoples of the Wangki, identify traditional practices that are connected to the issue of climate change and ways of adaptation across time in order to show lifestyles that are in harmony with and show respect for nature.

The ability to hold a conversation with the Grandmothers of our indigenous peoples is the most valued, fragile and sublime act. It is akin to being seated in front of a living encyclopedia, drawing from the source of our histories and origins while enjoying a pleasant conversation that marks a change in history.

Words from our Grandmothers set the tenor for what needed to be done: *'We hoped and knew that this day would come, but do not approach me with tape recorders. Let us speak as we have in the past, outside near the kitchen stairs.'* Thus began our work.

The first part of the study involved conducting informal conversations with our Grandmothers, as soon as they felt ready to sit and talk. We strove to keep the conversations pleasant and free of pressure, sans the presence of tape recorders. Note-taking was minimized during the actual conversations.

A set of guide questions was prepared with the help of the women.

Aside from the conversations, in-depth interviews, focus group discussions and participant observation were also conducted.

With a group of four members from our organization, we discussed the results of the conversations, entering certain aspects in comparative charts and made conclusions regarding our findings.

Discussion topics included history as a tapestry formed from contributions from our first ancestors, the villages and their formation, the creation of the river, the beings that care for natural resources and warn about the punishment for violating nature's laws, childhood games that are related to our biological environment, love and adventure, the foreign wars that have affected our lives, and migration due to drastic changes in our natural environment, and many more.

Conversations with the Grandmothers

'Those were the days...now all has changed. We are no longer serenaded; it was better when we could listen to the sparrows and chachalaca birds² on the patio.'

M. Escobar Bobb

Interviews with M. Escobar Bobb and Otilia Smith Duarte Compiled by Laura Coleman

'When we were children, the land was suitable for growing crops, and many iguana, fish and turtles lived in the rivers and in the Wangki (Coco).

We took care of the banks of the rivers and lagoons. Nobody cut down the trees; rather, they cared for the trees and small animals on the mountain.

Only the tunu trees³ were cut down, as they were a source of material for clothing, milk or resin, and its rubber was used for sacks that were used for transporting materials.

Families routinely washed their clothes in the creeks or places where water flowed from the land. These places also supplied the water for their personal use, and children bathed with each other in the rivers and creeks. They did not use soap; the water was not dirtied as it is today. There was a place to collect water, a place for bathing, and a place for washing clothes. Wells were not built in the villages. The very small wells were on the banks of the creek, and the people only took the amount of water they needed for one day. We always had fresh water.

Today, all this beauty has been lost. All the water is contaminated. People no longer bathe or wash in the areas designated for washing, bathing or taking water. In the past, all these areas were designated for each activity.

The female and male elders were well organized. The parents in one family were also well organized and lovingly lived among all the families and members of the community. There was much affection.

Wood was available near the house. The elderly took care of the house and were in charge of caring for the children, those in their families as well as those of the neighbors when the parents went to the mountains to sow, fish or hunt.

In those days, people worked very hard, so they had enough food. They provided enough for their families, and even gave some to their neighbors.

Later, Bristol Almanacs were published. These books named all the months and described weather and climate patterns. There was no Miskitu calendar; our ancestors used a method of identifying the beginning of the year in the month of January, between the 1st and 12th, and the weather was forecast using signs from the wind, animals, the moon and the sun.

In the past, women picked fruits and fished alongside the men. Later, they helped in sowing cassava, arum, rice, beans, and other crops.

They cooked on the land on which they had sown. First, they ate in order to have a good harvest and drank while the men cleared the high, hard area of the mountain in order to sow.

Times have changed. We no longer have a good harvest. It does not matter what is sown. During each growing season, there is a poor harvest of grain, musaceas⁴ and tubers.

The land is tired. It is tired of giving good harvests year after year. Work is done in the same place without giving the land a rest. It has been mistreated, and many resources have been destroyed.

Later, during the Sandino Rebellion, bombs destroyed our sowing areas and harmed the land. The Sandinistas went into homes and looked at what was inside. They could take whatever they wanted from your house, but at this time there were no thieves on plantations or in the streets. If someone stole, the national guards would beat them, and afterwards the Sandinistas did much to fight the thieves. They were very respectful to the adults and children, the elderly, women, youth. There was no violence.

In 1935, a hurricane passed over our territory twice. There were not many children at this time. Although the hurricane destroyed homes, banana trees, corn, and bean crops, no people or animals were killed.

During this time, there were few hurricanes; only a few weak earthquakes struck this area. Nobody thought to help the indigenous peoples.

As for the sowing areas and seeds, people always kept their seeds in large barrels. The Yulu Corporation gave us large barrels for storing seeds. All the products they brought were contained only in barrels. The corporations brought food only in barrels, not sacks. They were available at low prices, which is no longer the case.

Fishing was done with the aid of basal leaves. Many fish were caught as the rivers were deep and abundant with fish.

Trees provided all types of wood, and they were not very far from the villages. We only used the wood we needed. We built homes with thick sticks and bamboo. The houses were raised so animals could not enter. The animals—hens, cows and pigs—slept under the houses.

In those days, our only source of medicine was herbs. After the corporations arrived, churches and hospitals were built.

In 1914, when the corporations arrived, bringing with them the first gringos, the land of the Wangki (Coco) was rich in gold. They took the gold away in buckets and sacks. They did not think about the indigenous children, nor did they care about anyone. The prices were very low: one ounce of gold was sold for 16 cents.

The elders cared for the land and riverbanks without harming or contaminating the water. The air felt clean and uncontaminated. It was the pure air that the creator gave us. The sun shined brightly. There was not as many signs as there are now. There were no fires that razed the land or mountains.

Wood was used only when necessary. We did not cut down the trees but took care of them. When we needed it, we took the wood in an orderly fashion to make things to use, not to sell. But the corporations came and took everything. Finally, during the Somoza era, the last corporation came to take the roots from which we made resin. They took everything and left their diseases. In my day, there were not so many illnesses. Now, we see that there are many new illnesses that we have not seen before.

Today, we female and male elders see that people are no longer afraid. They burn the forest, take wood, do not care for the riverbanks, kill fish and leave the rivers contaminated.

The great creator gave us good lands and good water, but since man has not cared for it, all the wealth is now being lost.

In the past, in my time, bananas grew near my house. There were large harvests.

In my day, indigenous women married, had their houses and were respected. There was no maltreatment. Couples stayed loving and affectionate.

The young folk could not marry people from other villages. Young girls who were engaged were not allowed to speak to anyone or fall in love with anyone else. They had to wait for the men to visit. The man was obliged to marry the woman with whom he was engaged.

There were no schools. Lessons on home and village life were passed on through advice from parents and grandparents. Among these were lessons on how to care for the water and forest. Today, there is no advice, and schools do not teach students how to take care of the water and forest, or to fear punishment when one abuses the mountains and waters. They allow the loggers to take wood. They feel sick and do not know why. They do not realize that Unta dukia has punished them until their condition becomes serious. Then they search and cry.'

Conversations with Ester and Albertina

Grandmothers Albita Solis, Lidia Wilson, Cleofas Solis and Pancita Clarence, all between 62 and 79 years of age, live in Kisalaya and shared the following with us:

'We remember when we were little girls. Our mothers did not feed us from bottles; we fed from our mother's breasts. The only milk we knew was breast milk. When we were a little older, we ate roasted or baked bananas. Later we ate mashed banana and mixed with water. This was the food that made us grow up healthy.

We remember that everything was very cheap. Fabric was cheap when we were young women. As girls, we wore clothing made from tunu, but once the corporations arrived, we began to use the fabric from flour sacks. Children, both boys and girls, were still almost always naked. Being nearly naked, we bathed together with everyone in the village, and nobody noticed that we were not clothed. Everything was natural.

Clothes were washed in the river or creeks, and without detergent. We all beat our clothes with a stick and washed them with lemon. This was not harmful to the creek or the animals. We did not use soap. Instead, there was a seed or little fruit that was used like soap because it lathered and was soft on clothes. Soap was unheard of. A guaco⁶ seed called slim wawa was used.

Food was healthy. For example, we did not fry meat. It was only steamed with herbs added for flavor and aroma. To get salt, we got seawater and boiled it until the water evaporated, leaving the salt behind.

In those days, we did not know of rice. We only ate herbs, fruit, wild animal meat, and fish.

Houses were bamboo huts with roofs made with large astak palm leaves. Here, we lived happy lives.

My grandparents told me that an American brought rice seeds and taught us how to plant and eat them. In return the man asked for payment of a porrita, a trinket made of gold. Since, in those days,

money and gold had no value for us (we always bartered), we gave him the trinket.

Families were perfectly organized. We all lived together in one house. There were no streets, and we all lived in small villages without fences or private yards. Everything was communal then but now everyone has their own yard.

There were no schools. The elders and assemblies headed the administration of the village. There was a system of gathering the people of the village by blowing into a type of whistle made from a piece of bamboo. The noise produced when the bamboo was blown into was a signal to come together for a village meeting.

There were no jails. Law and order were maintained by the villagers themselves. When something frightening or worrisome events befell the village, the villagers had to return to their homes, first the children, then the women, and finally the men. If there were disputes between people, the elders or those who had authority (those recognized as responsible people or elected as leaders of the village) would meet and enforce the law. They ensured that everyone complied with the rules of the village.

They ate bisbaia, a dish made by peeling bananas and guineos,⁵ wrapping these in banana leaves and burying them. These were retrieved a few weeks later, and the parcels were opened for everyone in the village to share and partake of the food. They also made flour from dried banana, which was ground and used to make tortillas.

There are many delicious Miskitu foods, but now we are always in a hurry and do not eat like we did in the past. Girls no longer cook as their Grandmothers had.

In 1968, a strong hurricane struck, and that was the last time I ate bisbaia.

The sukias have always been responsible for caring for the health of the villagers. They look after the wellness of the person's body and soul. These sukias sing and cure with flowers and herbs. They used to cure the sick but now there are no longer any good sukias.

To collect drinking water from the creeks, holes were dug in the riverbanks, and with a bucket made from bamboo, the water was transported and stored.

Towns did not exist, as hamlets were the norm. The Sumu, who are known today as the Mayangna, were the first settlers who immi-

grated to these areas and populated the banks of the creeks where they fished and hunted. In the past, everything was in abundance. Hunting was done with bows and arrows, slingshots and bamboo machetes. Bamboo was very sharp, and bamboo machetes worked as well as the metal machetes of today. They only cleared the area of the mountain near their homes, as there were no large plots. A person was unable to see neighbors. Houses were large and plain with roofs made of palm leaves mixed with leaves from the aun, a palm tree with seeds that produce an oil and cream used for the skin and hair. Aun oil was also used in cooking. Cassava, bananas and cuadrado⁷ were grown.

They lived happily. They did not envy each other and there was no theft. There was much solidarity among families. They hunted and fished together. These small villages were like hamlets; they held meetings to set norms and laws. Nobody stole, unlike today.

The first man who arrived entered legally and respected the law. Anyone who violated the law was punished by death by the dawan, the beings that cared for the forests and water, and everything has its own design. Little by little, everything changed. Now, these beings have gone away, and young people no longer respect or fear them.

The climate has changed. This affects the growing season and the production cycle for basic grains. For example, rice used to be sown in April. Today, if it is sown then, it burns and is lost. In the past, rice was cut in bunches and dried on the inside beams of the roofs, which were all full of the rice bunches. Afterward, the tar that appeared in the smoke from the kubus (the Miskitu stove) covered the rice, preventing animals from eating it. It also dried the corn that was tied together in bunches by their husks, which were also used to hang the corn.

The system of collective farming was maintained by the practice of bakahnu, or 'turned hand,' in which all families in a house and their neighbors worked with each other to successfully sow the seeds for crops for the village and harvest. It always finished with a party where everyone ate and drank.

The following summarizes the elders' account of the activities that occurred throughout the year:

Month	Past	Present
January	Cleaning of beans, corn, food supplies.	Seeds are already sown, vegetables are transplanted, and the time has passed for cleaning and sowing beans.
February/March	Cleaning and weeding	
	They learned how to grow vegetables from the Chinese in 1940-1950.	
June	Activities during this month.	
July	Activities during this month.	
August	Activities during this month.	
September	Activities during this month.	
October	Activities during this month.	
November	Activities during this month.	
December	Everything was already sown in the days of the Most Pure, because people believed they would receive blessings.	Activities carried out according to the Bristol calendar.
Year-round	The rainy and dry seasons were designated.	Rain falls all year, and this harms crops. It affects sowing and harvesting.
General Observations	<p>Very few seeds were needed for an abundant harvest.</p> <p>The villagers grew crops for widows and single women. Men did not measure the success of their work in terms of money, but of the quality of their harvests.</p> <p>Crops were grown according to the phases of the moon. Everyone knew when and how to prepare for sowing.</p> <p>Youth aged 29 or 30 did not enter into relationships</p>	<p>Many seeds are needed for sowing, but the harvest is small.</p> <p>Widows and single women must learn how to survive alone. For men the value of their work is measured by the amount of money they get; the women do not have money.</p>

Climate change is believed by some to be the work of God. Others believe that we humans are to blame for the phenomenon because we cut down too many trees and allowed entire forests to burn down. It is known that some trees absorb water, and when they are indiscriminately cut down, the water sources dry up. It is also believed that contaminants from forest fires and other sources that find their way to the rivers are what cause illnesses in people who bathe in the rivers and creeks.

Month	Past	Present
Rainy season	Storms with very strong rains, flooding, lightning, and strong winds only happened within the period of the rainy season. The elderly began to sing and lament.	
April/May	<p>Strong sunshine turned cow manure into sand.</p> <p>Trees had beautiful flowers.</p> <p>Corn was unknown.</p> <p>Fewer eclipses and hurricanes.</p> <p>Yellow oranges.</p> <p>Cane sugar.</p> <p>Coffee from harvested beans.</p> <p><i>Buña de yuca</i> drink.</p> <p><i>Angkipiakan</i> - pig cooked with cassava in leaves and then wrapped in special leaves.</p>	<p>Trees have disappeared and flowers are gone.</p> <p>Corn can survive despite the are floods. Rice is grown where corn can be grown.</p> <p>More hurricanes, unusual phenomena, and weather disturbances</p> <p>Green oranges.</p> <p>Refined sugar.</p> <p>Manufactured coffee.</p> <p><i>Nacatamales</i> wrapped in plantain or banana leaves.</p>

	<p>Every river contained fish.</p> <p>The best seed was kept for future planting. The other seeds were consumed.</p> <p>There were no problems regarding land because there was enough land for everyone. A family chose land for themselves based on predictions for future growth.</p> <p>Anyone could cut down a tree if wood was needed.</p> <p>The <i>Sukias</i>—healers—were honorable people with who used indigenous knowledge of medicinal plants and herbs available in the mountains for healing activities. This knowledge was shared with other healers.</p> <p>Hooks were used to fish.</p>	<p>Some rivers no longer have any fish; fish that are still present in some rivers are small and few.</p> <p>There are not enough seeds produced for sowing in the future, so the best seeds are not selected for future use.</p> <p>No more land is available.</p> <p>There is concept of ownership and village borders must be respected when harvesting trees.</p> <p>There are many fake healers who only deceive others.</p> <p>There are organizations, government agencies and private citizens who seek to conserve the medicinal herbs and information about them.</p> <p>Fishing is done with nets and <i>basala</i>, which is an herb that poisons the water and makes dead fish float to the surface. <i>Basala</i> does not affect humans; it only stains clothes.</p> <p>If one wants fish, he or she must buy it from villages that fish in the sea.</p>
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	<p>Their forest and waterways were loved, respected and cared for.</p> <p>They believed that there were laws of the mountain which all should follow. As soon as the law of the mountain was not adhered to, people became ill because of the punishment meted by demons and mermaids for not respecting the laws that must be followed for the protection of the natural world.</p> <p>The Miskitu world view sees the involvement of creatures or beings that inhabit nature.</p> <p><i>Unta Dukia</i> cared for the large trees.</p> <p><i>Ulak</i> - big man.</p> <p><i>Wakambai</i> - a being with a foot in the chest and the face of a horse; he moved around in long jumps</p> <p><i>Liwa Mairin</i>.</p> <p><i>Patas</i> - the master of the plains who took the form of a dog.</p> <p><i>Kadal</i> - a being under the earth. He lived in the subsoil but he also went to high places.</p> <p>If people violated the law of the <i>paptazales</i>, they were punished with a confusion that made them not want to return home.</p>	<p>Today, this concept is lost.</p>
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	<p>If people did not respect different types of fish such as the <i>Tapam</i>, <i>Mupi</i> or <i>Trizo</i>, the mermaid came and punished the animals that belonged to these people with illnesses in order to make them obey her orders.</p> <p>For example, when people cut down too many Nancite trees to burn into coal, the <i>duhende</i> eats the nancite seed.</p> <p>The population feared and obeyed these beings.</p> <p>As soon as people cut down too many trees, the <i>Unta Dukia</i> punished them with diarrhea, vomiting and insanity until they learned their lesson. The <i>Unta Dukia</i> possessed the person until he or she swallowed his or her own tongue and suffocated.</p> <p>The Wangki River has changed a great deal. It was a deep river filled with water.</p> <p>Beans were sown in December so they could be harvested in April.</p>	<p>People today are slowly forgetting these beliefs.</p> <p>The rivers are dirty because their caretakers have moved far away.</p> <p>One can now walk in its riverbed without fear.</p> <p>Reforestation of the river basins is being done. The goal is to recover the rivers so that these may, once again, be enjoyed by the people.</p> <p>The sowing season has moved to November in order to be able to harvest in March, as strong rains come in April.</p>
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	Earlier, rice was hung under the roof so rats could not eat it. In the mountains there was enough food, and smoke from fire worked as a natural pesticide against other insects.	Today, rats that do not find much food in the mountains invade homes and eat seeds stored for human consumption or future planting.
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In 1990, a solar eclipse happened and this event was believed by some people to be the reason for unfortunate events that they experienced in the course of their lives. For example, the eclipse was believed to be the reason why pregnant women miscarried, as is the case in the following account:

'I was 14 years old. When I was 13, I got married and became pregnant. I was not worried about the eclipse. But the sun ate my blood and during the night, and I miscarried. The land 'closed' and became unproductive; that is, the harvests were burned by the eclipse. We also hid people with diabetes, hypertension, etc. and covered them with thick, dark blankets to protect them.'

In the 1970s (1974 and 1978), two hurricanes struck and destroyed many crops. In Kisalaya, water rose up to the high hills. What followed was a great famine. Because of all the rain, the crops drowned. In houses, rice dried to the point where it was toasted. Wet beans germinate rapidly, and there was nothing that could have prevented this.

'When there are strong winds that blow flowers off plants, it affects everyone because there is less production. Therefore, in order to solve these problems, our ancestors cut large branches from trees and dug small ditches to act as a type of windbreaker to stop the strong wind from destroying the entire harvest.'

Drought which dried up the rivers and creeks affected the entire village, especially during the sowing season, because it led to large forest fires that burned plants. This created losses and economic

shortages within the community. Due to this problematic situation, villagers migrated to other villages in search of work, but the elderly and heads of the families decided to face the problem with courage and returned to their villages to begin the task of production.'

Some people said that when the Wangki overflows, the entire village is affected, as the people cannot go to the field to work and produce harvest. Thus, food shortage or famine occurs. The *Duritaras*, or canoes that are the means of transportation, are carried away by the flood, or thieves steal them, so transport of goods is hampered.

Flooding also has the following secondary effects:

- Contaminated water;
- Food shortages;
- Viral and respiratory illnesses.

Houses built along the riverbanks are destroyed by floods. It was also noted that homes become infested by large ants, worms and snakes. In the past, houses were built with local material such as palm, bamboo and leaves. Today, they are built with cement and zinc plates.

Today, climate change has generated an intercultural change because peoples are losing their beliefs and the spiritual values that they once held regarding Mother Earth and the trees.

Conversation with Prudilia Thomas

Prudilia, a 68-year-old woman from the village of Kisalaya, is an activist working with women who were organized by Wangki Tangni. She works to promote women's rights. Her work deals with the production and sale of coal. She relates:

'My Grandmothers told me (and I am now a great-grandmother) that in those days, families were very large because couples had many children (I have 7), and this has not changed much. My husband and I live with my two grown children. The others live in the village, but in their own homes. So, we live with our children and grandchildren, and I am waiting for great-grandchildren. We all live in harmony without many problems. We sow and harvest together. Some work more than others, but we see that the youngest of them are properly cared for.

We tell our children, and now our grandchildren, how we lived in the past and we teach them how to work, but now jobs are different. I tell my son that he must tell his children how to eat well, not the way we eat nowadays. We do not fish like before, cook like before, or store food and seeds like we did in the past. We cannot do so, because the land no longer yields the same production as in the past. Streams are drying up, and even the Wangki River is dying. I believe that, along with the river, our culture is also dying.

Our family is now larger, because you are part of my family. Since we are more connected with each other, some of my neighbors are also part of my family. This is an advantage for us because we can help each other, but if one is lazy, the situation becomes more difficult because we help his/her family with food; otherwise, they become thieves and steal our crops. Nowadays we have more thieves.

*When I gave birth to my children, my neighbors and relatives came with the midwife, who helped us and cut the umbilical cord. They also became members of my family in a great pact of friendship. The *ispail*, or *mestizos*, are considered friends, but there are relationships that become familial, even stronger, as if they were of my own blood.*

*All this helps us to be able to pass on these customs we have always held in our family and our culture from family to family. These are things we do not want to lose, because we do not want to stop being *Miskitu*.*

When the moon is out, we teach the children, and they teach each other how to play and tell stories. These days are not like before. Now, the games are changing. Before, all the games had something to do with the animals, the mountain and the water, but now they watch television in Waspam. They want to be like other people.

We pretended to be tigers. We played the tiger game, or the iguana game or the monkey game. There was also an Uli (turtle) game and Ilili, which was the shark game. But like I said, all these games have changed, and what has made them change over time? Nothing more and nothing less than the fact that they have cut down our entire forest. The animals have left or are disappearing from the area. They are moving to other places where they will not be bothered, and therefore, the children no longer imitate them or play like them. What they know about them is only through what we tell them because, for example, they cannot see sharks in the river as we did before.

But I tell my son that if we do not teach the children, it is as if we also want to forget about these animals that used to live near us. We should strive to know about them so we can make sure they are not killed, right?

Children and even teenagers play in the yards and the water. Here in Kisalaya, we have creeks and rivers. Another game is Tambaku, a fun game where we sing, the children imitate animals, and whatever we tell them to do. In the pulankas (games), we perform skits where we portray certain aspects of our culture. We pretend to be fish, flying creatures and crawling creatures, and gesture with our hair, heads, feet, and hands. This is all a game, but in this way we remember our grandparents and tell many stories.

Another thing that relates to the changes in weather and climate is the sowing of grains. In the past, the months were designated by certain tasks. With climate change and more rain, this schedule is different. Thus, we have had to change the time for our tasks of cleaning, burning, preparing the land and sowing, some being done before the customary time, others after, in order to adjust to the weather.

Turtles cannot lay their eggs like before. The rivers overflow quickly and dry out soon after. The poor little animals do not know when the weather changes. The same situation occurs with animals that used to feed off of roots. Since the land no longer yields sufficient crops, they leave and eat our food because they too do not have much food. How do we adjust to this? Both animals and humans are hungry.

When my grandparents were alive, people were well organized at home, in the family and in the village, and we had good relationships with our neighbors. We always helped each other, because when it rains, it rains for everyone and we are all affected.

The people who led the village were the adults and important figures such as the midwives and sukias, even though they always led in silence. The male and female elders also led without uttering a word, but everyone knew what they were saying. Later, they appointed síndicos, and now there are coordinators. Wihtas were the people who enforced the law, but not alone; they worked with others who had strong leadership skills. They all came to agreements. Today, we have the following Ta Upla, or leaders:

The Ta Upla, or village leaders, is a type of Village Council. In this group of Ta Upla, they make decisions immediately, sudden decisions which cannot be consulted with the people in the village. They must call us to meet at the Communal Assembly. They are the people who manage jobs in the village. "Communal" refers to when we do tasks together in the village, be they cleaning or repairing a school, single women's homes, the church, etc. They also guide the villagers in adhering to the rules to follow when taking resources from the village. When a project needs to be undertaken, we decide this in the Communal Assembly.

The Communal Assembly is the highest authority in the village. We are all members, as this was in the law we passed several years ago. But everyone in the village is not always present at the assembly because my people are rebellious. Now, Ta Upla consists of two groups: one that formed the group and the other that authorized the other groups. This needs to be improved.

This happens when we do not work well, because the Ta Upla of the Regional Council has to go to the Communal Assemblies when there is a Ta Upla election. They then send a letter with their name authorizing them as Ta Upla.

We count on the persons dealing with land and territory and everything that is in the territory: animals, water and village lands. It is he who keeps the documents related to the lands of the village. He must hold meetings. It is he who is elected to manage our territory. He is the Sindigo. He cannot work alone. He has a deputy, but he has to consult the community and the other Ta Upla before cutting wood, selling land and selling some resource. For this, he must consult the people in

the Communal Assembly, but there are times when this is not done. Herein lies the problem, and we must change them if they do not work well.

The Wihta is the municipal judge. We women want him to understand our rights because he is the man who can help solve problems and adjudicate lawsuits between couples and neighbors. He has to be familiar with Miskitu law and the laws of Nicaragua, but sometimes he knows nothing and does not help mistreated women. Helping him is a Volunteer Policeman from the same village. He must be an upright man to run for election. He must not be lazy or vulgar nor hit women or steal. He is the policeman who helps the Wihta.

This Wihta is a man who knows a great deal about our people. He must always move ahead, because that is what his title means. He is a guide. He must always keep order. He works well and solves problems. We want him to know the 'secrets of the village,' because he will be able to defend our rights when other people come. Furthermore, he must often speak with the other Ta Upla, who is an elder. He is the wise man of the village, he who is everywhere. The elder advises all the Ta Upla. He is a well-respected authority, since an elder is respected. From childhood, he has to be respected because an elder earns respect through all that he knows and has done between childhood and adulthood. He is a wise person who gives and receives much respect. But since there are many elders, they elect the head elder as the Kupia Krakrauka Almuq who guides everyone. He is the representative, the one who knows the most.

Then there are the shepherds, teachers, the woman, the Sukia or healer, the midwife and the health official. All of them are Ta Upla as well, but they do not have the power the other Ta Upla that I have already mentioned have.

I believe that these Ta Upla must not forget that they are Ta Upla and must not get involved with corrupt politicians or loggers.

Many years ago, corporations arrived to cut mahogany, and later, other types of wood. Afterward, the Estander Company came and began harvesting bananas. They put the banana bunches on the riverbanks. Then, boats arrived, sorted the bananas by size, bought them at very cheap prices, and took them to Cape Gracias a Dios, where they sold them to others.

Here is something very important that happened on the river. They violated the laws of the river and removed everything at the bottom

of the river; the river became a canal. They sprayed pesticide on the plantations so the bananas would be beautiful and not damaged by plague. But then, the people just focused on growing bananas, and they also stopped hunting and living like they did in the past. People started earning money for transportation and other jobs.

The work force was paid, and then products, such as flour, sugar (we did not take cane water), fabric and cigars (we did not grow tobacco) came in from other places. The wages we earned as paid workers were not enough, so then the family began to change. We were no longer peaceful because we were poor.

At this time, a large hurricane struck that destroyed the banana plantations. With the hurricane came a plague that killed many bananas. Afterwards, the company also began to lose money, but we had already learned how to cook with flour and sugar, packaged salt and cans of butter. We no longer used oil from animals.

We Miskitu from Honduras and Nicaragua, as well as all of us in Nicaragua, lived relatively peacefully among ourselves. But then, as if the above hardship was not enough, a large-scale war called the War of Mokonon began. The war was named after the name of the river on the other side. They not only contaminated our water, but also divided the great family, the great nation of La Mosquitia. My mother told me that there was chaos, bombs and fighting. Many of the produce were lost, as well. Families were relocated to Santa Maria and many died with their animals. Then, many people returned to their old villages but found nothing but destruction. This river has suffered through two wars: that one and the one during the rule of the Sandinistas.

I believe that because of this, the calendar has changed. The months always have the same name, but the signs gradually have changed since those days. The last hurricanes such as Fifi, Mitch and now, Felix, have also caused much devastation. We are having problems since the spirits, the dawasn and duhendu have run away and the mermaid is angry that the river is dirty and dying.

In Miskitu, the months of the year signify something. There is always a sign, like the moon or the sun, which one sees and knows what could happen. For example:

January is called Siakwa Kati, or the Month of the Small Turtle. When we see the small turtle begin to walk and move here, we know that we

are in January and that it is time to clear the growing fields. We sell wood and coal because we do not yet have crops. It is sometimes a difficult month, even for the little turtle nowadays, because when she leaves to sunbathe, the river overflows, something that did not happen before.

February is called Kuswa Kati, or the Month of the Large Turtle that we see in the river and creeks. She goes to those places to reproduce. We have seen how now, she loses her eggs when the river overflows. Those months are crazy. We sleep on the riverbank. We build our homes during these months because the beans are almost ready to be harvested. We must keep animals and thieves away from them. During this month, we begin to clear the fields for sowing rice. It is when people also begin to burn the fields in preparation for sowing. These fires combine and create large fires on the plantations, burning the plains. This does not end until the rain arrives. Much of the forest is lost.

March is called Kakamuk Kati, or the Month of the Iguana. There are many iguanas. The poor iguanas, filled with eggs, are hunted, and people eat their eggs. Now there are only few iguanas left. When the field is burned for clearing before the sowing of rice and cassava, these kakamucas are seen because it is when they produce eggs. It is the month of their reproduction.

April is called Lih Waihka Kati, or the Month of the Male Turtle. When we see the male turtle, it means that it is the month of April. During this month, as in the previous month, people pour into the river. It is a happy time. We hear the children in the river. The people sow seeds and clear fields, they fish by the beaches, fish at night. This is also the time for sowing rice.

May is called Lih Mairin Kati, or the Month of the Female Turtle, when the female turtle appears and we can see them in abundance sunbathing on logs. This is also seen as a sign that it is time to sow rice because the rainy season will be here soon. Cassava, corn and bananas are also sown. During this month, the vegetable harvest has already passed.

June is called Li Kati, or the Month of Rain. The nancites already have their flowers, and fruits begin to grow. It is also time for the nancites and guava. The sale of the rest of the beans harvested in March and April is ending. They are sold in May. Now, not much of the beans are

left, and almost the entire bean harvest has been eaten.

July is called Pasatara Kati, or the Month of the Strong Wind. There are many storms during this month. At this time, the river often overflows and floods occur. The people who live in Bihmuna and Kip eat a lot of crayfish from the lagoon. With this sign, we must begin to prepare for hurricanes, which are now expected to be more frequent.

August is called Siklsa Kati, or the Month of the Small Bird. This is a migratory bird which has yellow and brown coloring. The birds arrive during the strong hurricane season. The nancites are ripening and begin to fall. People sell and use them. During these months, the children in my village look very healthy. Rice has grown, and we begin to clean it. As soon as we finish cleaning the rice, the floods come and we lose everything. The rice falls and the cassava rots.

September is called Wis Kati, or the Month of the Wis bird. Hurricane season continues. During this time, people already know where they will go if they have to evacuate because of a hurricane. They build low huts which are close to the ground. We can barely stand inside the hut, as the roof is only one foot higher than your body. This way, the wind from the hurricane passes over the house. It is when we begin to harvest the rice and enjoy a Saint Martin's summer. We also sow beans for the second harvest. They are eaten before the corn harvest.

October is called Waupasa Kati. It is the month when the wind begins to blow from the South. We continue harvesting rice and corn. During this month, we sell rice. Families are happy. Young people clean the rice, with the hens and pigs nearby. People drink chicha⁸ and eat well. I lost everything during one hurricane. The river overflowed and took everything. I was not able to recover even just a small amount of rice. Everything was underwater because of the flood.

November is called Yaba Kati Yaslam, or when strong winds come from the North. During this month, those who work with vegetables make their seedbeds and plant vegetable seeds. People move to live by the riverbank and, if planted soon, at the end of November, they begin to transplant. It is also time to sow a little more corn.

December is called Trisu Kati, or the Month of the Trisu fish. We fish in the afternoons and evenings. Some fish with the use of harpoons, fire or fishnets. The trisu is very delicious when roasted in banana leaves.

Almost always, when people are on the beach or preparing to sow, there is hunting, but we women must take care of our daughters

because now, during those months, older people abuse the girls. It was not like this before.

I was talking with my husband, and we believe that after the war, the number of lazy people and thieves increased. People no longer like to work on the mountain. Those who were in the war prefer to go to other places to find employment.

I also believe that people have stopped believing in the beings that have accompanied us for so many thousands of years. These beings were given to us by the creator, whom the people call Wan Aisa or Dawanka.

We have a great deal of respect for the great mountain, Unta tara. We also read the Pasa el Kati (the moon), the Iapta or wan yu or yu ingni (the sun), the alwani (thunder), Imyula (lightning), the Li (water), the pasa yapti (the mother of the wind), and the kuma dura (rainbow). These natural phenomena form part of our history and we know that every creation has a caretaker, who protects it.

For example, the Il nanih dawanka is the master of hills and volcanoes.

The Liwa mairin is the owner of fresh and saltwater. She protects the waters. She also seduces, and takes the people who do not obey the laws of nature and harm the water and the places where fish reproduce. She is very ferocious.

The Unta dukia also takes care of the mountain. The Auhbi is the master of the high mountains.

The Prahaku is the master of the jungle.

The Pasa yapti is the mother of the wind.

The Duhendu are the masters of the plains.

Since I was young, I was taught about these beings, and we feared them. We did not touch what we should not touch. We did not damage the water spouts, and we enjoyed the river. We did not throw garbage into the river or poison the water to kill fish. But now this is done. Although the liwa mairin carries people away, they do not listen and are not afraid, not of the unta dukia or the unta dawan. They destroy the entire forest.'

Conclusion and Observations

Community-family-individual

The women interviewed recounted all the same experiences despite being from different villages. The Miskitu people do not know the concept of individuality. They hold the concept of *Yawan Nani*, or “We, the Community,” which includes all families. In this sense, what one person perceives in his/her life is equivalent to the experience of almost all people, because life, with its customs and ways of survival, is common to all. Furthermore, a person who begins to lead a more individual life is described as *Kumi*, or “The only,” to express the difference between him/her and the rest of the population. In the interviews, it was often noted that the women lived similar lives. They did the same tasks around the farm; were all dependent on the land, the crops and the weather, which gave either good or bad harvests. Their experiences are reflected in the following observations:

Territory-lands

In the past, people lived in less populated villages with more space around their homes and yards. Families worked in the fields to harvest and cultivate the crops collectively or, as they say in Miskitu, *Bakahnu*. Land disputes were unheard of because there was enough fertile land and fewer people to work on it. Natural resources, trees, land, sources of water, wild animals, fish, etc. were abundant and people did not fight for access to the steadily dwindling resources, as is the case today.

Crops

Above all, *Tama*, which are bananas, plantains, *cuadrados*, cassava and malanga⁹ were cultivated. Rice was introduced rela-

tively late (1940) by foreigners on Miskitu lands, but it has become the most important basic grain that feeds the people. Only a few seeds are needed to be sown to be able to produce abundant harvests, which were sufficient to provide for the needs for an entire year, as well as provide seeds for sowing in the next season. Such is not the case today, and in some cases, people endure the shortage of rice during August and September to be able to have a store of seed for planting in the next cycle.

Rice was harvested and hung on the inside of the roofs of houses, away from the reach of rats, which did not go into people's homes in the past as there was sufficient food to be found outside. The soot from kitchen smoke covered the grains of rice and stopped it from being ruined. There, with smoke, the rice would finally dry. Fire in the kitchens served as natural fumigation and protection against insect plagues.

Food

Daily life was peaceful. Nobody stole or dared to break this law of cooperation within families. The fruits of hunting or fishing were distributed to neighboring families, and everyone was well-nourished. They enjoyed a healthy, organic diet, with no saturated fats or processed sugar. Sugar was extracted from sugarcane, and *Wabul*, a nutritious drink, was prepared from tubers.

Water and the Spirits

The rivers had water all year. The current was strong enough to keep the river clean, so people could wash clothes in the river, which was also the source of their drinking water. The people did not use chemical substances which could contaminate the water. For instance, in place of soap, they used fruits that produced creamy bubbles.

Respect for and consciousness of the environment stems from the Miskitu world view, which states that there are spirit guardians who watch over Mother Earth (Yapti tasba). The Grandmothers' accounts tell of the Unta dukias, the guardians of the forest. The mermaid (Liwa mairin) zealously watched over the water sources, rivers and lagoons. These beings were greatly feared, and whoever did not obey their laws that protected Mother Earth were severely punished. Whoever did not respect the law of the forest ran the risk of becoming gravely ill. Severe bouts of vomiting, diarrhea and death from swallowing their own tongues were attributed to disrespect for nature which angered the guardian spirits. When people took more turtles, pine, mupi, and trizo fish than was necessary, it was believed that the guardians exacted revenge by inflicting illness on or causing the death of the animals people bred in their farms.

This belief system is seen as greatly contributory to the maintenance of peace and a balanced coexistence with Mother Earth.

Today, drastic changes have been observed, such as stronger and more frequent hurricanes. There is an increase in the incidence of tropical storms that cause more floods that take more time to recede. These floods ravage crops. Natural balance has been observed, as evidenced by greater incidence of plagues, of rats, and other harmful insects.

The rivers, lagoons, and lakes are drying up; springs, with their vegetation, are disappearing. Consequently, fish, turtles, frogs and entire biotopes are also disappearing. In the Miskitu view, the beings that once cared for the animals, trees, springs, and other things in nature have gone away, leaving the land without protection, to the detriment of all.

Seeds

People are complaining that the seeds of every plant, especially those for rice and corn, are not producing as they normally did before. As a consequence, people must spend more time on tending to the crops. Decrease in harvest has also led to food shortage. Without proper nutrition, many people are no longer healthy and as strong as they were in the past. As such, the rate of illness is rising.

Warming

The heat from the sun has become more intense and this impacts negatively on the health and well being of crops. Many people believe that Mother Earth is tired and worn out, and they feel her fatigue. There are even people who believe that all negative things happening at present are God's punishment. They recognize that humans are to blame for all the negative things that have been happening. They know that all these can be connected to the indiscriminate cutting of trees and the forest fires caused by humans. The beings that used to protect Mother Earth have left and humans are being punished.

It is the humans who can change this situation and make life return to its former state by reforestation, respecting the laws that existed in the past and supporting laws enacted to protect the natural environment. However, the success of these efforts likewise hinges on taking into account the traditional knowledge of the Grandmothers.

The accounts of climate change observed by the Grandmothers warn us that every day, the effects will become stronger and more frequent without a change in attitudes to try to rebuild the symbiotic relationship with Mother Nature. The belief in spirit guardians in nature served primarily to inculcate respect and responsibility for nature. It encouraged sustainable practices which will not bring harm to the environment.

Adaptation

The villages have developed a series of actions to mitigate the adverse changes they have experienced in recent times. We have seen these measures in their preparatory stages, during and after natural disasters. Such measures include putting into practice new forms of mutual collaboration in fieldwork. Cultural beliefs and values are also preserved and passed on to the children through games and education on cultural practices that would allow them to survive in the face of the changing environment and society.

From the accounts of the Grandmothers, it is clear that it is humans and human activity that has caused climate change. Nonetheless, these accounts also suggest that there is much to be learned by taking indigenous knowledge into account in the various efforts which have been initiated to mitigate the adverse effects of the change in climatical patterns and environmental conditions. Such knowledge can give us ideas on how best to adapt, reinvent practices and implement projects.

We urgently need to save our planet. A consideration of indigenous knowledge and practices where respect for Mother Earth is given a high premium would be very helpful in this regard. In so doing, way may also be able to protect and preserve our indigenous peoples as well.

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Translator's Endnotes

1. *Tasba Pri*: a region of Nicaragua where families were relocated during the Sandino Rebellion.
2. *Chachalaca*: a noisy brown bird native to Central and South America.
3. *Tunu*: a rubber-producing tree.
4. *Musacea*: an ornamental banana.
5. *Guineo*: a green banana.
6. *Guaco*: a vine-like climbing plant with healing powers.
7. *Cuadrada*: a type of banana.
8. *Chicha*: a fermented corn drink.
9. *Malanga*: a starchy vegetable.

FORESTS AND
INDIGENOUS WOMEN
IN TUAPI:
“RETURN TO AUHBI
PIAKAN”

BY NADIA FENLY
INTERNATIONAL INDIGENOUS
WOMEN’S FORUM (IIWF)
AND CADPI



Introduction

This is a case study carried out in the Tuapi Community, District of Puerto Cabezas, in the North Atlantic Autonomous Region (RAAN), Nicaragua, in collaboration with the Center for the Indigenous Peoples Autonomy and Development (CADPI) and the International Indigenous Women's Forum (IIWF). In this study the Miskito women of Tuapi speak to us about their relationship with the forest and adaptation measures taken in their community during the last 30 years in the face of climate change, and the impact of Hurricane Felix on their way of life and on food security.

Various studies suggest that in this century the resilience of many ecosystems is surpassed by an unprecedented combination of climate change, associated disturbances such as flooding, droughts, wildfires, plagues and ocean acidification and other drivers of global climate change, like land-use change, pollution, and the over exploitation of resources (Cunningham, Polka and Gomez 2007).

Indeed, in the last few years the issue of climate change and its widespread effects on the lives of indigenous peoples has become more visible, but the issue itself is not a new one. Since time immemorial, the communities have developed techniques in facing this phenomenon through the establishment of collective activities based on usage rules and the traditional monitoring of resources or wilderness areas.

The collective adaptation techniques or measures vary and the role players are normally of heterogeneous nature; the work, however, is interwoven and based on the same interest in the sharing of resources: the conservation or revitalization of an ecosystem or the improvement of the quality of life of the community.

In the case of Nicaragua's North Atlantic Autonomous Region (RAAN), studies carried out by the CADPI in 12 communities of the RAAN show that a process has been initiated to fight for the legal recognition of their territories as a means of adapting to indiscriminate tree felling and logging activities as well as the advance of agricultural frontier within forest areas. A further measure is the creation of forest fire brigades and the reconstitution of community rules to protect resources, cultural revitalization and permeability, as well as restoring the role of the elderly, among others.

Other communities on the plains of Puerto Cabezas in Nicaragua (northern plain), such as the Tuapi community, have also implemented measures to adapt to changes in the ecosystem. Tuapi has been characterized by the fact that it is a community in which women are traditionally in charge of the home. The Tuapi women, in addition to taking care of the household chores, also take charge of the productive tasks like tending vegetable and fruit patches and picking of wild fruits from the forest.

In the case of the indigenous communities in Nicaragua, they have to progressively face the changes in temperature, and the occurrence of droughts, floods and powerful hurricanes that have devastating effects on their ways of life.

The impact of climate change is best illustrated by the devastation wrought by Hurricane Felix. This hurricane, with a category 5 rating on the Saffir-Simpson scale and winds of 260 kph, struck a large part of RAAN on 4 September 2007. Its effects were primarily felt in the country's northeastern coastline, the

Bosawas Biosphere Reserve, some districts of the South Atlantic Autonomous Region (RAAS) and a part of the Jinotega region. Hurricane Felix caused considerable damage to the fauna and natural resources of all the ecosystems in an area of more than a million hectares. It is estimated that total losses amount to 13,395.02 million Córdobas (C\$), which is the equivalent of US\$716.31M, or 14 per cent of the GDP (Gross Domestic Product), according to Economic Commission for Latin America and the Caribbean (ECLAC) and the UN Development Program (UNDP).

Hurricane Felix had a major impact on peoples' way of life. It affected food patterns because of the reduction in harvest and the decrease in the supply of fruit such as coconuts, mangos, lemons, and *nancite*.¹ Ecosystems were damaged and the hurricane's impact was felt in reduced agricultural production. The forest was severely damaged and as a consequence hunting and fishing activities were also affected. Certain roles in society were transformed, putting the indigenous women of Tuapi in the position of ensuring the survival of the people and obliging them to take on multiple roles and extra tasks. Thus, the post-hurricane situation has also highlighted the adaptive capacity of the affected communities, as shown by the experiences of the Miskito women in the Tuapi communities.

This study seeks to analyze how climate change has affected the lives of the indigenous Miskito women of Tuapi and what adaptation measures they have implemented to ensure food security and sovereignty in the territories they inhabit.

More specifically, the study seeks to:

- Understand the views of the Miskito women of Tuapi on climate change;
- Determine the impact of climate change on women of different age groups, and on the activities that they traditionally engaged in which had to do with forest resources;

- Identify and document the adaptation measures that the Tuapi women have developed in the last 30 years;
- Provide elements for the establishment of a regional strategy on climate change.

Characteristics of the Tuapi Indigenous Community

The Tuapi community is located about 15 kilometers north of the City of Bilwi. Tuapi is part of the organization of indigenous territories known as the 10 communities that were formed by the Harrison-Altamirano Treaty in 1905 and established by Act No. 445, Act on the communal property regime of the indigenous peoples and ethnic communities of the Autonomous Regions of the Atlantic Coast of Nicaragua and of the Bocay, Coco, Indio and Maiz Rivers.

The population of the Tuapi community consisted of 605 people at the end of 2002, according to the National Census. The majority of the Tuapi population is from the Miskito indigenous community, with 235 women and 368 men, mostly young men and women; most of these young people work in fishing activities, others migrate to Bluefields, Corn Island and the capital.

Tuapi contains a variety of ecosystems, which include pine savannah, coastal mangroves, riparian forests, rivers, lagoons, and beaches. In all cases there is great diversity of wildlife.

The Tuapi indigenous community is known in particular for the marketing of fruit and seafood in the Bilwi market. This has been part of their way of life that promotes social, cultural and economic relations with other populations; it also encourages the development of social skills which come in handy when selling products at the Bilwi market.

The community's household economic activities basically consist of the marketing of domestic and wild fruits, small-scale fishing and agriculture. The collection and use of natural resources is guided by traditional knowledge and skills acquired from the ancestral ways of production. Natural phenomena such as the movement of the moon, birdsong and the tides, among others, influence the conduct of various productive activities. For example, signs from nature signal the onset of sowing season.

The Tuapi indigenous community is structurally well organized. Community members are elected annually to occupy the positions of authority, among these the *Wihta* (communal judge), *sindico* (community coordinator), and the Council of Elders. All are elected by the Communal Assembly and serve for a period of 12 months. Each position has well defined functions, which are supported by the Autonomous Regional Council and the Ministry of the Interior. In its organization, the community's highest authority is the Communal Assembly, which is composed of all members of the community who are of majority age.

During the discussions (*aisi kaikanka*), to ascertain the main functions of each community leader, we asked the female participants of the meeting to tell us about the role of each representative of their community. They decided that the *Wihta* would describe the functions of each community leader because they considered that, as leader, he could provide the best information.

'Well, I would say that of all the positions, being Wihta is the most difficult because it is the person who should be in the middle of any conflict that happens in the community and should be the one who solves it solved' (Community Wihta).

Below is a description by the Wihta of functions of the community's authority figures. He says:

The **sindico**: The person in charge of the protection of forests. The last three sindicos in the community were known for concern for the needs of the village. They are educated people who lived in the city. After the hurricane, they managed to rally support for the community ravaged by the storm. They were able to obtain aid for the restoration of the community's quality of life. With help from Catalan nationals, they were able to construct 28 homes for the people who were most affected. They also managed to get the government, through the World Bank, to give them an account for seeds to be used in agricultural activities and were able to solicit donations of fishing tackle.

The **council of elders**: Its members serve as councilors; they ensure peace and harmony in the community and act as advisors to other community leaders and residents.

The **education leader**: They are responsible for ensuring the well-being of students and the education of the community's children and adolescents.

The **health leader**: The person in charge of seeing to it that the community health center has the medicines and conditions necessary for the provision of good health care to patients in the community.

The **midwives**: They help pregnant women in childbirth and during pregnancy.

The **healer**: The person responsible for providing relief from diseases through the use of herbs.

The **coordinator**: The person who ensures the well being of the community by interceding with local and regional authorities regarding people's needs. He or she also coordinates community events such as meetings and assemblies when decisions that seek to improve living conditions in the community need to be made.

The coordinator takes note of the needs of the people and conveys these to the authorities mentioned above.

In the Tuapi community, some customs have survived, such as the *Pana Pana* (turned hand). For example in the fishing sector, during the seasons where there are enough fish and shrimp, those with their fishing nets³ in the sea allow other community members to help with the pulling of the net and they then share the harvest.

Perspectives on Climate Change by the Tuapi Indigenous Women

Climate change is the global variation of the Earth's climate due to natural and man-made causes that occur at very different timescales.

Since 1979, scientists had predicted that a doubling of CO₂ concentration in the atmosphere would cause an average temperature increase of the earth's surface of between 1.5 and 4.5 °C. More recent studies suggest that the warming will occur more rapidly over land than over the seas. All this will cause major changes to terrestrial ecosystems (Docstoc.com 2011)

The changes to ecosystems and the climate pose a challenge in the autonomous regions of the Nicaraguan Caribbean, due to the limitations in their ability to adapt and their dependence on water and food, the increase in diarrheal and cardiovascular diseases, increased flooding in coastal communities, the damages in the Keys due to the increase in water temperature, and ocean acidification which cause the bleaching of coral reefs.

Indigenous peoples, who have been living harmoniously with nature leaving one of the smallest ecological footprints in the world,⁴ now suffer the most detrimental consequences of the behavior of

other human groups towards the environment. Climate change, in large part, comes as a result of the practice of production and consumption patterns that are not sustainable. The lifestyle models of indigenous peoples have been shown to be sustainable and with little environmental impact.

Below are the various perceptions of the indigenous women of Tuapi on the phenomenon of climate change.

1. 'The Earth is changing'

One of the main perceptions that women from the Tuapi community have on climate change is the fact that Earth is changing. This perception is not a simple statement made by the old Miskito women (*almuknani*) of the community, but is based on their experience of changes that have occurred in the various areas of their daily lives, throughout the years.

This perception is based on the variability and unpredictability that they have observed in relation to the weather and the changes they observed in nature. For instance, they noted the natural disasters that occur more often and the rivers that have dried. Nowadays planting can no longer be done following the old calendar they were accustomed to since the weather has become unpredictable.

The most common explanations mentioned by women link climate change to human behavior and "people's ambition to extract natural resources in an irrational manner which causes the imbalance in the regional climatic conditions." Tree-felling, the pollution of rivers, and the burning of forests, are identified as causes of climate change.

The causes and effects of climate change become intermingled in the discourse of the people, but the human factor and human responsibility have been repeatedly identified as contributory to the occurrence of the phenomenon. According to one of the woman respondents:

'Climate change occurs because humans do not look after the trees, there is [indiscriminate] felling of trees and no reforestation; Before when we used to walk to Yulutigny, to the river, the path [was] dark from all the [thick growth of] pine forests we had.'

2. 'Every month is the same'

Nature no longer behaves as it had in the past years. Natural patterns have been disrupted. The Tuapi community has, throughout history, developed ways of life that are linked to the behavior of nature. The seasons for sowing, harvesting and fishing and their associated social practices and ceremonies were always governed by nature's cycles.

The women of the Tuapi community notice that they can no longer rely on the consistency of natural patterns to guide their activities throughout the year. Seasonal patterns have changed. "In the past, the month of June was the rainy season and July the windy season but now one cannot predict when it will rain," they say.

The seasons are happening outside their usual time; temperatures are steadily becoming warmer; extreme phenomena such as floods and droughts are becoming common occurrence; even the ripening of wild fruits has been thrown out of synchronicity.

Proof of nature's unpredictability was seen in Hurricane Felix, which caught the population off-guard. The community used to be

guided by weather signals which the elders of the community deciphered. But with the Hurricane Felix, the elders failed to “read” the signs. The hurricane affected fishing activities and the harvesting of traditional foods. Thus, these unusual events and the unpredictable behavior of nature have had an impact on people’s lives.

Some common causes for the changes in nature have been cited. Among these are indiscriminate tree-felling by outsiders who engage in the activity as a large-scale industry. In the past and among members of the communities, certain rules regarding tree-felling were respected. The denudation of the forests has likewise been connected to depletion of water sources, river siltation and the increase in levels of water pollution. This is unlike any practice within the community in the past, where the limits established by the community on the river reserve were recognized and respected.

‘People should be aware that without water we would all be in a difficult situation; water is essential for the entire city. The main problem is that we have lost the sense of living in community and unity’ (Mr. Maikel Coleman, Tuapi community).



'For me, climate change is the change we see today in our community, the sun is very strong and when it rains, it rains for many days. In the past, the rainy seasons were from May to August and the fairly sunny seasons were from February to April. Nowadays, all the months are the same, sometimes there is heavy rain and sometimes a lot of sun' (Woman from the community).

3. The forest as source of life

The indigenous communities have sustainable strategies that guide their use of natural resources such as soil, fauna and rivers, among others. The indigenous women of the Tuapi community perceive the forest as their main means of subsistence since the forest is the site of agricultural land that they use for their plantations, the source of wood to construct their homes, firewood and medicinal plants to cure illnesses. They also depend on the forest for wild animals that they hunt according to the season. Aside from hunting, they gather wild fruits which they sell at the local market in the town of Bilwi. They also sell icaco lemons, coconuts, guava, sea grape, *nancite*, and others in the market. One focus group participant had this to say:

'For us, the forest is a source of life, it is our heritage for our descendants and for this reason we cherish and protect it, but nobody can fight against nature.'

Hurricane Felix had a negative impact on these women's activities. Animal habitats were affected and as a result, they go out of the forests in search of food, sometimes destroying the small plots planted to various crops, and which were maintained by the

women. Large trees were toppled by the strong winds and the traditional economic activity of the community women was disrupted. Food crops became scarce as land available for planting crops decreased.

4. The forest complements the products from the sea

The women consider fishing as a very important activity because it supplements the diet of their families. Most people conduct their fishing operations for a few days, then preserve the fish by salting and smoking. Processed in this manner, fish can last for up to a year without refrigeration. Fish preservation is also advantageous because fishermen do not have to go out to fish very often. Likewise, they only take what is necessary, thereby using resources in a rational, sustainable way.

Fish is one source of protein to augment the Tuapi diet (Ocampo 2009). In addition to cultivation and harvesting of fruits, women also participated in the harvest and sale of marine resources. By employing local knowledge, the people of the Tuapi community were able to know when there would be an abundance of fish for harvest. These “predictions” were guided by signs from nature. But now, things are different.

Weather signals that signal an abundance of fish or shrimp in the waters for them to harvest are no longer reliable. The cycles of animals have become unpredictable. In the past, the women knew that when a wind from the north was blowing and the sea was calm, this was a sign that there would be a lot of shrimp in the waters for them to catch.

A marked decline in fish harvest has also been observed since the hurricane. The women report that in the past, in a *chinchorreada*,⁵ hundreds of kilograms of fish were caught, salted

and sold in Puerto Cabezas. This is no longer the case today, as narrated by one Tuapi woman:

'Before when we were going to fish we did not have to go deep into the sea, we could even fish from the shore; but that has changed now, we now even have to go out in a canoe and pull the fishing net. This has had an impact insofar as there are now more people, families are bigger.'

The Impact of Climate Change on the Lives of Tuapi Indigenous Women

According to ECLAC, the destruction caused by Hurricane Felix, in addition to the lives lost, represents more than 14.4 per cent of GDP in 2006, reaching a total of C\$13.395 million córdobas, which is the equivalent of US\$608,863.63.

The ECLAC emphasizes that such damages constitute “an urgent need for the Government to provide support in the recovery of these losses. Due to the socio-economic situation of the people and their limited ability to recover on their own, the contribution of public funds becomes necessary, and should be supplemented by international cooperation to compensate for such damages and losses.”

The ECLAC adds that the environmental impact was enormous, since 76 per cent was damaged, without downplaying the damages caused to the productive sectors, society and infrastructure (Hurricane Felix Information Center 2007).

The following account by a woman from Tuapi reflects the impact of Hurricane Felix in all its forms:

'Our economy suffered greatly after Hurricane Felix. Because there are not many fish, shrimp or lobsters left to catch and market; we don't have enough space to plant, nor do we have seeds; the plains do not provide the same amount of wild fruit that they gave us every year for our subsistence, fruit such as sea grape, nancite, and icaco, among others. Other fruits from our backyards which have also become scarce are coconuts and lemons which many of us now buy at the market in Bilwi (Young woman from the community).'

The following are what the Tuapi indigenous women believe as the impacts of climate change on their lives.

1. Social impact

Housing. The destruction of homes in the community due to natural disasters has had a major effect on society, and has been felt especially by the women of Tuapi. The winds of Hurricane Felix destroyed all the traditional homes in the community. Traditional houses were built on stilts, with palm roofs and wooden walls and consisted of two dwelling-type structures that are linked by a short bridge. The larger structure is the big house where people have their living room and bedrooms and the second structure is used as a kitchen. When these buildings were destroyed most of the people built temporary huts made from plastic, tents and zinc, materials which they had obtained from the international aid which reached the community.

Having overcome the initial emergency phase, the community received donations through projects from various international organizations which donated materials to build concrete homes. Currently, 28 families from the community have benefited. With the damage wrought by the hurricane, the villagers have begun to

adapt new ways of building their homes. Although these changes were already gradually happening, changes became faster after the hurricane. For example, in the past, the houses were large and had a separate kitchen; they were built on stilts and with wood to prevent the yard animals from entering the house. At present the villagers say that the cement houses protect them better from the cold especially as without the trees to buffer them, the winds from the north and the rain are felt more. This change in traditional architecture is a way by which to adapt to the changing climates. One woman said:

'After Hurricane Felix our community was left bare; the sun's rays beat down directly on us because there are no longer trees to give us shade. Before, when we walked to the river, we did not feel the sun at all, the trees' shade covered us all the way and we only felt the sun when we got into the river because of the light that fell on it.'

Lifestyles and livelihoods. The decline in quality and amount of harvest is attributed by the elderly indigenous women to the belief that this is because the spirits who guard the land are angry.

The negative effects of climate change add to the damages already experienced in terms of livelihoods and farming systems, forestry, hunting, and the gathering of fruits and plants. There are no longer native trees in the community. The women say that after Hurricane Felix, only a few trees such as the guava and *icaco* trees managed to survive but these no longer bear fruit or bear fewer and smaller fruit. The lemons, for example, have very little juice and the flesh of the coconuts have become very thin. Some trees are becoming sick with white spots on their stems. As such, an adverse effect on the income of the women has been noted.

In some cases, women have also started working with their husbands in the fishing industry. They began to be involved in fishing and marketing of seafood (*las pequineras*).

While small-scale fishing is vital for the community's economy and small-scale fishermen have benefited from the new ways of fishing and improved techniques, the water bodies have undergone changes causing the natural habitat of fauna to deteriorate. Due to the scarcity of fish, fishing operations take longer and are more difficult, less produce is obtained and production costs are higher.

Deforestation, the scarcity of marine resources, floods, droughts and hurricanes have lessened the capacity of residents to produce their own food, impacting negatively on the community's food security. They resort to buying food instead. As a consequence, because there is a greater demand and smaller supply, food prices have been increasing.

Health and balance with nature. According to indigenous traditional knowledge, good health depends on the capacity to maintain balance between humans and natural resources. This has been inculcated in them from an early age and passed on from generation to generation. Children respect this knowledge. For example, they are aware that it is very important to comply with the community's rules in order to ensure a good supply of natural resources and to prevent depletion and scarcity. The collection of forest and sea products and other activities are governed by these rules of conduct. Its strict enforcement depends on the ability to maintain a good relationship with nature and with the forces or spirits that govern it. The consequences of an imbalance between these relationships will cause disease and suffering. Indigenous lore includes a number of syndromes and diseases that are directly related to this aspect.

An example of how the traditional balanced system has been affected can be seen in the behavior of the water in rivers. In some cases, women can no longer go to the river to wash their clothes as they used to do because of the scarcity of water. On other occasions the river overflows, partly due to the removal of selected material from the river bed by non-community members which are then sold in the city; deforestation also contributes to the diminishing of water resources.

2. Changes in traditional practices of reciprocity (pana pana – bakahnu)

As mentioned, climate change affects the way of life of all the people of the community in a multidimensional way.

The indigenous women also admit the impacts on social life. Firstly, the loss of the traditional practices of reciprocity within the community is observed. This loss goes hand in hand with the monetization of the indigenous economy as an effect that increases the imbalance (Kain, Arauz and Sebola 2010).

There were instances wherein communities benefited from mutual assistance. For example, they exchanged seeds during planting season, and in the case of widows, the people in the community took turns to prepare the land for planting with their crops. The women interviewed in the focus groups said that during planting season, *pana pana* (turned hand) used to be practiced. This social practice consisted of mutual assistance to facilitate farming operations. The community used to work together on the plantations of the whole community. Every day everybody took part in the cleaning of each of the plots of land or agricultural fields, until the plots of all the families in the community have been cleaned.

The same happened with planting. It was a way of trading or exchanging manpower.

Another example of this type of exchange was manifested in the building of houses, an activity involving all the men of the community. Women cut and tied the *papta* (palms) to be used for the building. They also prepared food to be shared among the members of the community who took part in the construction.

3. Rotational agriculture:

'We do not have space any more to let the land rest.'

The loss of forest areas not only contributes towards the loss of biological diversity, but also has a severe impact on livelihoods and farming systems, forestry, hunting, the gathering fruits and plants by indigenous peoples and also causes a threat to food security.

For the Miskito women of the Tuapi community, farming represents one of the main sources of ensuring the supply of food for their families and is a very important activity in their lives. Currently, there are significant changes in the traditional system of rotational farming.

In the past, meetings were held on the first or second Sunday of January each year so that the families could coordinate and decide amongst themselves the most appropriate areas wherein to put their plots. A plot for farming was allocated to each family. After three harvests they moved their plots elsewhere to allow the land to rest for several years.

After Hurricane Felix this practice was disrupted, and worse, everything was destroyed. Trees had fallen and there was no space to plant. Because of severe restrictions posed by these circumstances, the system of rotation was no longer closely followed.

The decrease in food production from agriculture was also contributory to over exploitation of the forest.

Further, the situation likewise made it necessary for some women to go to the town of Puerto Cabezas in search of work to ensure that their families will have food to eat. In so doing, many were exposed to racial and gender discrimination.

4. Loss of medicinal plants

Miskito women of the Tuapi community have extensive knowledge on the use of medicinal plants as they are in charge of looking after the health of their family members. For example, women use rue to bring down the fever of children. The *ara patas* and *pabula dagni* are used to frighten away spirits which are believed to be the cause of sickness. Some plants such as *sika kakaira* are used to cure illnesses. These plants are not only medicinal; they are also used to flavor food, such that there is no need for chemical seasonings. These medicinal remedies could be freely obtained from the forest.

The over-exploitation and deterioration of ecosystems are causing the loss of these medicinal resources. This was compounded by the onslaught of Hurricane Felix. An additional problem was thus posed for the women who now have to resort to western medicine which entailed additional expenses. Money becomes even more scarce as a result.

The loss of these traditional products used by the community has made them dependent on substitutes which cause undesirable changes on their diet and cultural systems. The interest in preserving traditional knowledge has also diminished. A Tuapi woman had this to say:

'Hardly anyone resorts to this means anymore because when we go out to look for plants we don't find them because they have died out; and if we go to the plains it is difficult to find any because of the tree-felling carried out by people outside the community. Our ancestors have taught us about many plants that can be used to alleviate our problems and we have proven their effectiveness. However, we have been forced to go to the hospital in Puerto Cabezas because our traditional plants are disappearing and that costs us money because we have to travel to Bilwi.'

5. Increased dependence on external aid

After Hurricane Felix, extensive support was provided to the community through external cooperation, conducting infrastructure projects through the construction of concrete houses, managing forest resources by means of donating small pine trees which the women planted on the banks of the river to prevent drought, and the donation of seeds, food, fishing tackle and medicine, among other things.

While it is true that these actions have helped the community to cope with the disaster situation, they have nonetheless impacted negatively on the traditional ways of community life and productive development. A clear example of this is the case of the seeds of non-native species donated to the community which have overrun the native species. For example, new species of guavas (elongated and green on outside even when ripe) are gradually displacing our native species (round and yellow on the outside when ripe).

Devastation by the hurricane also created community dependency on external aid, particularly among the young people, thus obviating the knowledge and skills implemented by the elders to deal with natural disasters.

In this regard, an elderly female interviewee said the following:

'People now expect a lot from the government. They want the government to help them with everything. I remember my grandfather telling me about a hurricane he experienced when he was young and that they had their own ways of preparing and storing food during lean times after disasters struck. They buried the food. But now, surely no one from this new generation would eat something that had been buried.'

Adaptation Measures by Tuapi Women

Given the apparent increased vulnerability to the effects of climate change, indigenous peoples, local communities and civil society throughout Latin America are making efforts to protect and strengthen the traditional knowledge and sustainable livelihoods of indigenous peoples and to contribute to the processes that help in the mitigation of and adaptation to the effects of climate change.

During the 16th Session of the Conference of the Parties held from 29 November to 10 December 2010, in Cancun, Mexico, the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) posited that the United Nations Framework Convention on Climate Change (UNFCCC) must necessarily develop a solid and comprehensive framework of adaptation measures and funding mechanisms that provide predictable, adequate and continuous support in order to allow for the vulnerable regions, countries and communities to adapt to climate change. It further makes provision for “ensuring the full and effective participation of indigenous peoples and local communities in the development and implementation of projects and programs.”

Adaptation to climate change will necessitate changes in the manner forests are managed and utilized, which in turn, will probably require changes in the regulations that govern the use and management of forests.

Over the past 30 years, the indigenous community of Tuapi has undergone many changes in their lifestyle. These changes have a very positive influence on the adaptability and environmental mitigation capacity of the women in the Tuapi community, and their ability to create new alternative livelihoods for food security.

The women from the community said that due to Hurricane Felix which passed through the region and destroyed large areas of the forest, the produce that they are able to bring to the market to sell have become less. Further, local production is no longer sufficient to provide for the food requirements of their families. Nonetheless, what is noteworthy is that the women have developed and implemented adaptation strategies and have made contributions in reducing the impact of climate change.

As mentioned earlier, the adaptation strategies of communities vary according to their geographic location and degree of vulnerability, despite the fact that they are from the same region.

Examples are given below of some practices that the women from the Tuapi community in the district of Puerto Cabezas, in the North Atlantic Autonomous Region of Nicaragua, have begun to develop to deal with the consequences of climate change.

1. Making traditional products suitable to market requirements

The Tuapi community continues to be characterized by the existence of a subsistence lifestyle. Previously, it was enough to sell wild fruit and seafood; nowadays it has become necessary for women to start manufacturing and adding value to products in order to gain greater profit into the market. These alternative industries augment family income to cover some basic needs.

Despite the loss of marine and forest resources, the women have begun to create new products using the fruits that they now harvest in smaller quantities. For instance, they have gone into the production of guava jelly, basket weaving using dried pine needles and baking bread. These are now among the product that they sell in the markets.

2. The planting of vegetable gardens in backyards

The destruction of the forest was severely felt in the community, and it was clear that the families had lost their ability to produce their own food, thus aggravating the poverty situation. The consequences could be seen in everyday life: changes in the traditional diet and a high dependence on foreign assistance.

To ensure food security for their families, an initiative was born to establish home gardens as a strategy to grow their own food and to meet some of their families' needs. This initiative has had a positive impact on the community since it has allowed immediate access to food for their families.

The community's traditional doctor explained that he has established an area in his backyard to plant some medicinal plants

that he has brought from another community and which at the time could no longer be found within the Tuapi community. Such efforts likewise help in the preservation of indigenous plant species and in overall efforts of preserving biodiversity.

3. The use of traditional therapy for the treatment of plants

Not surprisingly, the community makes use of knowledge and technique that they have learned from their ancestors in responding to various problems, one example of which is the treatment of “sick” plants.

Some of the women respondents said that after the hurricane, the plants that have managed to survive began to have white patches and spots on their stems and leaves.



For the plants to recover, the Tuapi women used soapy water and a little salt to clean the stems and leaves, as well as the area of vegetation. They said that this is a traditional knowledge which has been passed down from one generation to the next.

4. The revival of traditional practices such as the pana pana

The elderly women of the community recount that before Hurricane Felix they had already experienced three hurricanes, but none of these were as severe as this event which caused so much damage to the indigenous communities in RAAN.

As mentioned, the indigenous community of Tuapi has relied for many years on small-scale fishing. However, with Hurricane Felix many families lost their fishing implements: seine nets, trammel nets, and other equipment.

Because of this, the people in the community revived pana pana, a traditional practice of reciprocity which has gradually been lost. At present, when there is an abundance of fish, those members of the community who do not have nets join those who have and help to pull the nets in.

Everybody who helped gets a share and the whole community benefits.



5. Changes to housing

As mentioned earlier, house structures have also changed. Faced with the shortage of timber caused by Hurricane Felix, together with the problem of steady deforestation which they have

been facing, residents of the community have now opted, as an adaptation measure, to build concrete houses instead of the traditional ones that are built on stilts, palm roofs and wooden walls. This adaptation has resulted in the reduction of tree-felling and helped address the scarcity of available wood.

Women's Recommendations in Defining a Regional Strategy for Climate Change

The following were some thoughts on needs and priorities raised by the Tuapi women during the discussions (*aisi kaikanka*) that took place in the community.

Group of elderly women:

- After Hurricane Felix, many organizations came to our community to ask us about our experiences with the hurricane; people from the Red Cross also came to give us talks on climate change. But we think that we still need more information;
- Our young people need to know more about climate change and we therefore believe that it would be good if the government could establish training programs on the environment and climate change in all the communities of the region in order to make the youth aware of the importance of looking after our natural resources;
- All the communities in the RAAN have concrete bridges; our community is the only community with bridges made of wood. It would also be good to include this in the regional strategy because in the case of a severe hurricane, wooden bridges would be destroyed and we would then be cut off from Bilwi. This is true not just for the Tuapi

but also for the Krukira and other communities who come from Boon Sirpi. And if that happens, then how would we get help in the case of an emergency or provide food to the community?;

- We have a water fountain where people from Bilwi stock up on drinking water; in order to conserve this source we request that the authorities build a retaining wall as they did at the *Convent de las Carmelitas* in Bilwi to prevent the soil in the river from eroding. Previously, we benefited from a project that helped us to reforest 35 ha of forest.

Group of young women:

- We need to build a shelter in our community for use when there is a hurricane. It would be good if the government could include this idea in its strategic plan on climate change. In the event of a hurricane approaching, we do not have strong structures where we can take refuge; we can only wait to be evacuated;
- There are two resorts in our community and a river which people from the city often go to. One of the resorts is privately owned by a member of the community and the other is communal property. We can see that when people come and go, even those of the community who live in Puerto Cabezas who come to enjoy the river, they leave disposable utensils, bottles, nappies, broken glass, and food everywhere. It would therefore be good if our authorities could establish



communal laws that protect the environment. We, in turn, during a meeting that we recently had with the Wihta, decided that we would make posters and put them up at the entrance to the river and the resort to remind people not to throw their waste indiscriminately. We also agreed to provide trash cans to prevent people from dumping their garbage around the resort or in the water;

- Another idea that we thought would be good for the government to implement is for them to assign forest rangers at specific sites in the region (according to sector). This would help in the monitoring of the forest and the prevention of fires that destroy large areas of forest cover every year.

Conclusion

This case study has shown that the Miskito women of the indigenous community of Tuapi are important drivers of change. They play a crucial role in the community not only as the ones who ensure food security for their families but also because they have developed different strategies to cope with the variability and unpredictability of nature.

In the wake of changes brought on by climate change over the past 30 years, the women of the Tuapi community have developed adaptation measures which specifically address food security. Family gardens have been created, and the farming plots that were damaged by Hurricane Felix have been revived. They have established new ways of generating income at home by producing various products that are sold in the market.

The women have actively engaged in the revival of their traditional knowledge and practices which have proven useful in responding to the various effects of climate change.

As empowered members of the community, the Tuapi women are actively involved in decision making as seen in their valuable inputs in the process of defining a regional strategy on climate change. They have also voiced their perspectives on the creation of communal laws which govern the behavior of residents of the community and visitors to the community in relation to the forest; and the need to train and place forest wardens at strategic points between the indigenous communities to prevent forest fires, among other things.

This case study has shown that the Tuapi women have a great deal of knowledge about their environment. They are well aware of the effects of natural disasters such as hurricanes, earthquakes and tsunamis as well as man-made ones like deforestation and advancement of agricultural frontier. And for years, they have shown their tremendous adaptive capacity through creativity and innovation, revival of traditional knowledge and practices, and active involvement in community activities and processes that help them face the phenomenon that is climate change.

Endnotes

¹ T. N.: a yellow berry of Nicaragua.

² This forum was carried out by the Wangky Tangni women's organization in the first week of October 2010; 570 women from more than 90 communities of the Coco River and plains participated in the forum.

³ Fishing nets are traditionally used for small-scale fishing by the Tuapi community and other communities.

⁴ It refers mainly to the fact that their contribution to the emission of greenhouse gases (GHG) is one of the lowest.

⁵ Chinchorreada; a form of fishing practised by the people.

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Annex

Table 1. Impacts of climate change on the lives of women in the Tuapi community, adaptation measures

Impact	Problems encountered	Adaptation measures
Social	Changes to traditional homes: Because of tree-felling, there is shortage of access to wood to rebuild their houses in the traditional manner—the houses used to be built on stilts as a preventive measure during the seasons of <i>bocones</i> ; these had separate kitchens.	The construction of small new concrete houses that are resistant to rain and wind.
	Traditional Medicine: Medicinal plants are no longer found within the community; one needs to walk to the plains or farther inland to find some.	Some community members, upon finding healing plants of interest, take them back to the community and replant them in their backyards.
	Livelihoods: There is a shortage of fish, shrimp and wild fruit.	Income augmented by production of guava jelly, baking of bread, establishment of home gardens by women, migration of men or a family member of the community to the city to look for temporary work.
Environmental	Due to trees felled by Hurricane Felix. 1. Plots have been damaged. 2. There was interruption of river flow and water sources were clogged.	Establishment of family gardens by women in their backyards. Cleaning of the streams and rivers in the area.

	Poor harvest: Damaged soil, low fertility.	Given the low yields of their crops, the community women decided to produce fertilizers from of cattle manure and food waste in order to fertilize the soil.
	Unstable weather conditions have disrupted traditional patterns of planting, harvesting, fishing, and hunting as conditions observed (the people used to look for signs from the environment in the conduct of certain economic activities).	Create new livelihoods as reliance on past practice of observing the environment is no longer practical. Recall relevant indigenous knowledge which can be put into practice in the present to provide other adaptive measures. For example, return to practices in the past such as saving/storing food to prepare for hard times.
Economic	Disappearance of species native to the region. Many kinds of wild fruit that were generating income for us are disappearing.	When endangered and disappearing species of plants are found, they are taken back to the community to be replanted for the use of future generations.
	Fish, shrimp and wild fruits are becoming scarce. There is a shortage of food in the Tuapi households and little income is generated.	Production of guava jelly, bread-making, establishment of home gardens by women, migration of men or a family member of the community to the city to look for temporary work.

List of persons who participated in the discussion group (Aisikaikan ka)

No.	Names and surnames	Position
1	Zoraida Zacarías	
2	Landioly Wilson	
3	Shanara Webster	
4	Esmenia Pinock	
5	Fanny R. Makis	
6	Trina Plusny	
7	Mary Gladis Dinkin	
8	Idalia Pinock Hansen	
9	Carolina Pinock	
10	José Miguel Suarez	Judge (wihta)
11	Celia Pinock	
12	José Alfred	
13	José Valenti Carlos	

List of persons interviewed

No.	Names and surnames	Position
1	Surel Pinock	Traditional healer
2	Norma Davis	
3	Dano Omely	Elderly man
4	Pimeria Davis	
5	Maria Tejada	
6	Carolina Pinock	
7	Maickel Coleman Jackson	

INDIGENOUS WOMEN AND CLIMATE CHANGE IN SOUTH CAMEROON

BY LELEWAL¹



Introduction

Many of the world's indigenous peoples live in isolated and distant communities and their livelihood is inextricably linked to the biotic, cultural and abiotic environments of which climate is an integral part (Posey 1990). The case of the *Baka* or Pygmy communities in South Cameroon is very peculiar because the negative impacts of climate change on the socio-cultural and economic conditions of the residents have made women to consciously initiate mitigation and adaptation measures which, until recently, were not part of their culture. In the past, their livelihood revolved around gathering resources from the wild, but when the National Parks of Nki, Boumba-Bek and Lobeke as well as the World Heritage Dja Reserve were created, they were forced to settle along major road axes (Mope and Nkwi 1995). By nature, these are indigenous people who are exposed to the risks of climate change yet their inputs and interests are seldom considered in any negotiation on climate change mitigation and adaptation, particularly in the formulation of the Reduction of Emissions from Deforestation and forest Degradation (REDD/REDD Plus) program (Tauli-Corpuz et al. 2009). Considering the fact that half of the 300 million estimated indigenous people in the world are women, they could stand as key stakeholders in the effort to mitigate the effects of climate change.

In general, the Baka women who participated in this study were not familiar with technical or scientific concepts surrounding the phenomenon called climate change. They, however, said that they are aware of strange climatic and environmental conditions like the increased length of the dry season, reduced length of the rainy season, reduced volumes of streams, disappearance of some species of flora and fauna, and drying of some wetlands and springs through the course of time. These phenomena that the Baka women have observed resonate in all communities of indigenous people. They suffer the worst impact of current climatic changes even if their activities have the least contribution to climate change.

Being a case study, this paper focuses on the impact of climate change on the socio-cultural and economic life of indigenous women in the tropical forest of Djoum in South Cameroon. This paper also examines the climate change mitigation efforts of these women and their adaptation measures to climate change. Some elements of the report can facilitate the integration of the socio-cultural dimensions of the indigenous people of Cameroon in programs and actions formulated to address the impact of climate change on people in this specific region and in the entire world.

Three study clusters were selected for the study; each cluster is located in the main road axes along Tha Te Town of Djoum. In the northern cluster, which represents the Sangmelima-Djoum axis, the villages of Mebang and Nkonete were sampled for the study. In the southern cluster, which represents the Djoum-Mintom axis, the villages of Ando, Andoo'o and Meban I were sampled while in the western cluster, which represents the Djoum-Oveng axis, the villages of Minko'o and Nkan were likewise sampled.

The Indigenous Women in Southern Cameroon

It was observed in the field that indigenous women in south Cameroon are essentially the Baka women. This study focuses on the Baka women who are integral parts of the Pygmy community (hunter-gatherers) found in greater numbers in the southern and eastern parts of the country. This forested part of the country is dominated by three national parks, one world heritage reserve and many forest management units (UFAs²) which are zones for safari hunting and logging activities. The socio-cultural and economic life of the Baka women are threatened both by intense logging activities that seriously affect the environment they depend on, and by climate change that is largely an outcome of excessive exogenous consumption of fossil fuels. If climate change has huge impacts on indigenous peoples as a whole, indigenous women suffer the worst consequences because the various actions taken to check the drivers and effects of climate change do not consider the potential impact on their lives and welfare and the important role they could play in the mitigation process.

Among the 54 Baka women who responded to the questionnaires, only two could read and understand elementary French and these two found it difficult to write. This situation indicates a high rate of illiteracy among these women. In spite of this high rate of illiteracy that could hamper these indigenous women from understanding the concept of climate change in terms of scientific or higher levels of analysis, the local practices that they have adopted to ensure their socio-cultural and economic sustenance are ecologically sound. They adapted these practices following their new status characterized by imposed semi-sedentary lifestyle. Regine Ntolo (2011), a *Kobo* (elderly woman) from Minko'o, noted that the value of the forest to Baka women, particularly the elderly who are the custodians of the female traditional practices, is gauged in terms of basic household needs, medicinal needs, shel-

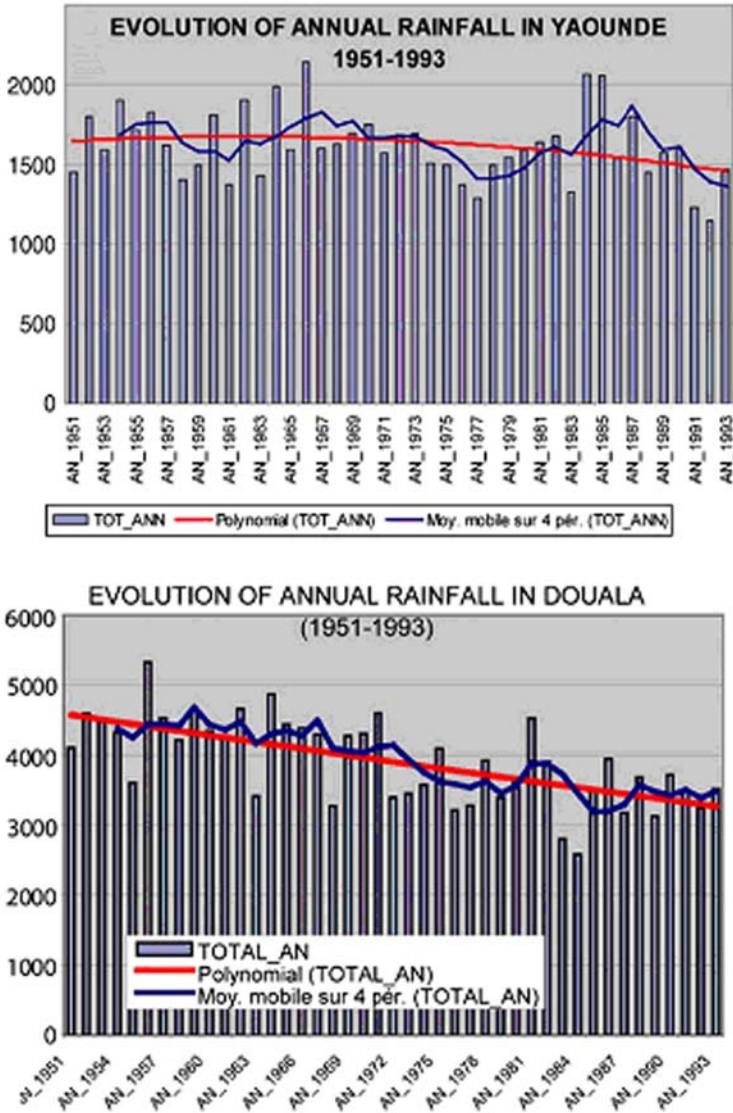
ter, food and venue for communion with the ancestors or gods and for initiation and handing down traditional norms and practices from generation to generation. Kobo Regine Ntolo also presented a wide range of indicators of climate change in the Baka communities in the southeast of Cameroon and the effects of such climatic changes on their socio-cultural and economic life as indigenous peoples.

Indicators and Effects of Climate Change on Indigenous Women

During three FGDs (focus group discussions), the participants were unanimous in the observation that rainfall in their various localities has become irregular and unpredictable. They said that what used to be a long rainy season shortened to four or three months. This observation is confirmed by secondary data on rainfall (Figure 1). Kobo Regine Ntolo and Kobo Bissa Antoinette (2011) of Mebang also claimed that prolonged dry seasons and so many days of no rainfall have become a common phenomenon in their communities only in recent years.

Figure 1 shows a continuous reduction of the total amount of rain that falls in the two largest cities of Cameroon, Yaounde (the capital city) and Douala (the economic capital) which are close to the study area. Both cities are in the south of Cameroon which is covered by part of the Congo Forest Basin that plays a fundamental role in carbon sequestration or the rehabilitation of catchment areas and regenerating useful species depleted through logging in UFAs. The effects of these seasonal variations, as the informants noted, include exceedingly hot climatic conditions, drying up of springs and wetlands and reduction in the volumes of streams and rivers. Due to the reduced volumes of streams and rivers, some

Figure 1. Reduced rainfall in the southern cities of Cameroon



species of fish such as the *Nbwahka*, escape to larger rivers found in the recently created National Parks of Nki, Boumba-Bek and Lobeke and the World Heritage Dja Reserve where access by indigenous peoples is strictly prohibited by law. Other effects of



Mongulus. Huts constructed with leaves by a Pygmy woman for her family in Minko'o.

The informants said that they preferred these huts or mongulus (dome-shaped houses built with young tree stems and leaves) because they maintain colder temperatures in their interior. It was observed that these mongulus are common even in larger communities where improved dwellings are dominant. The informants further said that the unpredictability of rainfall tricks farmers into planting at the start of early rains, which unfortunately, last only for days especially during the short rainy season period. These rains are succeeded by longer periods of dryness which causes the death of seeds which have germinated. As a result, there is high incidence of crop failure and food insecurity. The indigenous women are therefore placed in a difficult situation of having to feed the family barely with anything. This exposes some of them to a kind of emotional torture and a sense of rejection.

During a focus group discussion in the village of Andoo'o, the women held that a hectare of farm land that used to produce as much as 25 to 30 jute bags of groundnuts, for instance, could cur-

rently produce only 10 of such bags. The reason cited by the informants was that a prolonged dry period that set in from the time of maturity of the crop until it was harvested was favorable to invading insects that attacked and destroyed the nuts. This destruction of the crop has led to an upsurge of paltry harvest that cannot be associated with dwindling soil fertility because it is common even on newly cultivated farm plots. These informants were also of the view that cocoyam harvests have also become paltry and the quality of tubers produced is currently witnessing a downward trend. They claimed that a single plant in the past could produce larger quantities of healthier tubers that could satisfy the food needs of a household with six members, but by the time of study, a household of the same size could satisfactorily be fed with cocoyam harvested from at least six plants. The low productivity was largely attributed to instability and fluctuation in rainfall compared to the preceding years. This low productivity has made it difficult for the majority Bantu to have enough food like before and the quantity they usually exchange for meat with the Baka has drastically declined. The reduction in the quantity of food exchanged by the Bantu, particularly the majority *Bangando*, has prompted many members of Baka families, especially the women, to engage in some wage earning activities in order to raise income for purchase of food for the family. These indigenous women who are currently practicing a sedentary lifestyle have also adopted crop cultivation and they are becoming land stewards.

The adoption of this income generating culture is an aspect of social change that puts the Pygmies face to face with a sedentary lifestyle characterized by a market economy. This is one of the ways by which indigenous women adapt to climate change since changing seasons have distorted the periods during which some delicacy species of food items such as mushroom and tree larvae are usually available. Mushrooms (see photo, next page) that usually grow in late September or early October now grow in May³

and some of the women doubt whether they are the edible species. Instability such as this has increased hunger, malnutrition and misery among these people and this has greater effects on women and children. The constant increase in temperatures also contributes to crop failures and the weakening of their immune systems, making it difficult for them to work for long hours. The excessive heat also causes skin rashes and it enhances the breeding of mosquitoes that cause malaria. It is also affirmed that the excessive heat causes fruits to fall off before their maturity. As a result, these precious food items are wasted, when in fact, food supply is inadequate.



Mushroom. Seasonal distortion affected the growth of mushroom in Minko'o. They currently grow in the month of May instead of late September or early October.

The impact of climate change has been worsened by wanton logging that has led to the disappearance of some tree species that are sought for their wood such as the *Moabi*. Field informants stated that the *Moabi* tree, whose bark is used for medicinal purposes and whose seeds are processed locally to get vegetable oil for cooking, has been severely logged by timber companies to the extent that only a few remnants could be found in areas inaccessible to timber exploiting equipment. The disappearance of the *Moabi* tree and all the other flora and fauna species is affecting carbon sequestration, and the social, cultural and economic life of

the Baka women. Informants lamented that food insecurity is looming, their pharmacopeia activities have become precarious and that the recently-embraced market economy is not paying off.

The informants further said that the regeneration of the highly sought Moabi tree is difficult. Those who participated in the FGD in Andoo'o reported that the regeneration of Moabi trees was once attempted in the family regeneration plantation of the traditional ruler of Andoo'o but while the other species of trees germinated in the nursery, the Moabi did not. In the FGD at Mebang Village, Kobo Bissa Antoinette (2011) expounded on the failure of the Moabi seeds to germinate. She observed that Moabi is a special species that is dispersed by elephants only. When elephants eat the fruits of a Moabi tree, the physiological processes in their digestive system induce the activation energy needed by the seeds for germination. When the elephants defecate, these seeds are expelled to the ground and they germinate without intervention. Kobo Bissa Antoinette held that it was usually after the annual *Njengi* dance that elephants dispersed the seeds and these elephants were often teleguided by initiated Baka women. Kobo Regine Ntole corroborated this account by saying that during the *Njengi* dance, a group of initiated Baka women used to teleguide the lone elephant sacrificed for the occasion. This elephant was usually killed by a man who was induced with metaphysical powers by these women. When the man left for the forest, the women made incantations until he came back from killing the elephant. The teleguided elephant was easily killed even with a knife, spear or stick

The impact of climate change on the culture of Baka women has also been very serious. In the interview with Kobo Regine Ntolo in Minko'o village, she expounded on the socio-cultural importance of a species of fish called *Nbwahka* to the indigenous Baka or Pygmy women in south Cameroon. She elucidated that *Nbwahka* is a species of fish that was used in the performance of a traditional rite aimed at initiating young girls into the *Yeyi* cult,

which was a fundamental stage of Baka womanhood. The initiation usually took place in the forest during the annual *Libanji* Festival. It was performed by Baka patriarchs and *Kobos* on girls aged 15-23 years. The initiated young girls were induced with strong vocal cords that empowered them to invoke the spirits of the forest through incantation. This was a rare moment during which the Baka women communed with their gods and ancestors. The young girls being initiated with this species of fish were the only ones who could sing and dance to the rhythm for the pleasure of *Njengi*, the god of the forest. It is believed that whenever *Njengi* was pleased with the incantations of the young girls, he came out and showered blessings upon the land.

According to Kobo Regine Ntolo, the disappearance of *Nbwahka* was noticed when the queen mothers⁴ were unable to catch the required size of the fish for the traditional rite in Nkonete Village in 1997. Since then, no young girl has been initiated in Djoum and its nearby areas because the requisite fish species for the rite was no longer available. Though *Nbwahka* fish has never been under any human pressure, the large-sized *Nbwahka* fish escaped to the big rivers in the national parks because of the steady reduction in the volume of streams in the settlement sites. Kobo Regine Ntolo bewailed that they cannot get the fish from the rivers in the national parks because the creation of these parks between 2001 and 2005 divested them of access rights to the resources of the streams, rivers and forests in these parks. Kobo Regine Ntolo intimated that using a small-sized *Nbwahka* fish for the traditional initiation rite of young girls is a mockery to *Njengi* and the performance of such a watered down rite will bring damnation to the community. Both *Kobos* lamented the fact that the cultural mainstreaming of the Baka women has been compromised. This breach in traditional practice is evidently due to disturbances in ecological arrangements caused by climate change. The elderly woman, however, ascertained that hopes of reviving the ini-

tiation rite of young Baka girls have not been lost because women see that they could restore the volume of their streams, rivers and wetlands by mitigating the effects of and adapting to climate change.

Mitigation and Adaptation Strategies

With regard to climate change mitigation and adaptation strategies, the two Kobos provided vital information. From these interviewees, it was gathered that until 2007, most of the Baka women in South Cameroon believed that the reduction in the volume of their springs, streams and wetlands, and the disappearance of large-sized Nbwahka fish in these water bodies, were associated with the wrath of *Komba* (the Creator). Many of the respondents (85%) also observed that the disappearance of large-sized Nbwahka fish in their surrounding streams was not sudden but gradual and that the rate of disappearance varied with the stream volumes. The Kobo of Minko'o said that to the best of her knowledge, it was in 1996 when the last large-sized Nbwahka was caught around Djoum in a stream called *Lele*. The Kobo of Minko'o and the Kobo of Mebang (see photo, next page) attested that their earlier belief concerning the cause of the disappearance of large-sized Nbwahka in their streams started changing in 2007 when some young people came and interviewed Baka people about their cultural evolution. The informants recounted that when those of them who were interviewed told the interviewers that their culture was dying out because *Komba* decided to take away large-sized Nbwahka fish out of their streams, the visitors inquired about the evolution of the streams through time. The interviewers then made the residents understand that the reduction in the volume of streams was an effect of climate change, not the wrath of *Komba*.

The interviewers further told the residents that such conditions could be mitigated through the planting and preservation of trees and the best way is for them to plant raffia palms in the areas where their streams take their rise (catchment areas). “That was strange to us because tree planting was never part of our livelihood which was based on gathering and hunting until our settlement along the roads,” said the Kobo of Minko’o.



The Kobos of Minko’o and Mebang. The elderly women of these villages were interviewed separately but on the same day. Left: The Kobo of Minko’o (Kobo Regine Ntolo) interviewed in her farm close to Minko’o village. Right: The Kobo of Mebang (Kobo Bissa Antoinette) interviewed in her home in Mebang Village.

The interviewers, however, were reported to have convinced some of the residents to believe in the ecological services of raffia palms. The informants acknowledged having been told that the raffia palms, upon maturity, were going to bring up water levels through their roots. In this way, the original volumes of the streams would supposedly be restored and the large-sized Nbwahka fish could find habitats again. The informants bemoaned that it took them a long time to convince some Baka people, particularly women, to adopt a tree cultivation attitude. “The Baka are very resistant to change,” the Kobo of Mebang noted. This assertion

was equally reiterated by some Baka men. Despite that initial difficulty, Baka women later became more involved in the fight against climate change.

The participants (see photo below) explained that it was difficult for them to initiate any reforestation and agroforestry projects on their own. They acknowledged their lack of expert knowledge in tree domestication and their inability to get improved seedlings. Because of those difficulties, the Baka community as a whole negotiated to be part of a non-government organization (NGO) initially called *Action de gestion durable des forêts* (AGEFO) which henceforth became known as *Action de gestion durable des forêts en intégrant les populations Pygmies Baka* (AGEFO-Baka) in 2007.

Through this association, the Baka women have been collaborating with the World Agroforestry Centre (ICRAF) and *Société Forestière Industrielle de la Doumé* (SFID) to get expert knowledge on the creation of nurseries (see photo, next page) for the propagation of the seedlings of raffia palms, and bush mangoes known as *Peke*, *Gobo* and *Bolongo* which they plant either in catchment areas or in the non-permanent forest. As for Moabi seeds that can only germinate when the fruit is eaten by elephants, the residents collect shoots with seeds in the wild and take these to their nurseries. The women informants said that during their gathering periods, they bring along seedlings of raffia palms which they get from ICRAF and SFID



An FGD held with the Pygmies in Mebang.

and plant these in the catchment areas of their streams in the forest. However, their effort has not yielded any fruits yet since the raffia palms they planted are still too young. Some of them were even found to be dying due to lack of care. Despite this, the women are optimistic that if at maturity the plants will bring up the water level as they were made to believe, then the volumes of their streams will increase and they could get large-sized Nbwahka again for their initiation rite.

All the respondents in this study agreed that the planting of trees by the Baka people in South Cameroon is carried out by both men and women and it is a recent phenomenon in their community. They held that the choice of men and women about where to plant which tree depends on the services that a particular tree will provide to each gender. For instance, women mostly plant raffia palms in catchment areas to restore volumes of streams while



Moabi in Baka Nurseries. Seedlings in nurseries propagated by members of *Comité Paysans de la Forêt* in Minko'o.



men plant them in wetlands for tapping of wine. Moabi trees are planted by both sexes for medicinal, economic and ecological reasons such as oil extraction and sale of seeds. Peke or bush mango *Irvingia gabonensis* are also planted for consumption and sale in addition to medicinal and ecological reasons.

Conclusion

It is an established fact that indigenous peoples, particularly women, are largely affected by climate change even though their activities are among the least of its drivers. The impact of climate change on the cultures of indigenous Baka women in South Cameroon seems to be a fundamental reason for their adoption of climate change mitigation and adaptation activities. Whatever the rationale for the planting of trees by the indigenous women in south Cameroon, the essential argument is that, this recently adopted practice enhances carbon sequestration. Adaptation to environmental changes in a bid to ensure livelihood are not new because these have taken place throughout history. Natural resource dependent communities have been continuously adapting their livelihood strategies to a wide variety of external disturbances and stress in order to survive. Given these, however, the indigenous women in South Cameroon are still making commendable efforts in the domain of environmental resilience even if they are still riddled by certain difficulties, like understanding why restrictions on access to forest resources were made to their disadvantage. These women need to be provided with an enabling environment in terms of tenure rights, knowledge in forest regeneration and material support in order for them to maximize their potentials in strengthening climate change mitigation and adaptation strategies.

Endnotes

¹ Research Supervisor: Ibrahim Njobdi; Research Coordinator: Dr. Enchaw Gabriel Bachange; Assistant Researchers: Gilbert Bamboye Fondze and Rabiadou Yasmine; Result Presenter: Gambo Aminatu.

² Part of the permanent forest (forest under the aegis of the State) where logging companies get their forest exploitation concessions.

³ Field observation.

⁴ Female custodians of the Baka tradition.

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INDIGENOUS WOMEN
IN KHASUR AND KALLERI
VILLAGES OF NEPAL:
TRADITIONAL
KNOWLEDGE AND
ADAPTATION STRATEGIES
IN THE FACE OF
CLIMATE CHANGE

BY TSERING SHERPA, NEPAL
FEDERATION OF INDIGENOUS
NATIONALITIES (NEFIN) AND
THE WOMEN OF KHASUR
VILLAGE LAMJUNG



Introduction

Due to the unregulated forces of globalization, the world today is facing an unprecedented rate of climate change. The climatic and ecological devastations brought about by the unsustainable development practices of rapidly developing and industrialized countries have differential impacts on indigenous peoples. It is increasingly clear that the lives and livelihoods of these peoples, whose practices are ecologically sustainable, are highly at risk due to climate change. The 2009 Anchorage Declaration describes the indigenous peoples' worries and concerns towards climate change as:

'We (Indigenous Peoples) are deeply alarmed by the accelerating climate devastation brought about by unsustainable development. We are experiencing profound and disproportionate adverse impacts on the culture, human and environmental health, human rights, well-being, traditional livelihoods, food system and food sovereignty, local infrastructure, economic viability and our very survival as indigenous peoples.'

Climate change harms indigenous peoples' societies and ecosystem. In particular indigenous women are the ones expected to be adversely affected. As indigenous peoples and as women, they face multiple forms of discrimination and social exclusion, making them more vulnerable. Because climate change makes it diffi-

cult for indigenous women to perform their productive and reproductive roles in their communities, they have developed skills and knowledge that help them adapt to climate change and mitigate its impacts.

The impact of climate change on indigenous women and the coping strategies they have remain largely unnoticed. This is because indigenous women are still relatively left behind in the discussions and processes pertinent to climate change. The full and effective implementation of the UNDRIP (UN Declaration on the Rights of Indigenous Peoples) and indigenous women's increased capacities to use such instrument to push for their rights at the national and local levels is one major guarantee that they are not overrepresented in the vulnerability scale (Tebtebba 2010).

Description of Study Area

The research was carried out in Khasur and Kalleri village, Banjhkhet VDC-1 of Lamjung district which lies in the Western Development Region of Nepal. Lamjung is considered as the ancestral land of the indigenous Gurung community. It covers 2.39 per cent of the total population of Nepal (CBS 2001), and other indigenous ethnic communities like Bhujel, Tamang, Magar, Hyolmo, Dura also reside here.

Khasur village, situated at the height of 950 to 2,005 meters above sea level with moderate climate, lies in the central part of Lamjung and is heavily populated by the Gurung community. Out of 153 households, 100 households are indigenous Gurung. On the other hand, the Kalleri village is heavily populated by the indigenous Bhujel community, which is categorized as a marginalized group based on how they fare in aspects of landownership, income, literacy, and education (NEFIN¹ 2008). People of Khasur

have lived on this land longer than the Kalleri. Because of this, Khasur people have more land holdings than the Kalleri people.

The indigenous communities living here traditionally depend on agriculture and animal husbandry. The community is composed of 49 per cent of women and 51 per cent of men. Topographically, this region consists of hills, steep land, gorges, and river system and ephemeral streams. The forest covers an area of 337 hectares and is rich with diverse flora and fauna.

The Concept of Sustainable Forest Management

The United Nations Conference on Environment and Development (UNCED) adopted the “Forest Principles” in Rio de Janeiro in 1992 which contained the general international understanding of sustainable forest management. A number of sets of criteria and indicators were developed to evaluate the achievement of Sustainable Forest Management unit level. In 2007, the UN General Assembly adopted the Non-Legally Binding Instrument on All Types Forests. The instrument is the first of its kind, and reflects the strong international commitment to promote the implementation of Sustainable Forest Management (SFM) through a new approach that brings all stakeholders together (http://en.wikipedia.org/wiki/Sustainable_forest_management).

Parties to the Convention on Biological Diversity in 2004 recognized Sustainable Forest Management as a way to apply the ecosystem approach to forest management (see Decision VII/11 of COP 7), promoting conservation and management practices which are environmentally, socially and economically sustainable for the benefit of present and future generations.

Sustainable Forest Management balances the need for sustainable economic and social development on the one hand, and ecological sustainability on the other. That is, when the principles of SFM are followed, forest resources are managed and extracted at a rate that meets the needs of the society while ensuring forest regeneration, health and vitality (Patosari 2007).

The Khasur Community Forestry

The forest covers 337 has of the study area and falls under the category of Community Forestry. On 20 February 1992, the Khasur Community Forestry was formally established, and effective 25 December of the same year, became the subject of forest management and conservation efforts.

As per the Community Forestry Act, the rights and duties regarding the use and management of the forest rest on the community through the Khasur Community Forest Users Group (Khasur CFUG). This group consists of about 182 households, with 510 women and 539 men. A committee of 21 members is formed every five years to help oversee the management of the community forest.

The community forest area is divided into nine *Tolban*² for efficient management and benefit sharing of the forest. The different Tolbans are: Lete, Arnaswara, Majha, Kosara, B.K. Tolban, Kalleri, Kalme, Shiran, and Purba Tolban. They have decided that the households for each Tolban will be responsible for collection of firewood, grass, fodder, and leaves; the households are also in charge of the protection of forest resources and forest management in general.

Following community forestry guidelines, the users group has prepared a plan with detailed rules and regulations for the effective management of the forest.

In general, the people are only allowed to collect dry branches from the forest for their basic use; they are allowed to extract green timber, but they need to pay Rs50 per cu ft. If within five years the same person again wants green timber then the person has to pay double the price.

There are no such rules and regulations in gathering wild food. The local people who belong to the CFUG can gather fruits, nuts, berries, and vegetables during particular seasons. People from another village cannot have access to these resources.

The management committee has also prepared a calendar that regulates the utilization of forest resources (Table 1).

Table 1. Forest Resource Utilization Calendar

Activities	Time Duration
Logging for firewood and timber	Magh to Chaitra (Mid January to Mid April)
Collection of <i>Khar</i> , a typical grass	Paush and Phalgun (Mid December to Mid February)
<i>Turgum</i> (taking cattle to higher elevation)	Chaitra/Baishakh (Mid January to Mid April)
<i>Margum</i> (bringing cattle downward)	Mangsir/Paush (Mid November/December)

Source: KCFUG Management Plan 2060.

In traditional forest management system there is no rule of paying money for any tree. Under the Community Forestry system, villagers have to pay for a certain type of tree—for example, Rs50 for Sal tree, Rs40 for Chap, Rs20 for Chilaune and Katus, and Rs250 for Dar, each measured and priced on cubic feet.

The women of Pragati Naari Samuha stated that rules and regulations regarding the cutting down of trees have ensured the

conservation of the forest. At the same time, the money collected goes to a Users Group Fund and is used in community development programs such as education, construction of roads, toilet installation, provision for safe drinking water, irrigation, improved stove, and use of *gobar* gas. In addition, the money is also loaned out to women and other members with interest rate of 15 per cent annually as part of poverty reduction programs in the community.

Traditional Forest Management Practices

For generations, the indigenous Gurung community has controlled and managed their forest and pasture resources communally through the *Riti-Thiti Phaiba* or *Riti Badhne* system, a traditional practice that binds the community with rules and regulations. The whole community members used to gather biannually in order to plan for annual activities such as timber extraction, firewood cutting, fodder and leaves collection, and management of the *Kharkas*.³ The *Kraba*, the headman of the community, oversees the implementation of these rules and regulations. All the community members including the headman have the responsibility to conserve forest resources. All are expected to abide by the Riti-Thiti.

Ban Badhne and *Ban Kholne* are two related provisions in the Riti-Thiti that guide community forest management. The first is the practice of “closing” the forest during the period when herders take their cattle to higher elevations after sowing crops. During *Ban Badhne*, people are not allowed to extract forest resources and cattle-grazing is prohibited. On the other hand, *Ban Kholne* is the practice of “opening” the forest after the period of *Ban Badhne* is over. During this period, the cattle are brought back to the village from higher elevation for winter grazing. These practices

allow for a regulated use of forest resource by allowing collection only for certain periods of the year.

The village assembly also decides on the penalties and fines in cases of violation of any provision of the Riti-Thiti. The fine depends upon the violation of the rules: cash payments for more serious violations, and *Theki Pong* (a pot of wine) for less serious ones. However, the Riti-Thiti violator has a chance to confess his/her guilty and may explain the reason for the offense.

Relationship with the forest

Among the members of the indigenous Gurung community, the forest is referred to as *Pachha ko ban*. The herders and farmers in the community have direct dependence on the forest, and hence, certain guidelines have been formulated for its protection. As mentioned earlier, the forest is allowed to regenerate during the “closed” season (which lasts for almost 8 months, starting from February to September), the period when no one is allowed to cut down trees or extract forest resources.

The forest is a hub of religious beliefs and practices. The community worships the *Sachi-Sildo*, which is in the form of a huge rock or tree, as a God or Goddess. Before initiating any activity in the forest or in the pasture land, the people pay homage to Sachi-Sildo. They believe in the *Shime-Bhume*, the forest or nature god, whom they worship twice a year—during *turgum* (or *udhauri*), when cows and sheep are brought to higher elevation for pasture and grazing in early spring season, and during *margum* (or *ubhauri*), when cattle is brought back of village in early autumn. During worship, household members gather at the house of a village leader and call on Shime-Bhume for the protection of the people and their livestock. Part of the ritual is for every male

member of the community (females are not allowed) to go to *Chautara*, a field terrace usually under the shade of big tree where members of community gather in occasions like the Riti Thiti Phaiba. At the Chautara, the men worship Shime Bhume and request the nature god for the success of agricultural production, safety of community from disasters; and protection of crops from hail storm and other natural calamities.

Inside the forest there are three *than* or temples—*Kanyathan*, *Devithan* and *Bhuwanithan*. These are the temples of goddesses for which the local indigenous peoples hold deep spiritual connection. Forest groves around these religious sites are protected. They believe that the act of cutting down trees and making filthy acts around these areas will be harmful for the person and the whole community. Anybody who passes through the dense forest should offer a flower or a green leaf to the God or Goddess for good fortune and protection from evil spirits. Women offer flowers and leaves to any of the than. However, they are not allowed to visit these temples during their menstruation period.

Role of Indigenous Women in Forest Management

Indigenous women are the ones who rely on forest for fuel, grasses and fodder on a daily basis. They also gather wild fruits, nuts, berries, and spices. The forest provides them with medicinal plants, which they use for their families as well as their livestock (women's knowledge on the medicinal value of some plants found in their forest have been preserved for many years).

Indigenous women participate actively in the management of the forest. Every year during the month of January-February the CFUG members go to the forest to hold maintenance activities.

Men and women participate in this collective clean up of the forest.

Women carry out collection of fuel-wood, fodder, grass, bush clearing. Thinning, pruning, cleaning, and collecting are by both male and female household members. Men are in charge of branch-cutting (which entailed climbing trees) and selective tree-felling.

In general, the participation of women in policy and decision making is still low compared to men, and their representation in the CFUG committee is disproportionate, due mainly to lack of access to education and information. Having said this, there is evidence suggesting that women's participation in forestry activities has increased in recent years. One reason is that a large number of men are now migrating to the city to find work, leading to an increase in the number of women involved in annual forest-related activities.

More importantly, the participation of women in the formal forestry sector has comparatively increased. In the beginning there were only two indigenous women members in the committee. However in the newly-formed CFUG committee, there are seven indigenous women members who participate in every meeting of the committee.

But the participation in forest-related activities differs between the women of Khasur and Kalleri. Due to illiteracy and poverty, the women of Kalleri seem to be more at a disadvantage, with lower participation compared to their Khasur counterpart. In fact, all the seven women members of the CFUG committee are all from Khasur.

In Khasur, the women of Pragati Naari Samuha take part in the task of guarding the forest whenever necessary. They do this to prevent forest fires (especially during the summer season) or theft of forest resources (when there are suspicious activities inside the forest). The forest is guarded especially around its border where people from other places might enter.

The task of guarding the forest is arrived at during village meetings. It is usually divided among the household members and involves two shifts: the first is from 7 am till 12 noon, and the second is from 12 noon till 7 pm. If they find anyone stealing their forest products, they confiscate both the tools (e.g., axe) and the stolen forest product. They let go of the culprits after giving them stern warning not to repeat their illegal act.

Both men and women members of the household participate in the task of guarding the forest. However, women are expected to represent the household if no other family member is available to help in the task.

The Women of Pragati Naari Samuha (Progressive Women's Group)

The group was formed in 2007 with the initiative of several unmarried indigenous women from Khasur. These women said that the programs promoted by FECOFUN (like the Strengthened Actions for Governance in Utilization of Natural Resources or SAGUN) helped them build their confidence and realize the need to unite and work together.

A girl who reaches the age of 14 can become a member of this group until she gets married. Presently there are 25 members of the group. They help voluntarily in community activities, like the guarding the forest and promoting health and sanitation. With their help and in collaboration with the Green Society of Nepal, the village has been declared an open-stool-free area in 2009. Sarita Ghale, an executive member, said that the group is helping change the mindset of the community about women. She added, 'When a daughter is born, usually there will not be any celebration; but we, the members of Pragati Naari Samuha, have started a trend of celebrating the birth of daughters.'

Rupa Ghale, a member of the group, explains the basis of the group's formation: 'Because of our patriarchal culture, women were and still are seen to occupy a lower position than the men. Society does not

expect a woman to put her views in front of men. They think our roles and responsibilities are limited within the confines of the house. But today, women are not only working for the improvement of our role and status in society. We are also actively struggling for our right to our land.'

Women and Climate Change

The Convention of Elimination of All Forms of Discrimination against Women (CEDAW) highlights the human rights dimension of climate change, and justifies the need for involving women in climate change policies and actions (Isatou 2009). Men and women are affected differently by natural hazards and environmental stress because of differences in tradition, resource use pattern, and gender specific roles and responsibilities. Furthermore, gender inequality exacerbates women's vulnerability to adverse changes in the climate as it limits women's political voice, economic opportunities, health, education, and access to information (Kelkar 2009).

Climate Change and Gender Inequalities

The impact of climate change on the environment has dramatic consequences on the lives of indigenous women, who are forced to adapt in order to survive. In the study area, some indigenous women have entered into new economic activities as a result of declining food harvests brought about by extreme weather conditions. And their situation is exacerbated by prevailing gender bias.

For example some indigenous women from Kalleri village have started looking for jobs in the city. Along with men from the village, they have found work in some construction sites in the urban center.

'Every day I belong to a group of men and women that walk about one and half hours to reach the city area to find work. As women, we do not have a habit of communicating with the outside world; hence we experience greater difficulty in looking for another work once the previous one is over. We also face difficulty in negotiating with the middleman. Compared to us women, men find work easily. I and my husband both work to earn for our family. I avoid talking with the other male workers because my husband does not like it. So as much as possible I keep quite' (Manmaya [not her real name], 36 years old from Kalleri village).

Two other indigenous women, Kalyani, 37 years old, and Sita, 42 years old (not their real names), both from Kalleri village have similar stories to tell. Their respective husbands have moved to India to look for jobs after years of declining land productivity. However, each of their husbands married a woman from the work place, and both Kalyani and Sita are left to fend for their respective families. Sita had this to say:

'I don't have access to the land and now I work in fields owned by other people; also in construction areas in the city. My husband had gone away to earn for the family and for our children, but has since left us. Now my elder daughter has stopped going to school and got married because I couldn't afford her school expenses.'

Historically, indigenous women in the study area have limited access to education, health and other social services. This situation is now aggravated by climate change. Unfortunately, due to

the lack of access to information and lack of education, a large number of indigenous women in the two villages do not have any idea about climate change and its adverse impact on their lives. Hence they do not know what can and needs to be done. Worse, the government has been slow in mainstreaming gender in strategies and programs that address problems associated with climate change.

Adaptive strategies by indigenous women

The indigenous people in the study areas are slowly beginning to realize the impact of climate change in their region. The women said that they have been noticing the unpredictability of the weather, like unexpected rainfall that lasts for several days, thus affecting agricultural production.

Tara Maya Ghale, 54, considered one of the old ladies from Khasur recalled:

'In our time people of the village used to sell rice in the market; but now we have to buy extra food for ourselves from the market.' She added, 'Our agricultural production is rain-fed, but for the last few years, rainfall was erratic; when we really need rain for our crops it didn't happen, then it rained heavily for several days when it's already late for cultivation.'

Because of this realization, the women started adopting adaptation strategies in order to respond to the continuing loss and decline of food production.

As a coping strategy, the women are now promoting crops that need less amount of water. They have started planting new species of rice like *Aryan* and *Makawanpure* that are less depen-

dent on water. Both of these are new, improved and commercial seeds obtained from the Agriculture office.

Rupa Ghale, 37 years old, an indigenous woman from Khasur, said that the hills of Khasur used to be snow-capped during the months of January and February, and this improved the production of their crops. But for last few years, there was no trace of snow and the production also started to decline. The indigenous belief of this community is that the snow on the upper portions of the hills brings bounty to their production. She said she has also noticed the appearance of different types of grasses on her farm which she hadn't seen before. So, now they have to spend more time in clearing it.

For higher production of maize they have changed the former seeds and brought improved and commercial seed called *Manakamana* and started planting it for fast and higher production. According to the villagers the production has doubled in the same land, although the local maize used to be tastier. The downside is that with the use of new seeds, local seeds are now going extinct.

In order to manage water for cultivation, they have started rain water harvesting and use the collected water for their fields through small canals spread across the area. Those who have their fields close to the river have also managed to direct water to their farms.



Vegetable farming inside a plastic tunnel.

Source: NEFINREDD

Some women in the community have shifted to commercial organic vegetable plantation. With the technical guidance and assistance of an organization called World Vision International Nepal, some of the indigenous women in the study area have been drawn to micro entrepreneur programs. In 2006, 20 farmers (13 women and 7 men) in the area have formed a group called Utsahi Krishak Samuha (Energetic Farmers Group). Even though membership is through the husband's name, this does not diminish the role of women in the group. Every month the women collect Rs10 from each member. The collected money can be used by the members to buy seeds and plastic to make tunnels for vegetable plantation. Depending on the season, varieties of vegetables such as cabbage, tomato, chili, lady's finger, and cauliflower are grown. These vegetables can withstand heavy rains as they are planted inside plastic tunnels.

Two women interviewed said that they have started growing peas and new beans as these do not need much water and are grown alongside potato and maize, though in smaller quantities. They also said that they have no problems in the marketing of these vegetables. Shree Kumari Gurung, 45 years old, President of Utsahi Krishak Samuha said, “We are able to sell all our vegetables either in the local market or in Beshisahar, the district headquarter.”



Woman working in construction area as labor at Beshishar, the district headquarter.

Source: NEFINREDD

As mentioned earlier, a large number of women from Kalleri village have started working in the city, breaking and carrying loads of stones at various construction sites in the city.

Women from 15 households in Kalleri (out of 17) are now involved in this work as their livelihood. The average wage for women is around Rs200 per day, which is less than the wage for

men. Not enough to meet the basic needs of their families, they augment their income through various means: they work in other peoples' farms; get into other paid jobs in the city; or collect and sell dry fire wood from the forest. Others gather certain plants from the forest such as *kaulo* and *peda* (which are used for making bread) and sell these in the market.

Only a few of the women in the village have started home stay tourism as an alternative source of income.

Food Security

Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO 1996).

Agriculture is important for food security in two ways: it produces the food people eat; and it provides the primary source of livelihood for 36 per cent of the world's total workforce (FAO 2008). In the heavily populated countries of Asia and the Pacific, this share ranges from 40 to 50 per cent, and in sub-Saharan Africa, two-thirds of the working populations still make their living from agriculture (ILO 2007).

Ashali Maya Bhujel, 40 years old from Kalleri village, is a mother of five children. She works in other people's fields as she doesn't have a land of her own. She observed that the pattern of rainfall has changed, so they are confused and don't know what to do.

'Last year the monsoon appeared quite late and our crops didn't grow as expected. The production of rice, barley and wheat which are the major crops in this area is decreasing,' she said.

In the same land she recalled that she had harvested approximately 400 kg (5 muri) of rice and 240 kg (3 muri) of barley after giving half to the landlord; this year she was only able to harvest 240 kg (3 muri) of rice and 160 kg (2 muri) of barley.

In order to survive, she has started working in the city at a construction site. Every day she walks for about one and a half hours to reach the city. She gets Rs 150 per day for carrying loads of stones and uses this for her family's basic needs. She said that she gets wild vegetables (Gittha, Bhyakur, tarul, niuro, taamaa, sisnu, tusaa) from the forest as additional food. They have a simple but unique way of drying vegetables that allows storage for several months. These dried vegetables become handy during periods of scarcity.

According to FAO (2008), climate change will have serious impacts on the four dimensions of food security: food availability, food accessibility, food utilization, and food system stability. Problems are now being felt in global food markets and rural locations where crops fail and yields decline.

Food security and agriculture are interrelated in indigenous communities whose survival is highly dependent on land and natural resources. If agricultural production in the low income developing countries like Asia and Africa is adversely affected by climate change, the livelihoods of a large number of indigenous women will be at risk, and their vulnerability to food insecurity will increase.

Increased vulnerability would hinder indigenous women from effectively performing their roles in the family and in the commu-

nity. Indigenous women are responsible for the production of food for the family and community. They also make up a large agricultural workforce, even while managing the household and providing care for family members. They possess knowledge and skills in traditional agriculture and management of forest resources which they have been using for many generations.

The Nepalese economy is based on agriculture, with about 76 per cent of the population engaging in agriculture and agriculture-related economic activities. Ninety percent (90%) of rural women are involved in the agricultural sector.

Indigenous Women's Knowledge and Skills Related to Food Security

Indigenous women in the study area are the primary food producers, gatherers, and managers, thus significantly contributing to food production. About 64 per cent of the women belong to the agricultural sector. As farmers, they perform rotational agriculture and seasonal cropping. Traditionally, they grow paddy, barley, wheat, and maize which are interspersed by pulses and beans. In the whole agricultural cycle, they perform majority of the tasks from weeding to harvesting. And as the number of emigrating men to other places is increasing, women's responsibilities in agriculture have also increased.

Women prepare organic manure for their field by collecting their livestock's dung, kitchen waste, agricultural residue, and fodder from the forest. They grow vegetables using compost manure which they themselves prepare. This means that women farmers have been producing organic agricultural products for their families and the community.

Another important role of indigenous women in the study area has to do with indigenous seeds. The women possess knowledge in seed selection and seed preservation, collecting the best seeds for the next cropping season. They have different types of indigenous crops which have specific features and are grown in particular places. In moist and wet places, they grow indigenous barley seeds called *laate* and in warmer places, they have their own seeds called *larfaree* and *dalle*. The women in the community are the ones who have been preserving these indigenous seeds for many generations.

Women therefore play a vital role in agricultural production. Presently, more than 50 per cent of the community's consumption of crops and vegetables are produced locally, grown and processed by the women. Hence, indigenous women do not only work hard to secure food for their families, they also guide the consumption patterns of community.

Women spend a lot of their time processing food, more than the men. They process wild fruits, nuts, and berries (*kattush*, *aiselu*, *daalchini*, etc.) and wild vegetables (*sisnu*, *taamaa*, *niuro*, *kurilo*, *bhyakur*, *gittha*) that they themselves gather from the forest. Small plants known as *kaulo* and *peda* are also found in the forest which can be used in preparing bread. As the ones in charge of securing food for the family, women possess the knowledge on where to find these plants in the forest, how to harvest, process, and use them properly.

Women apply traditional skills in food processing, which is almost a daily routine for many of them. Aside from the wild fruits from the forest, they also process maize, barley, and wheat which are for daily consumption. Using *jaato* (a stone grinder), women process these grains and make flour that can be used to prepare a variety of dishes.



Preparing flour using jaato, a stone grinder.

Source: NEFINREDD

Women also process vegetables to prepare for periods where food is scarce. They clean, chop and dry leafy vegetables so that these can last until the months of April to May, and September to October, periods when there is scarcity of vegetables. During the field visit in Kalleri village, women had just collected a branch of *karkalo* (arum). This was dried under the heat of the sun and will be stored for future use (see photo, next page).



A freshly collected branch of karkalo (arum), sliced and dried under the sun; to be stored in preparation for an anticipated period of vegetable scarcity.

Source: NEFINREDD

Knowledge on Medicinal Plants

Though women are not specialized healers, like the men, they have a rich knowledge regarding the diverse medicinal resources that are found in forest: from the collection, processing and use of these medicinal herbs and plants. Herbs such as *kurki* are used for cold, cough, chest pains, and fever. *Saduwa* is used for a poisonous cut; *padamchal* is for painful sprains; *siltimur* is for a swollen stomach; *chilaune ko bokra* is for wound or cut; and *haadjori* is for joining bones, etc. When anyone in the family has fever, the *kharboche* is boiled and given to the sick to drink. For quick recovery from cold, the *pinas jhaar* are collected and squeezed, and the liquid is used as nasal drops.

When family members get sick, women are usually the ones expected to collect the appropriate medicinal plant from the forest. They also collect medicinal and herbs plants for future use. These are chopped, dried and mixed with salt apparently to make them last. *Amla*, *harro* and *lapsi* are considered to be rich sources of Vitamin C. These are dried and used for a longer period of time.

Since indigenous women are directly dependent on the forest, they know that their knowledge in conservation and its sustainable use is critical. Hence, they make a conscious effort in ensuring that this knowledge is passed on to the younger members of the community. Women sometimes take their children with them to the forest to educate them about the various wild fruits and medicinal plants and herbs, and teach them conservation lessons (e.g., not to harvest small herbs and plants and fruit-bearing trees; not to use matches in the forest to avoid causing fire).

Women depend on the forest more than the men do especially in the performance of their gender roles: they are primarily responsible for cooking, feeding livestock and preparing composts

for cultivation. These roles require regular access to the forest and forest products; hence, indigenous women suffer more from the destruction of the forest. The situation of the women becomes even more vulnerable because of their limited access to and control of land and other resources.

Land Tenure and Security

According to CEDAW, one of the primary concerns of indigenous women is the recognition of the right of indigenous peoples to self-determination, including their rights to their territories and natural resources, which are inextricably linked to their survival, development, identity and self-determination. With regard to land and property, the CEDAW encourages States to ensure women's right to equal treatment in land and agrarian reform (article 14.29(g)), and for equal rights of spouses to own and administer property (article 16.29(h)).

In the case of indigenous peoples, women's equal rights to enjoy adequate living conditions (article 14.2(h)) might be interpreted to include the protection of natural resource rights (Kambel 2004). Access to land, natural resources and property has an enormous impact on the fight against hunger and poverty, the empowerment of women and on peace and security. The Food and Agriculture Organization's (FAO) experience affirms that access to land is an important predictor of poverty and food security, and land is often a contributing factor in conflicts, particularly in creating "latent" disputes from which violence later emerges (<http://www.ilo.org/public/english/employment/strat/kilm/download/kilm04.pdf>).

Secure Land Tenure and Sustainability of Resources, Traditional Roles and Empowerment of Indigenous Women

In 1957, the government put in place legal systems that interfered with traditional tenure systems and indigenous institutions used by indigenous peoples to govern and manage their natural resources. An example is the policy of nationalization of forest areas, which institutionalized state controls on forest resources. This policy brought about conflicts and contradiction in resource management, and hence, was not sustainable. It also turned indigenous peoples to become distrustful toward the government for depriving them of their right to manage and benefit from the forest. Worse, it led to the people's alienation from their forest—it changed the way they managed this resource, causing heavy destruction in the end.



Local woman collecting cow dung for the preparation of compost manure.

Tirtha Kumari Ghale, 60 from Khausr recalls what happened:

'We had very thick forest then. Even though we had a large number of cattle to graze in that forest, it did not affect the forest. We used to get our medicines from the forest. So you see, our life was highly dependent on the forest but we were able to manage it properly. But after the Government declared the nationalization of our forest, forest resources began to disappear very rapidly. The people began to consider the forest as the King's forest, not theirs. Hence, their attitude toward the forest changed a lot. They saw it as something that can be heavily exploited. Now, with the emergence of Community Forestry, the rate of forest conservation efforts has accelerated. The forest is again thick and green, and with lots of resources in it.'

These policies aggravate the situation of indigenous women, who only have marginal rights to land. For one, ownership of land is in the control of male members of the family. The status of women is within the prevailing rules of marital ownership; indigenous women do not even fight for their legal right over their husband's property, due to lack of knowledge of this right, or of how to go about claiming what is due them. According to an undated report by the All Nepalese Women Association (ANWA) to the Asia Pacific Forum on Women, Law and Development, men owned 90 per cent of private lands in Nepal, while women owned 10 per cent.

Furthermore, rules on property inheritance especially involving women are fragile, temporary, and imperfect. A daughter has temporary entitlement to her paternal property, simply because once married, her status will change. Women must return her inherited paternal property after marriage.



Farm land management by local community.

This case study shows that the women of Khasur and Kalleri are no different from the other women in the country. The rules of land ownership described above that are so common across Nepal apply to them as well. Unfortunately, the indigenous women in the study areas have not taken up any action or initiative to address the issue of land tenure and security. Recently, the women of Pragati Naari Samuha have started discussing the issue of women's right to own land, even though they have not taken any particular action to address the issue.

Indigenous Women and Sustainable Use of Energy

Eighty seven per cent (87%) of the country's energy consumption is in the form of fuel wood, and it is estimated that 95 per cent (95%) of all wood taken from the forest is used for energy generation. Households in the lower hills, where cooking is the main use of fuel, have been estimated to consume 3,198 kg of wood per annum. In many poor areas of developing countries like Nepal, most energy comes from firewood that is collected from the forest. Managing this energy source for the household is strictly a woman's job.

Recently, the indigenous women in the study area have initiated efforts to reduce the use of firewood as a source of energy. These efforts not only help contribute to the sustainable management of the forest, but also eradicates pollution in the household which has impact on the health of its members, especially the women and girls who are directly involved in cooking and preparing food for everyone.

The indigenous women of Khasur and Kalleri have started using improved wood burning stoves which are more effective and also started using gas out of *gobar* (animal manure) for energy. The Aamaa Samuha (Mothers Group) in the study area took the initiative of pushing for these alternatives mainly for three reasons: improvement of women's health, reduction of women's workload and forest conservation.

Now, about 52 per cent of the households are using improved wood burning stoves, which need less wood and produce less smoke. However, the number of users of *gobar* gas is still low as animal manure is also used in organic farming.



Indigenous woman using improved stove.

According to Amrita Ghale, 56, from Khasur village:

'By law, inside the forest, villagers are only allowed to collect whatever has fallen on the ground. Now the forest has flourished because it is being conserved by us. Back then, we had to spend a lot of time collecting firewood. When we were using our old styled stove for cooking we needed a bunch of firewood to prepare a day's meal; now the same amount of firewood can be used to prepare meals for three days. Whereas before, we had to work hard in collecting firewood, these days, we don't even have to go very often to the forest to do that.'

Conclusion

This case study on the indigenous women of Khasur and Kalleri villages shows the rich knowledge that they possess in forest management and sustainable livelihood and other economic activities that are tied to the forest.

The women in the study area are highly dependent on the forest in their performance of their productive and reproductive roles. Their knowledge on medicinal plants, food preservation, organic farming, and other sustainable agricultural practices has helped sustain their families and their communities. As the primary users of forest resources, women of Khasur and Kalleri have opportunities as well as constraints within the Community Forestry programme. Their knowledge and experiences must be recognized, respected and utilized to achieve a sustainable management of the forest.

However, the women are currently faced with several challenges that endanger their continued practice of their knowledge in forest management as well as the performance of their roles as women and mothers.

The women in the study area are starting to realize the adverse impact of climate change in their lives, and they have started developing various adaptation and mitigation strategies including the use of alternative sources of energy, use of new and commercial seeds; and in the case of Kalleri women, finding odd jobs in the city. However, it is important to study the implication of some of the adaptation strategies adopted by these indigenous women, and also to understand what other efforts may be done to strengthen strategies that clearly help them respond to the impacts of climate change. Furthermore, genuine women representation in discussions about climate change remains a challenge that needs to be addressed.

The women in the study area, and certainly in all parts of Nepal, have limited access to land and property. Gender bias and the prevailing patriarchal structures in the country contribute to the continuing marginalization of women and violation of their basic human rights. They have limited access to education, health services, information, and development activities. And as indigenous women, they continue to face discrimination in society.

The situation is not as helpless as it seems. One indication that the women of Khasur and Kalleri are taking steps to control their future is their increasing involvement in self-help organizations (like the Utsahi Krishak Samuha) and women organizations (like Aamaa Samuha and Pragati Naari Samuha) where they actively participate in decisions and actions that have direct impacts on their lives.

Recommendations

Based on the findings of this research on indigenous women, the following recommendations are forwarded:

- Enhance, support, and promote women's adaptive capacities through alternative agricultural practices and livelihoods, access to credit and access to inputs (such as improved seed varieties);
- Increase access to education, health services and food security;
- Secure and enhance the participation and representation of indigenous women in decision making bodies and processes on climate change adaptation and mitigation at all levels;

- Acknowledge the contributions of indigenous women to forest conservation;
- Ensure and encourage the active participation of indigenous women in planning for, and making decisions on community forestry programmes;
- Carry out further research to explore the impact of climate change on indigenous women and the adaptation and mitigation strategies they undertake; and
- Improve the overall situation of indigenous women.

Endnotes

¹ NEFIN was formed in 1991 as an autonomous and politically non-partisan, national level umbrella organization of indigenous peoples/ nationalities. NEFIN has categorized all the indigenous communities into 6 major groups for equitable benefit sharing in 2008.

² *Tol* refers to a group of households in a particular area that are closer to each other in terms of distance; *Tolban* is the forest allocated to this particular group of households for their own use and management.

³ *Kharka* refers to the pasture land where the indigenous Gurung herders take their cattle for grazing.

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THE WOMEN OF THE
CHITTAGONG HILL TRACTS
AND THEIR EXPERIENCES
ON CLIMATE CHANGE

BY SENJUTI KHISA
MALEYA AND THE WOMEN'S
RESOURCE NETWORK



Introduction

The Chittagong Hill Tracts (CHT) are the largest hilly areas in Bangladesh. The region has an area of 13,184 sq. kilometers, covering almost one tenth of the country's total area. It is bordered on the southeast by Myanmar, Tripura, India on the North, Mijoram on the east, and the greater Chittagong district on the west side. It is located from 23.45' N latitude and 91.54' E to 92.50' E longitude.

The area is home to many indigenous groups which have different cultures and modes of livelihood. In this area alone, there are 11 indigenous communities which are considered very economically marginalized despite the rich natural resources found in the area. Further, geographical conditions and land form patterns have been contributory to the experience of poverty in the CHT. These have compounded the poverty and misery of inhabitants of the area. Agriculture, more particularly shifting cultivation (*Jum*), is the main livelihood here. Subsistence is also dependent on the forest, which members of the communities have relied on for food, firewood and other products. The women are mostly involved with household work while the men engage in work outside the home to earn money. As heads of the family, the men likewise take the lead in decision-making processes. However, both men and women contribute equally in livelihood activities. For the indigenous peoples, the conduct of livelihood activities is informed by traditional cultural practices, beliefs and knowledge which have been passed on from generation to generation.

In the past, the communities in the Hill Tracts shared in an environment which was rich in resources. As such, people were able to survive by being fully dependent on nature. But in the past decades, the people observed that nature had begun to “behave” unfavorably. The scientific explanation for this change was unknown to them but they discerned that it was not like anything they had experienced in the past. The situation was to their detriment. Production became less; forest resources became limited. Eventually, food crisis began to set in.

Generally women are able to fulfill family needs for food using the best possible innovative ways despite the adverse situations that they face. Such adaptations have been enabled by reliance on traditional knowledge passed on through the generations and has allowed them to survive by adapting to the environment and engaging in sustainable practices to preserve the forest.

The present study records and describes the women’s knowledge, practices and strategies which are also relevant for climate change adaptation. It documents community practices such as seed and food preservation techniques, as well as how the people try to save adjacent forests and sources of forest products.

Study Area

The study was conducted in three villages (Jirani Khola Para village from Khagrachari District Gaskatachara Dosori Para village and Begenachari village in the Rangamati district) with four communities (Marma, Tripura, Chakma and Taunchaungya). Interviews, group discussions and observation were done in these areas with the aforementioned four indigenous groups living in Chittagong Hill Tracts.

The people of these villages depend primarily on shifting cultivation. The area is known for Jum cultivation. They likewise engage in forest resource collection as a secondary livelihood.

Horidayal para in Khagrachari District was also visited to do research for information to be included in the case study. Interviews were also done at the Khagrachari Madhupur Bazaar (market) where Jum products and forest resources are sold.

Impacts of Climate Change

The indigenous people who inhabit the CHT have their own identities, culture and traditions and depend on nature for livelihood, but are generally poor. As previously mentioned, they engage in Jum, forest resource collection, hunting, and fishing. However, with the onset of climate change, these activities have been severely hampered, as evidenced by soil erosion, loss of crop variation in Jum and a decrease in amount and variety of forest products that they are able to collect to meet their needs and augment their incomes. Climate change has also contributed to the onset of a food crisis because of the decline in the variety of fish and wild animals that they depend on for sustenance.

In the past, the produce from Jum cultivation was not only sufficient to meet the community's needs; surplus production allowed a means by which community members could augment their income. During that time, a diversity of natural resources that likewise provided for the needs of community members was also abundant.

The situation has changed greatly since then. Global warming and changing seasonal patterns throughout the world, and the phenomenon's adverse effects, whether direct or indirect, are likewise seen in the CHT areas in aspects of community life which

range from production to health. This rise in temperature is corroborated by the older community members who still remember what life was like in this area in the past. They report that temperatures seem to be steadily increasing from day to day.

Because of the lengthening of the summer season and the delayed onset of the rainy months, agricultural activities have been severely affected. Changes in the seasons have resulted in less time for production and damage to crops.

The change in weather patterns has also been identified as a cause of biodiversity loss. Ms. Dil Rani Tipur, 54 years old, of Hari Dayal Para village recalls that in the past, there were so many rice species of like *Dubgelung*, *Ranagelung*, *Muridhan*, *Choroi Dhan*, *Tin thupia Dhan*, *Binni* that were cultivated in the paddies. Such occasions for planting were done with many colorful traditional rituals and ceremonies performed by the communities. The forest and surrounding areas were home to diverse species of fauna (including insects and wild animals such as deer, pigs, elephants, snakes, monkeys), which today are almost all extinct or gone. Such diversity had been integral to the maintenance of balance and sustainability.

The old women of Begenachari recall that when they were young, the forest had many big trees. Many species of plants could be found there and wild animals roamed freely. Today, things have changed. Humans have likewise suffered from the increase in temperatures. In recent years, the incidence of heat strokes and diseases such as typhoid, diarrhea, malaria, and pneumonia have increases.

Climate change has also resulted in the steady dwindling or loss of valuable water sources that are integral to the maintenance of ecological balance, as well as vital for the survival of the communities. Sources of water are needed for irrigation and for household use. Whereas water sources in Chittagong Hill Tracts were

once numerous, many have dried in this decade. Furthermore, in most cases, sources of drinking water have been severely affected. Forest denudation has been identified as a major contributory factor. The old women also observed *Segun* (teak wood) cultivation to be one of the main causes of the deterioration of water sources because no other plants can grow near the *Segun* garden.

In the past, agricultural production was naturally high and not dependent on the use of fertilizer or any other chemicals. At present, those who were interviewed report that there has been a marked increase in the use of chemical fertilizer to be able to address the adverse changes in nature in the area, which have resulted in the decrease in production. Overpopulation has likewise contributed further pressures on the environment. These have resulted in the extinction of many species of forest resources and environmental degradation. As a result, the indigenous peoples have been put into a deep crisis—food insecurity. The situation has likewise pushed them to explore and take on other livelihoods from which they can gain some profit. These opportunities are provided by the government and related authorities.

The indigenous peoples are generally unfamiliar with modern technologies. However, most of them still practice traditional modes of livelihood and put indigenous knowledge to good use in the conduct of these activities. Such practices informed by traditional knowledge are favorable to environmental sustainability.

The indigenous communities in the area have tried to survive in the best possible way. For example, in accordance with indigenous knowledge, they do not cut the big trees during the *Jum* land clearing time. When forest products (vegetables, leaves, arum, and mushrooms) are collected, this is done in a manner that ensures that such products can grow again. But due to warmer temperatures and loss of fertility, crops no longer have the ideal proper environment for growth.

Role of Indigenous Women in Forest Management

The indigenous peoples in Chittagong Hill Tracts mainly depend on shifting cultivation (locally known as Jum cultivation) and forest product collection. In general, it is more commonly the women, rather than the men, who engage in these livelihood activities, in addition to their domestic roles. The women traditionally employ local knowledge in their livelihood to meet the family's needs for food, despite the food crisis which these communities are currently experiencing.

Women engage in production or collection activities, to selling in market. It was observed that in some cases, women are involved in all stages of Jum—from site selection to sowing seeds, harvesting and selling these products in the market. Knowledge which informs these activities and which involve the women had been passed on to them by their ancestors, and had been with them since childhood because in most cases children are also engaged in Jum. For instance, they are aware of the advantages of a long fallow period in Jum and, as such, they strive to ensure that the land remains fallow for as long as possible. It is the women, too, who are more commonly engaged in the collection of forest products like fire wood, wild arum, bamboo shoots, and mushrooms, various leaves for use by the family or sale in the market. This is because they cannot rely purely on Jum cultivation for economic security. As such, they likewise depend on the forest to provide an alternative source of food and livelihood.

Indigenous women consider the forest as an extensive resource stock. The forest provides for many, if not most of their needs, from the food firewood. Forest products are also brought for sale to the local market by the women. It is one of the main sources of their income.

The forest is a source of products such as wild potato, wild arum, bamboo shoots, lelom leaves, sion leaves, thankuni leaves, hattol dingi, tara, bananas, olkochu, tita kochu senge gulo, as well as snails, fish, crabs, and prawns. There is a demand for these products in the local market, where the women bring these to sell after fulfilling their families' demand for food. Women also collect wood material (locally called *sajpadar*) which is used in weaving traditional fabrics. For use at home and for sale in the local markets is also sourced from the forests.

The women are aware of the value of preserving the wellness of the forest. They are aware that the forest does not only exist for their use; it likewise enables the existence of wild animals such as birds, tigers, monkeys, deer, snakes, and others. They understand that the survival of all the animals and plants are very vital to safeguard biodiversity and environmental balance. As such, the community strives to maintain the balance for the benefit of everyone. For instance, they never collect the top green leaves of plants because this practice is detrimental to the well being of and cause grave damage to the plants. When the plants die, their lives are affected.

Because of their great reliance on the forest and forest resources for livelihood, the women are consciousness of the need to conserve and save the forest. For generations, caring for the forest and looking after the continued well being of the resources that may be found there has traditionally been among the roles ascribed to women. These practices ensure future productivity and food security. They collect only as much as they need.

Common sense and traditional knowledge also guide their practices. For example, to ensure the continued well being of the plant, they take only upper portion (locally called *nakko*) from wild potato and scion leaves. When they collect wild banana fruit and banana trees for food, they take care not to destroy the banana

shoots. Women know that they cannot produce the naturally-occurring forest product but they know that they can help to reproduce these.

Their practices strive to ensure the continued existence of forest resources. For example: they never cut the whole plant as they understand that if they do so it can no longer grow again. Likewise, they never catch the little fish and crab or prawns, which along with snails, are a favorite source of protein because they know that taking these now will leave nothing for them to harvest in the future. Such practices contribute ensure to the following:



1. Maintenance of biodiversity;
2. Conservation of forest resource for future generations;
3. Environmental balance;
4. Food security;
5. Traditional livelihood.

From the perspective of the communities included in the study of the CHT, poverty and the aspiration for development are the primary challenges to address in relation to forest management. Increase in population has likewise led to a reduction in land available for Jum cultivation; thus, as a result, there is greater dependency on the forest and forest resources. As such, efforts at forest preservation and conservation cannot be properly sustained. Over-collection of forest resources has led to the extinction of some species in the area.

The situation has been further compounded by the ingress of the Segun plantations, which has led to the shift in agricultural production of traditional crops to the production of Segun for use in industry. Segun ensures greater profit for the communities but is harmful for the environment. Segun destroys soil fertility and severely depletes water resources. The planting of Segun has likewise been seen to be a contributory factor to soil erosion in the areas where these plantations are found.

Climate Change Adaptation Strategies of Indigenous Women

The men in the community generally take charge of decisions made in the family. They are also the main source of family income. On the other hand, women are responsible for household work and are expected to ensure that the family's daily needs are satisfied. It is the women who play an important role in managing and ensuring family food security. However, women are not dependent on the income of the males to be able to accomplish their duties to the family. It has been noted that practices which they put into play as they meet the requirements of the roles they play are beneficial to both their families and the larger community.

Forest/wild resource preservation: The indigenous women, especially in rural areas, collect resources from forest. They collect firewood, wild arum, bamboo shoots, leaves, and mushrooms, as well as snails, crabs and shrimp from the adjacent water resources. Collection of these resources has been part of traditional practice for many years. Traditional knowledge passed on through the generations has allowed them to understand how they can help ensure that resources will remain for use in the future.

Notably, there is an awareness of forest management among the people. They recognize that deforestation causes the depletion and eventual disappearance of water sources. To combat the ill effects of deforestation, the community of Jirani Khola para has begun to plant trees and bamboo along the river banks. By planting bamboo, which is also a cash crop, they are also able to augment their income. The bamboo plant also plays a vital role in traditional belief systems. According to traditional knowledge, by observing the bamboo, people may be able to anticipate disasters. The women said that in 2007 they experienced a severe rat infestation. According to accounts, this event was augured by the flowering of the bamboo.

Homestead gardening: To mitigate family food needs, women have tried to maintain homestead gardens which are planted with some easy cultivable vegetables like amila, papaya, pumpkin, tomato, beans, and others. These crops grow easily and are used to meet daily food requirements. In these homestead gardens, organic kitchen waste is used as fertilizer.

Traditional food processing: To meet year-round demands for seasonal food crops and ensure availability of food during the lean months, indigenous women in CHT process bamboo shoots, cabbage, radish, beans, amila, and other local foods by sun-drying to preserve and allow for a longer storage time for these. In so doing, food is made available all year round.

Jum seed preservation: Usually women have preserved various Jum seeds in their own way for cultivation in the following year. Throughout the years, women have learned how to best preserve seeds for use in the next planting season. Preservation of seeds is done by drying this under the sun or in the oven prior to storage in air-tight bags.

Dil Rani Tripura from Tripura community, 54 years old from Khagrachari, Horidayal Para has been preserving the seeds of

many traditional Jum crops for many years. This knowledge, which she learned from her grandfather, is now being passed on to her granddaughter.

Horidayal para is a village under the Khagrachari Sadar Union. In the three communities, Chakma, Marma and Tripura have lived together for many years. Jum is the main livelihood of people in the areas. Besides Jum, the indigenous peoples also engage in some secondary livelihood like forest wood collection, gardening and plain land cultivation.

When Dil Rani was a child, she went to the Jum with her parents. According to her, Jum was their only livelihood, as was the case with their ancestors in past generations. She observes differences between practice in the past and at present. She relates that at that time, rice was the main Jum crop and various types of rice were grown. Families could easily satisfy their food needs in from one Jum season. Today, she has observed that the rice species that she knew when she was a child are almost extinct and the volume of harvest can no longer fulfill the family's food requirement for an entire year. Limited crop species and decreased production characterize Jum cultivation at present. This has been observed to have been caused by warmer temperatures and soil infertility.

Cultivation of non-traditional Jum crops has also been observed. According to Di Rani, turmeric is now cultivated by most of the people because of high demand and good price for this crop in the market. She adds, however, that her family never shifted to cultivation of other crops. She has preserved about 15 rice species which are now rarely cultivated. These rice species are known locally as *Dubgelung*, *Ranagelung*, *Muridhan* (male and female), *Choroidhan* (red and white), *Sonali*, *Kamarang*, *Company dhan*, *Bailon*, *Geborok*, *Maloti*, *Tin thupia*, *Bugui*, and *Binni dhan*. She said that cultivating these rice species does not yield a great vol-

ume of harvest and profit. Her family does not sell the rice in market as there is just enough for the family's needs. However, sometimes, she shares these with neighbors.

After the harvesting period she separates some seeds of these different species of rice for preservation. For best preservation and protection from insects, she dries Neem leaves to put into a basket (locally called *callong*) with the seeds. Dil Rani adds that the method is not easy and is very time consuming. In spite of these she continues to preserve seeds and hopes to do so for as long as she lives. For her, happiness and satisfaction comes from being able to uphold and preserve the Jum tradition.

Other coping strategies: Other than rice, women also plant supplementary food crops in their homestead gardens and Jum. Among these are corn, cucumber, cassava, jackfruit, potato, and banana. Not only are these delicious; they also reduce the consumption of rice. These crops can be planted anywhere and do not need fertilizer. They also sell the crops in excess of family requirements in local market to earn additional income.

Conclusion

Indigenous women traditionally face some difficulties due to responsibilities ascribed to them by society. Nonetheless, their experiences have made them a rich repository of traditional knowledge which may still be put to good use in the present as this knowledge might be vital in addressing the adverse effects of climate change.

In the Chittagong Hill Tracts, climate change is still an issue which has not yet been fully understood by the indigenous peoples. Nonetheless, they are continuously struggling to adapt to the situ-

ation. There is a need to identify and document all the best adaptive strategies as seen in various practices of the people in the Chittagong Hill Tracts, and for these strategies to be disseminated and promoted for adoption (where possible) by a wider public.

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INDIGENOUS
WOMEN &
TRADITIONAL
FOREST
MANAGEMENT

THE CENTRALITY
OF INDIGENOUS
WOMEN IN FOREST
MANAGEMENT

PART

2



INDIGENOUS WOMEN
AND TERRITORIALITY
CHALLENGES TO EQUALITY
IN THE GOVERNANCE OF
THE INDIGENOUS
COMMUNITIES OF
TASBA RAYA

BY JULIE ANN SMITH VELÁSQUEZ,
CADPI



Introduction

The status of indigenous women is currently being debated at an international level. One of the focal points of the debates is the limited presence of indigenous women in the decision-making spheres of their communities.

According to Ranaboldo, Cliche and Castro (2006), the existence and application of mechanisms and quota laws which support indigenous women's rights, although vital, have not yet resolved the problems of inadequate representation and inability of indigenous women to exercise their democratic rights. Indigenous women have not gained much ground in the pursuit of equality within their communities. This is because society still poses more limitations to women as compared to men. There is also a lack of knowledge about their what they might be able to contribute, an absence of mechanisms to allow for these, as well as a lack of strategies for implementation of clear participatory mechanisms.

Pisquiy (2007) also believes that the multiple roles which women play in reproductive, productive and community work has meant that indigenous women have had to double their efforts in order to be included in decision-making spheres at community government level, which includes decisions related to the use of and access to natural resources.

In line with this, Larson and Mendoza (2009) suggest that in the Caribbean Coast of Nicaragua, progress has been made with

regard to women's participation in decision-making spaces in community government structures. However, despite this progress in the Tasba Raya territory and in the Layasiksa communities, indigenous women continue to face limitations in opportunities to participate in leadership spaces at the community level, as well as in regard to access to the territory's forest resources.

The limited participation of Miskito women in the territory of Tasba Raya in decision making spaces, as well as the fact that their abilities are not recognized by men, are a result of the prevailing indigenous model of governance in the territory of Tasba Raya. This model has not managed to take into consideration the views and perspectives of women thus produces communal development plans which fail to consider women's proposals and women's possible contributions to the general improvement of the way of living.

The significance of this research lies in the contribution which it can make toward the creation of a system of governance which creates a climate of equality between men and women in the community. Indigenous governance covers agreements made to manage the territory, and Miskito women can exercise their right to participation in accordance with their views and demands. This model could be of use to communal and territorial government structures as well as for regional government bodies and higher education institutions, all of which are key entities for achieving significant changes.

The study aims to answer the following questions: What do Miskito women consider as good living? What does the place where they live mean to them? How do Miskito indigenous women of Tasba Raya participate in matters of decision making, and utilization of and access to resources? How do they feel in these spaces of participation? How can women be made integral to the decision making spaces in their communities?

The results of the study are presented in four parts. The first part describes Miskito women's notion of "good living." The second part discusses the various ways by which Miskito women give meaning to the place where they live. In the third part, aspects related to women's participation in decision making, using and accessing resources are dealt with. Finally, the fourth chapter provides information on the Miskito women's demands within the proposals for the territorial governance of their communities and organizations.

Results

The indigenous Miskito women's perception of good living

One of the main objectives of this research was to investigate, from the Miskito women's perception and within an historical context, what good living (*yamni iwanka*) means to the women from four communities in the Tasba Raya territory.

According to what was said by the interviewees, good living is characterized by families living in harmony. Further, it is life wherein there is a balance between men and women, as well between humans and nature and the environment. It is living in unity with the community, living in an organized manner, having the space in which one can sow seeds in order to have food to eat, and it is one which recognizes equality in the social, political and economic spheres. Female members of the Miguel Bikhán community define the concept in the following excerpt from an interview:

'Good living is having peace, a peaceful husband, a happy home without violence; it is being able to make decisions in the home but also in the community. It is being healthy, having an education, equal benefits, having animals in our yards so that we will have food to eat in the future.'

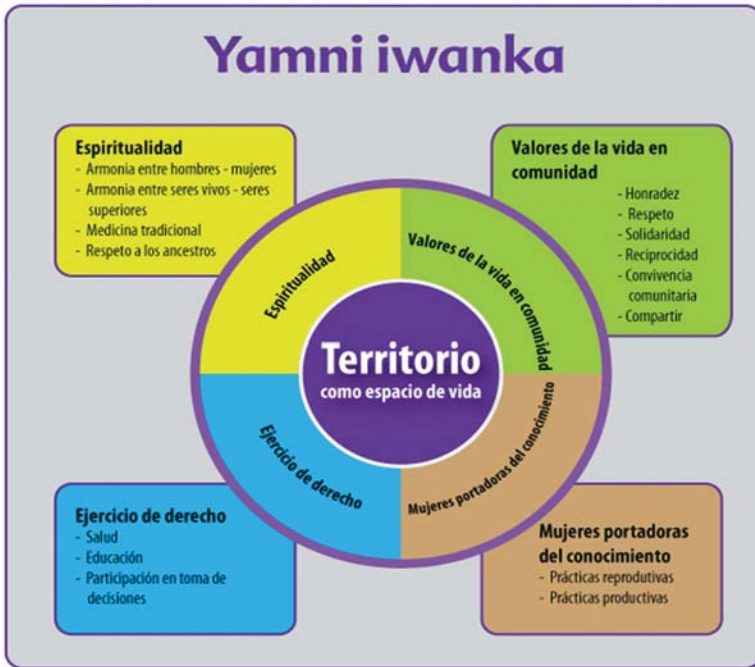
Therefore one could say that for the women, good living is upheld by the values of Miskito culture which gives high value to solidarity and reciprocity between men and women, and the harmony with spiritual beings such as *Dawan Aisa Tara* (creator, magnificent father) and the *Isingni*, the spirits of ancestors and nature. In Miskito spirituality, ancestors are considered to be very important. Although they may be physical gone, the ancestors are believed to be continually watching over their own and their people.

This concept of “good living” as described by the women in the four communities is as is reported in the work of Choque (2010) and Cunningham (2010). Both these authors define it as being in harmony with life cycles and having a complementary balance with all other life forms that exist. It is about having individual, collective, political, economic, spiritual, and physical well-being.

The indigenous women of Tasba Raya consider good living as being closely linked to their spiritual health (through the existence of a harmonious environment free of tensions), physical health, the elimination of all forms of violence and exclusion, and to the respect which they deserve as wives and as culture bearers who transmit values within the home.

They relate good living to access to education and participation in decision making in the community which allows them to change their living conditions. It allows them to have their plots of land so as to guarantee food sovereignty for them and their families, as well as to partake in fair benefit-sharing from the collective heritage.

The Miskito women’s perception of good living can be outlined in the following manner:



Yamni iwanka (good living)

Spirituality

- Harmony between men and women
- Harmony between living and superior beings
- Traditional medicine
- Respect for ancestors

Values for community life

- Honor
- Respect
- Solidarity
- Reciprocity
- Community coexistence
- Sharing

Exercising ones rights

- Health
- Education
- Participation in decision-making
- Women as knowledge holders
- Reproductive practices
- Productive practices

Territory as space of life

Miskito women feel that they contribute to good living in their communities through the work they do in the home by educating their sons and daughters. For them, transmitting values such as respect, honor and solidarity helps to mold their sons and daughters to become good people who will know how to live in unity with others.

Nonetheless, they believe that this environment of well being in their communities has been threatened by various factors such as male chauvinism, domestic violence, the struggle between men and women for leadership roles, politics, drug-related activities as well as the presence of *tuman Iaka* (envy). In Miskito commu-

nities, envy emerges as a result of the break in fraternal bonds which happens most often when one or several families gain greater benefits than the rest.

The presence of external factors such as those already mentioned, has been a cause of disruption in the indigenous peoples' otherwise harmonious way of living. Further, the presence of political factions in communities causes conflicts, especially as these groups' concept of reality is very different from that of the indigenous peoples. Political parties are exclusive and in most cases their activities yield economic and social benefits for only a few people. The indigenous peoples feel that these political parties' activities are not always guided by concern for the common good. According to members of the Esperanza community, in an interview conducted in May 2010:

'Sometimes leaders make decisions without consulting the community and this is not the way it should be. This is why when things don't go right everyone starts blaming each other and we end up fighting because we aren't organized. They are the only ones who benefit. Also, the leaders don't think women are capable of giving ideas which can help to resolve conflicts and this bothers us' (Esperanza community 2010).

The women point out that in order for harmony, reciprocity and complementarity to exist in community relations, negotiations by the decision makers, whether they are *sindicos*, *wihtas* or coordinators, should aim to find what is beneficial to the collective in all aspects. In line with this, male and female leaders should be prepared to respond to individual and collective problems. They should take the other person's ideas into account, give due respect to all (whether they are a man or woman) and reach a consensus on their decisions so as not to put good living and governance of their communities at risk.

Territory and Territoriality in the Eyes of the Miskito Women

The meaning of territory and territoriality for Miskito women is summarized in the following quotation from an interview with women of the Santa Clara community. They believe that:

[t]erritory is the place that provides us with everything that we need; it is where we have the resources we need to eat, where we find the wood for our houses. Our families are here.

Further, for an interviewee from the Tasba Pain community:

'territory is at peace when there are no problems between us. It is my home; it is here that I have my house, my animals and everything that I can eat: cassava, my plantains. My daughters are here in the cemetery; my family, my friends are here. I have lived here for 40 years and I want to die here' (Tasba Pain community member 2010).

More elaboration is done on the concept as seen in the following excerpt from an interview with the Esperanza community:

'I cannot imagine living anywhere but here. I am not prepared to go to Bilwi, for example, and look for work. I am not a professional and what I would earn as a housekeeper wouldn't be enough for me to be able to feed my children. At least here I sow cassava, I have my beans and I don't go hungry. I feel that far from here I have nothing.'

What the women say shows that territory is construed not just in terms of geographical space, but in terms of emotional bonds that tie persons to places. From a comprehensive point of view it links the spiritual, the economic and the cultural. To them it is a way of living in itself. Grünberg (2003) and Elías (2009) relate this view when they state that territory is nothing more than the spatial reference to which one belongs. Territory is not only a geographical reference, it is a socio-historical construct. It is a place of coexistence where identity and referring principles are formed, such as language, knowledge, organization, gender roles, and spirituality. Territoriality is the cultural dynamic of managing and monitoring the tangible and intangible heritage. Territory is understood to be the space in which culture is lived to its full extent.

Perception of How They Live and How They Relate to Their Surroundings

When the women project the way in which they live and the way in which they relate to their surroundings through drawings, one sees that their daily lives are closely linked to elements of nature such as water, rivers, animals and the forest. It is linked to family and a life which is in harmony with the community. These elements constitute the pillars of the way to live, the pillars of their culture.

The drawings show the various types of work which they do as housewives, mothers, wives and as transmitters of knowledge. They draw themselves washing clothes in the river with their daughters or carrying water from the river to their homes. The river, as one of the strategies of enculturation or upbringing practices, is one of the places where knowledge is transmitted and where daughters are prepared for adult life.

They see themselves as contributing to feeding the family through the work they do by sowing rice, beans, cassava and corn on their plots of land, and by looking after the animals they have in their yards. They see themselves as taking part in activities which are performed in the community, such as cleaning, religious activities and in the case of female teachers, activities with children at school. The drawings reflect their active participation in the reproductive and productive activities in their communities.

From the women's drawings, it is clear that the use of and access to their communities' and territory's resources is an important source for them to be able to sustain themselves. Nevertheless, the importance they give to the forest as a resource is even greater. The forest is peace and above all it is a source of ancestral wisdom which they must look after.

Indigenous Miskito Women's Participation in Decision Making Spaces

Both the men and women who were interviewed were asked what they understood by the term "participation." As Mena (2007) has noted, both men and women agree that participation means being able to make decisions in order to resolve a need. It does not happen by simply being present at a particular activity that is taking place. They clarify:

'It means to be able to make decisions, to be listened to and to take into account what we think, as well to be asked our opinion when there are problems to be resolved' (Interview 2010).

Mena (2007) relates the participation of indigenous women in community governments to the ability to express their points of view and to make decisions on matters which affect their lives.

The Miskito women of Tasba Raya note that progress has been made in regard to their participation in decision making spaces at a community level. At present, there are women who work as communal coordinators in community government structures. For example in the Esperanza and Santa Clara communities, women were elected as coordinators in 2010. The same thing happened in the Miguel Bikan community in 2009 where the only woman to be elected also became a coordinator.

In Tasba Pain, three women were elected to become part of community government structures, working as coordinators. However, two of the three were obliged to leave their posts because despite their having been elected to participate by the people, they were being treated with indifference by the other leaders. The women were not made part of planning meetings and their opinions on various matters were largely ignored.

However the women do not just want to work as coordinators. They also feel capable of holding in administrative positions and doing work where negotiations need to be made. The capacity to administer and negotiate are two characteristics which leaders believe *sindico* and *wihtas* should possess.

Such opportunities have opened up for women because of their participation in trainings, as was the case with the women who were chosen as coordinators. For them, developing their abilities and acquiring knowledge has allowed them to overcome their fear and shyness in order to be able to face new challenges. They have become more confident in speaking and have likewise gained more confidence to be able to deal with aspects of traditional and customary practice that put them, as women, at a disadvantage. The women report that they have felt a growth in community support for their endeavors.

The opinions given by the indigenous women of Tasba Raya are the same as those expressed by the women at the Summit of the Indigenous Women of the Americas, which took place in

Oaxaca. In line with the experience they have had in their communities, these women consider capacity building in all areas and aspects as one measure to overcome fears and open up opportunities. It is a way of increasing participation in decision making in their communities.

However, despite progress and despite being aware that one of the fundamental elements of participation is the power to make decisions, they feel that most women still attend community assemblies only for the sake of being present. As such, they feel that there are still obstacles they need to overcome.

Obstacles remain for women because they remain disadvantaged in some aspects, in terms of access to education, for example, which is more available for the men. Then there is the fear of ridicule by men when they speak during assemblies. They fear that men will laugh at them; they fear the male chauvinism; they fear that their husbands will feel jealous if they gain a voice in the community. They likewise fear that their husbands may not give them the support they may need to accomplish other tasks they take on for themselves, especially as women are expected to do household chores and looking after the children. They fear that failure to properly satisfy their domestic duties may be the cause of family conflicts.

'The men here have always thought that we are only good for washing clothes, looking after the children, serving them and nothing more. Most men in the community think like this because this is what they were taught ever since they were little' (from Interview done in the Esperanza community).

'In my house, when I was little my brothers were sent to school and the girls stayed at home learning household chores. As from when we were little girls we were prepared for serving at home' (from interview done in the Tasba Pain community).

Some exclusive practices confine women to their roles as mothers, wives and housekeepers. In these cases, women's needs and individual rights, such as the right to education, are not recognized. In societies such as these, it is the men who have the opportunity to study and to train. The women believe this happens because men have grown up in an environment which has favored them ever since they were children. In other words when people speak at home about sending someone to school the general intention is to send the boy and not the girl.

As far as the men are concerned they do not consider themselves as an obstacle to women's participation and they give the example of the current roles women have as communal coordinators.

Nonetheless, when they were asked why women were only chosen as coordinators and not as *sindico* or *wihtas*, the answer they gave was that the work of the coordinators was easier and did not impinge upon the time needed for household chores and looking after the children. The other roles require time and involve traveling the far distances to resolve a conflict or to engage in negotiations. The men believe that women will not very effective negotiators, as they are vulnerable to deception by virtue of their illiteracy or lack of education.

This way of thinking reflects the little value given to indigenous women within the communities, which in turn restricts their personal development and limits women's access to decision making spaces.

Use, Access and Control of the Territory's Natural Resources

In their communities, the women know that they have access to and can use plots of land, the rivers and non-timber-yielding products from the forest, namely medicinal plants.

The plots of land are used to sow cassava, plantains, purple yautia, beans, rice and a few vegetable crops which are used to meet the family's food needs. Surplus production is sold in the market to augment the family's income.

However when it comes to forest resources, women say that it is the men who control and make decisions regarding these. Most of the women who were interviewed say that they do not have direct access to and cannot make use of this resource which prevents them from gaining the economic benefits. For instance, since they have no access to forest resources, they cannot sell the wood.

Women are only allowed to take wood in order to build or repair their houses. They confirm that the only women who do benefit economically are the wives of the men who have exploited the forest.

In the course of the interviews, only one woman said that despite her condition of being a woman which prevents her from deciding to take and sell wood, she had indeed obtained economic benefits. This is because her family was able to use the money made from selling the wood to buy clothes, food and medicines and therefore not being able to make decisions on this resource was not a problem for her.

The foregoing case, however, is the exception rather than the rule. For the other women, this was a problem which put relations in their communities at risk because of the inequality in the situation. They believe that these situations are unfair. In their opinion

what would be ideal would be that the benefits reach the entire community, rather than only a handful of people.

In addition to this, they attribute these inequalities to the ambition and corruption of a few leaders as well as to the fact that the leaders are not faithful to fulfilling their duties as guides of the community. The women believe the *sindico* and *wihtas* should set examples to follow and that their negotiations should aim to achieve equality in all fields.

The Miskito women's reflections reaffirm what Pandolfelli (2007) and Agrawal (2006) believe: that in order for the benefits to be shared out fairly it is vital for women to participate in all the management procedures of natural resources, including forests. This is because women are more inclined than men, to try to include tangible indicators such as economic distribution, transparency and efficiency in the management of funds, as well as intangible indicators such as the satisfaction of the collective and not the satisfaction of only one group.

Women identified the need for change in power relations as a way of overcoming inequalities and achieving more active participation in community governments and in managing resources. However according to Cunningham (2009), in order for the process of change to occur, capacities in all spheres and aspects need to be developed and strengthened first. Self-confidence and lifting self-esteem in order to create a collective and gender-based conscience lead to the recognition and respect for individual and collective rights.

In line with this, women should not consider the process of change as an opportunity to exercise control over men but rather as an opportunity to establish and strengthen relations that are truly fair.

For the women, achieving greater levels of participation in decision making spaces and in the management of forest resources is a big challenge which they must face. They not only have to

break down the barriers of discrimination which still exist but also the mentality of men and women which lies at the heart of indigenous families.

Miskito Women's Demands in Proposals for Territorial Governance

In order for indigenous women to progress towards fairer societies which are based on equality, their individual and collective rights need to be recognized and international conventions, laws and policies complied with.

It is a challenge for the Miskito women of Tasba Raya to have these rights recognized and respected by the leaders of traditional organizations.

The women interviewed say they know their rights; however, they are also aware fact that they need to become empowered in order for them gain respect.

The women state:

'We have the same rights as men, that is to say the right to an education, the right to professional training, to health, to organize ourselves, to benefit from the same opportunities as men. We have the right to participate in decision-making spaces as leaders, to have our opinions listened to and respected, to work outside the communities and the right to trade.'

Miskito women are aware that they have the right to live with dignity and to have enough time for personal development and venue to improve as human beings who are valued equally as the males. Nonetheless, they are not yet confident enough to speak

about their rights to men because men are not prepared to understand them. In order to achieve this understanding, there needs to be a change in the men's mindset regarding equality and the equal participation of women in the different spheres of social, political and cultural life. This is another challenge the women must face.

From the women's point of view, men see the issue of rights as a competition and not an opportunity to eliminate existing inequalities, or as an opportunity to join forces which lead to the common good.

To enable Miskito women to have greater participation in community decision making, women note that the following conditions must be enabled:

- Less housework;
- Help from the husband to educate and look after the children. Husbands must also understand that their wives can have important contributions to community life;
- Access to education;
- Technical training for women, with information and guidance on their rights in order for them to lose their fear of public speaking and to be better able to defend their needs and interests;
- Greater attention and respect from indigenous authorities;
- Support from regional authorities;
- Respect for the right to participate vocally in communal assemblies;
- Fair benefit sharing arising from the use of the collective resources;
- Men's recognition of women's abilities to think and support from the menfolk for women to have more time to organize themselves.

In addition to these, women are also expressed a need for awareness raising campaigns aimed at men so they can be made to better understand the women's need for spaces for organization and training in order to overcome their disadvantages.

If these conditions are enabled are met, the Miskito women from the communities in this study will be able to fully enjoy their rights as women, as indigenous peoples and as citizens of the earth.

Conclusions

In Miskito culture, community life is based on values such as reciprocity, solidarity, in the sense of the collective. There is great value given to nature and environmental balance. It is guided by the principle of duality of man-woman, humanity-nature, humanity-superior beings. These serve as the basis for a comprehensive and integrated view of life.

The Miskito communities of Tasba Raya practice the three elements of Miskito community life: together we have, together we do and together we share. However, this is being seriously threatened by the presence of political parties which do not adhere to these principles, but have taken on the role of indigenous representation. The indigenous way of life faces a further threat of drug trafficking. In addition to this, envy, alcoholism, crime, jealousy, inter family violence, as well as inadequate healthcare and education services all contribute to the difficulties which the communities must face.

The women who took part in the study stressed the importance of defending the values of Miskito culture. This is because according to them, community values have been steadily eroded

as a result of contact with other cultures. In addition to this, the changes in cultural values have led to a loss of respect for the elders and indigenous women of their communities which in turn has affected the harmonious coexistence within the community.

The indigenous Miskito women of the communities in the study play a vital role in reproducing Miskito culture because they are the ones responsible for raising and educating the youth. They are the ones who maintain the networks of coexistence. In other words these women actively participate in the reproductive and productive tasks within their communities. However, their participation in the territory's system of governance is limited. They are not elected to posts which require negotiation or decision-making; these posts are reserved for the men.

Similarly their abilities to relate to people or institutions with whom they have to negotiate community affairs are ignored. According to the men this is because they do not have enough time to leave the community as they are busy with their domestic chores. Men also believe that the women will not be very effective administrators or negotiators because of their lack of education to be able to fulfill the demands of the positions in a satisfactory manner.

However, the Tasba Raya women believe that it is not just the low level of education that they have which prevents them from participating in community decision-making. For them, this also happens because they have not managed to change the mentality of the indigenous men of their communities who still do not recognize: 1) How important it is for the women to be able to participate in community government bodies, in spaces in which they could contribute to searching for the common good; and 2) The importance of sharing out the domestic responsibilities they have, which in turn affects not only their participation in leadership spaces but also in the good living.

In this regard, the elements that make it possible for indigenous women to exercise their rights to participate in the political, social, cultural and economic management of the Tasba Raya territory are the yamni iwanka principles. From the women's point of view and experience they are the ones who contribute a wealth of knowledge for preserving the territory as a space of life. This particular contribution that the women make is essential for strengthening indigenous governance in its quest for equality between men and women as a basis for the harmonious coexistence between human beings and their surroundings.

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INDIGENOUS WOMEN IN
FOREST MANAGEMENT:
THE MAASAI WOMEN OF
NAIMINA ENKIYIO FOREST,
SOUTHERN KENYA

BY STANLEY KIMAREN OLE RIAMIT



Background

This research is premised on the fact that the last remaining tropical forests in the developing countries are those which indigenous peoples have controlled or owned. These forests have been protected and conserved mainly because indigenous peoples have guarded them from agents of deforestation and forest degradation, and have likewise fought against national government policies and programmes that were meant to displace them from their territories. Their historic and deeply-rooted cultural, socioeconomic and spiritual relationships with their lands and territories persist up to the present, continually defending these from the onslaught of so-called modernization and development. It is argued that this positive relationship between indigenous peoples and nature is at the core of continued indigenous peoples' effort to protect and conserve their forests which have significantly contributed in enhancing carbon stocks, even before REDD Plus¹ came into the picture.

Anthropogenic climate change is perhaps the ultimate manifestation of human's growing disconnect with the natural world. While this is a shared responsibility, the degree of culpability varies from one society to another. Compared to the dominant industrialized societies whose activities in the last 200 years or so have caused most of the climate impacts currently observed, indigenous peoples living on their traditional lands have little responsibility for current and future projected consequences of a changing cli-

mate. Despite this, they are likely to suffer the most from the direct and indirect impacts of climate change due to their close connection to the natural world and their reduced social–ecological resilience, a consequence of centuries of oppressive policies imposed on them by dominant non-indigenous societies (Green and Raygorodetski 2010).

Much of the world’s remaining diversity—biological, ecosystem, landscape, cultural and linguistic—are in indigenous territories. Indigenous peoples are the main holders of site-specific and holistic knowledge about various aspects of this diversity, and they play a significant role in maintaining locally resilient social–ecological systems. Despite the recent adoption of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007, indigenous peoples continue to be denied their rights and are subjected to injustice, remaining largely excluded from the official UN climate negotiations.

Research Objectives and Project Site

Research objectives

This case study on the “Role of Indigenous Women in Forest Management,” aims to document and understand the role of indigenous women in sustainable forest management and their possible contribution to reducing emissions and enhancing carbon stocks. Knowledge culled from the case study can inform the development of appropriate REDD Plus policies and programmes as well as underscore the need to ensure that indigenous women’s rights and interests are recognized and protected in such policies and programmes.

FGD with
women and key
informant
interviews.



Project site

Site selection was informed by the first phase of the Tebtebba-MPIDO (Mainyoito Pastoralists Integrated Development Organisation Project). The Loita community became the site of choice in Kenya in order to build on lessons learned in the earlier study on the Loita forest and indigenous peoples' knowledge, systems and practices. The research was conducted in Olorte and Entasekera locations within Loita Division, Narok South District (Annex 1). Loita Division is located at about 300 km southwest of Nairobi and 120 km south of Narok town. Loita division covers an

area of about 17,000 km² with almost 99 per cent of the residents being Maasai Pastoralists (GoK Census 1999).

The project site is predominantly occupied by the *Iloitai* section of the Maasai. Living on a 2,000 m-high plateau, bound on the east by the Nguruman Escarpment, on the north by the Loita Hills and on the west by the Siana and Mara plains, the Loita Maasai number about 25,000 (Kenya Population Census 2009) people in the southeastern part of the greater Narok district. Southwards, the Iloitai extend across the international border to the Loliondo district of northern Tanzania (Maundu et al. 2001; Zaal M. and Siloma 2006; GoK 2009). The region remains one of the remotest areas in the country characterized by poor infrastructure, minimal state service provision and poor communications.

Entim e Naimina Enkiyio (the Forest of the lost Child) is one of the few non-gazetted and largely undisturbed indigenous forests in Kenya. The forest is often referred using several other names including; the Loita/Purko Naimina Enkiyio Forest (IUCN 2002), Loita Naimina Enkiyio Forest (Zaal M. and Siloma 2006), Loita forest (Maundu et al. 2001) and Naimina Enkiyio forest. That it is known by a variety of names reflects the historical evolution of forest ownership and management, and the contestation inherent in this evolution process. Although overlaps of ownership and control over sections of the forest do exist between the Purko (to the north) and the Iloitai Maasai sections, a greater section of the forest falls within the Iloitai side. For this reason, and for consistency purposes in the discussion that follows, I shall henceforth use the term “Loita forest.”

The forest is located at Loita division, Narok south district in Southern Kenya. It covers an area of about 330 km² bordering the Nguruman-Magadi escarpment, Kajiado District to the east; the Osupuko Oirobi (Purko Maasai land) to the north; Tanzania to the south; and the rangelands towards the Maasai Mara National Game Reserve to the west (Zaal M. and Siloma M. 2002).

According to Maundu et. al (2001) the forest is classified as a dryland afro-montane forest, rising to an altitude of about 2,300 feet above sea level within the Loita hills. Cedar and *podocarpus* are the two most numerous tree types. The forested areas receive an average rainfall range of 600-1,200 mm per annum with the lower rangelands receiving much lower precipitation at 600-700 mm. The forest constitutes the main water catchment point in the region, draining into the Ewaso Nyiro river, with its water catchment protection services value placed at Ksh105 million (US\$ 1.3M) per year.

The forest supports a vast number of mammals and birds—elephants, buffalos, hippos, antelopes, lions, leopards, cheetahs, and approximately 100 bird species including some threatened species such as the Grey-crested Helmet Shrike. Loita forest is also the only Kenyan site for the Brown-capped Apalis and it also supports such globally threatened species as the Red-throated Tit, the Jackson's Widowbird and the Hunter's Cisticola. The forests have huge tourist potential with 12 tour operators and educational institutions currently running 40-50 trips per year to Loita, with a group size of between 3-20 and a total number of visitors per year of about 600.

The Loita forest is a critical resource with enormous potential for the socioeconomic development of the local indigenous Maasai community managing it. The current tourism earnings for example have been placed at US\$40,000 per annum, forest's catchment protection value of US\$1.4 million annum (Ministry of Environment and Natural Resources, 1994 cited in IUCN 2002 p. 18). The forest provides other services that have not been quantified (e.g., minor forest products and grazing), and services that cannot be quantified (those related to spiritual and cultural values).

The significance of the Loita forest in the context of climate change and REDD Plus becomes clear when viewed against the national deforestation rate of 1,200 ha. per year resulting in a na-

tional forest cover reduction from 30 per cent of the country's total area at independence, to slightly above two per cent in 2010; and closer to home, the reduction of Mau forest cover by about 24 per cent (Kantai 2000).

Literature Review

As the report of the Intergovernmental Panel on Climate Change noted, climate change has different impacts on societies, varying among regions, generations, ages, classes, income groups, occupations, and gender lines, and at a number of levels (economically, socially, psychologically), and in terms of exposure to risk and risk perception.

The Bali Action Plan that emerged from the 13th Conference of Parties to UNFCCC (UN Framework Convention on Climate Change) reaffirms that economic and social development and poverty eradication are global priorities, and that a shared vision needs to take into account “social and economic conditions and other relevant factors” (Decision 1/CP.13, preamble and 1(a)). Gender equality—including equal participation of women and men, as well as accounting for the differentiated impacts on women and men from climate change and its response measures—should be included in UNFCCC agreements in alignment with various international agreements including, but not limited to, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the Beijing Platform for Action and ECOSOC Resolution 2005/31.

Addressing the social and gender dimensions of climate change poses many challenges that are not insurmountable. It requires gender mainstreaming in climate change response activities including sustainable and equitable development and a clear focus

on adaptation and mitigation (WHO 2005). Equity and social justice cannot be achieved without recognizing both the differences in vulnerability and strengths of women, men, children (and especially indigenous women) as well as the various factors contributing to their vulnerability. This recognition is critical in any prospective attempts to address the gendered consequence of climate change on livelihood. Gender-sensitive research is necessary towards this endeavor.

Women around the world are already disproportionately affected by climate change. Two-thirds of the people living in extreme poverty are women. This is especially so because of the roles women play in households and society as providers and managers of food, fuel and water at the local level. Women are the main producers of the world's staple crops, but they face multiple discrimination such as unequal access to land, credit and information. Particularly at risk are poor urban and rural women who live in densely populated coastal and low-lying areas, drylands and high mountainous areas and small islands. Vulnerable groups such as older women and disabled women, minority groups and indigenous women, pastoralists, nomads and hunters and gatherers are also of concern. The impacts of climate change directly affect the availability of these vital resources.

Loss of biodiversity can compound insecurity because many rural women in different parts of the world depend on non-timber forest products for income, traditional medicinal use, nutritional supplements in times of food shortages, and as a seed bank for plant varieties needed to source alternative crops under changing growing conditions (GBM 2004). Thus, loss of biodiversity challenges the nutrition, health, and livelihoods of women and their communities. Furthermore, nutritional status partly determines the ability to cope with the effect of climate change and other natural disasters (WHO 2005).

In the customary pastoral context, women have reduced access to land and natural resources, reduced ability to earn a living and less voice in decision making. Influenced by cultural practices, the socialization process has perpetrated gender inequalities in Maasai land. The girl child is constantly socialized, like the mother, to undertake domestic and other household duties of the private domain while the boy child is socialized to undertake public duties, thus giving rise to gender inequalities, notably gender based division of labor (CLARION 2004).

Social and cultural thinking dictates separate roles, behaviors attributes and expectation from each gender in the Maasai culture. The female gender is viewed as belonging to the household domain, while the male gender belongs to the public domain. This distinction, however, is no longer tenable in the modern society (CLARION 2004). Cultural practices founded from patriarchy perpetuate gender inequalities by sustaining gender differences in decision making and resource ownership. For example, these cultural practices influence ownership of wealth and the nature of inheritance and succession. Women mostly own movable properties (household goods) while men own the immovable properties like land, plot, flats, etc.

Although women are engaged in a number of economic activities, their link with sources of power and decision making centers are generally weak. Over the years, this has been reflected in their absence in key decision making and even governance positions in the community. The performance of women in politics and in the general domain of decision making and governance has therefore been poor. A look at the key decision making centers in Kenya's political arena further illustrates the limited representation of women in governance and decision making organs. Having been disadvantaged in education and economic activities, their high level of ignorance and illiteracy has been used to justify women

exclusion much more so in the marginalized communities like the Maasai.

However, women are not just helpless victims of climate change—they are powerful agents of change and their leadership is critical (CEDAW 2009). Many vulnerable groups, including indigenous women, especially in developing countries have been adapting to climate variability for many years and this may ultimately enhance their resilience. It is important to understand how indigenous women have harnessed their knowledge and experience of adaptation, because even though women have valuable knowledge about adapting to climate change, the magnitude of future hazards may exceed their adaptive capacity, especially given their current conditions of marginalization (GenderCC 2010).

Gender mainstreaming is an important part of involving women and gender aspects actively in climate politics. However, achieving true justice between women and men—including in relation to climate change—will involve more fundamental changes in cultures, structures and institutions, individual capacities and relationships between sectors in society. These efforts must go beyond gender mainstreaming in order to achieve gender justice as a crucial element of a broader, human rights based approach to climate change (Life eV and Gender CC 2009).

Sex-disaggregated data, gender-sensitive policies and program guidelines to aid governments are necessary to protect women's rights to personal security and sustainable livelihoods. Policies that support gender equality in access, use and control over science and technology, formal and informal education and training will enhance a nation's capability in disaster reduction, mitigation and adaptation to climate change and REDD Plus mechanism. The case study endeavors to contribute in this area.

Forests, Traditional Knowledge and Indigenous Women

The research findings arising from the first phase of the study of Loita forest under the Tebtebba-MPIDO project demonstrated existence of intricate, fluid and differentiated forms of ownership, access and control of sections or specific forest resources, ranging from rights of/and access to grazing and watering areas for livestock use; sacred sites and trees for spiritual activities; sites for enactment of various cultural practices including rites of passage; sections for firewood and honey harvesting, among others. The control of these sites could be under individuals, groups or the entire community. The distribution of rights, roles and responsibilities is determined by the socially ascribed roles to perform certain duties related to particular forest sites and resources, as well as the centrality of particular practices in fostering the community's shared identity, values and norms that are regulated through traditional institutions. The centrality of the forest in fostering community identity is illustrated in the place of "ceremonial fire" in shaping identities.

Fire, besides its traditional uses of providing energy for domestic consumption (cooking and warming), has a lot of rich symbolism in the Maasai socio-cultural production system that is tied to the forest. Whenever a new home is being established, a new age-set is inaugurated, or a circumcision is performed, it is often accompanied by the "lighting of a fire." During each of these moments, it is taboo to "borrow" fire from a neighbor or to use modern tools (e.g., matches) to light such fires. The essence of a "fresh" fire is that it serves to symbolize a new beginning, invoke a new/fresh warm and unpolluted spirit and eventually produce a distinct and independent identity of an individual, a family (home), or an age-set, with corresponding individual, societal and institutional responsibilities. The lighting of these "fires" is made possible only through the use of particular tree species with the appli-

cation of friction. The practice strongly ties the community's sense of identity with the forest. According to one age-set leader, *ena kipirunoto enkima naitaa iyiook Ilmaasai*, meaning "It is this essence of fire that makes us who we are or should become."

Local community's notions of a "healthy forest," "harming the forest" and "caring for the forest" relate to the physical extent of forest cover and density, availability of various tree species used for diverse purposes to fulfill not only economic but also social and cultural uses, plenty of clean waters, and the rich presence of wildlife species including birds and butterflies.

The forest therefore remains at the core of the very existence of this indigenous community. The connection between the people and the forests transcends all social divisions of gender, age and other social stratifications within the society. Men and women, the old and the young alike, are connected to the forest in unique ways in their daily livelihood activities. The *Oloiboni* (the spiritual) leader, for example, cannot perform any of his ascribed rituals, roles and duties apart from the forest. The forest and the diverse resources within it appear to provide the medium through which the *Oloiboni* can commune with the ancestors and the supernatural in his mediation role between the divine and the mortals.

FGDs with both men and women in the project site reveal that the forest and the resources in it are at the core of the very existence of this community, influencing its socio-cultural and economic production. The forest provides wood fuel which is the main source of energy for domestic use. It is the main catchment for all the rivers and springs and serves as general regulator of the weather patterns in the region. The forest also serves as an indigenous spiritual cathedral and store of medicinal plants for indigenous/herbal medicine. One elder observes: *Ekeyau entim enchan neibooyo ilameitin, ore sii nkurman naanyikita intim naa esesh etumi*—"Forests attract rains compared to non-forested areas, com-

munities living in close proximity to the forest also experience less droughts in comparison, and their subsistence farms have better agricultural harvests.”

The forest means everything to women too. Every woman is the manager of the domestic space. It is her responsibility to build the family house and ceremonial homestead (*imanyatt*), and look after the welfare of members of her family unit, including her husband. She is responsible for her portion of livestock from which she gets milk for the family as well as fetching water for domestic consumption and occasionally for sick livestock.

Women are also responsible for gathering firewood. The firewood is collected from the most convenient places, preferably the nearest, and from areas where the specific species of interest, the *oloirien* (a wild olive with scientific name *Olea africana* ssp. *Europaea*), may be found in abundance and in dry state. In Loita, *oloirien* may be obtained from as far away as seven kilometres and may be brought up to four times a week, in loads up to 60 kg. The whole process of fetching, gathering and bringing firewood home may take up to two-thirds of the daylight time.

Besides the economic activities which bring local indigenous women into direct interaction with the forest, there are also social and cultural practices in the lives of women that are directly or indirectly dependent on the forest and its resources. These include but are not limited to all rites of passage, fertility ceremonies, provision of child and maternal health, intergenerational knowledge transfer, and spiritual nourishment.



Acquisition and transfer of indigenous knowledge and practices on forest management

Indigenous women's participation in forest-based activities and acquisition of indigenous knowledge and practices is a life-long process. Women and all community members alike participate in economic, social, and cultural production of the society on a daily basis. And this becomes the venue for learning for younger women in the community as explained by Enole Noosentui (KII 2011).

'Kautakini ara enkerai naduaaki kewan te shoo, o too olkeretin pooki loolmaasai. Aatolitikitio sii inoo nkoko, naduaaki kewan. Ore sii taata ara entomononi kaliki inkera, naiteng'en too nkaatini, naitodol.'

'Community members taught me as a child. I learned while herding livestock and I learned as I participated in the cultural practices of the Maasai community. Our grandmothers also taught us and now as a mother I'll teach our children through storytelling and actual demonstration.'

Women also learn as managers of the domestic space including knowledge of household utility items such as *esosian*,² *nkukurto* (gourds) *olng'eetia/olkipire* (the traditional blender/mixer) and *oloirien* for sterilizing the gourds to ensure long and safe storage of milk. Knowledge of the forest and forest products is therefore also acquired through and transmitted by women as they make use of the forest products.

It is clear that such knowledge is part and parcel of the women's lives. They grow with it. As children growing near the forests, the women learn to differentiate types of fruits, the different uses of varying tree species (like *Olng'eriandus* for beauty) and other ceremonial tree species as they participate in cultural systems

and practices. Additionally, children learn through apprenticeship among peers and through deliberate transmission (passing down) of indigenous knowledge by parents and other members of the community.

Knowledge and practices on forest management: the place of women

Women are not passive players in environmental and natural resource management and utilization. Women are right in the centre of this discourse and praxis both as indigenous knowledge producers and holders; and as immediate victims of negative impacts of environmental changes, including climate change.

In the context of the Maasai, women not only take care of the children; they are also involved in harvesting traditional herbal medicines. Further, they serve as traditional birth attendants and medicine healers (*Enkaiyukoni*). They treat several ailments using herbs from the forest. Furthermore, during certain rites of passage such as child-naming ceremonies, women are assigned specific roles of fetching branches of a particular tree species to be used in this ceremony (*Ilatimi*). Women fertility ceremonies (like *Emayian oo nkituaak*³), which are conducted in sacred sites in the forest and which also make use of several tree species, provide essential connection between women and the forest.

Indigenous medicine

Although the community has integrated contemporary/western form of healthcare and medicine with indigenous and herbal medical practices, a significant section of the population is still dependent on indigenous healthcare. Women play a critical role in the promotion of good health within the household in areas such as nutrition, immunization and overall adherence to treatment regimes. Their role as traditional birth attendants becomes all the more important when one considers the distance to local modern healthcare facilities and the fact that most deliveries are still undertaken at home.

According to the men participating in the FGD, women possess/control approximately 60 per cent of all indigenous knowledge related to medicinal plants in the forest. There are more women traditional healers, for example, than there are men, especially with regard to herbal medicines that contribute to child health (e.g., boosting children's immunity and treating children's ailments) as well as healthcare for nursing mothers. And, although men are often asked to fetch the herbs/drugs from the forest, they follow instructions given by women. The men believe that women's knowledge on indigenous medicine and healthcare is especially sharpened through their role in child upbringing.

The mother/local female herbalist contributes significantly to the administration of treatment regimes, but overall, women are in charge of the general palliative care of sick household members. Their knowledge on indigenous medicine was affirmed during the FGD for women, where they cited a few examples of plants with medicinal value: *Entaretoi*, *olemeigaru keon*, and *olmisigiyoioi* (*Rhus natalensis*) are used for boosting a child's immunity to diseases. Often the herbs from the forest are mixed with milk to regulate their medicinal strength. One elder summed up the place of women

with regards to forest and indigenous medicine: *ore ena ng'eno pooki oo lkeek lentim naa enoo ntononok*—"All this knowledge of herbal medicine mostly lies with women."

Maundu et al. (2001) identified about 90 species used for medicinal purposes in humans. The vast number is an indication of the important role played by forests/plants in the health of the local community. The importance of medicinal plants among the Maasai can be seen in the name *olchani*, which is used both as a general name for all plants as well as for medicine. Some plant species are used for the treatment of more than one disease.

Cultural and spiritual uses

The Loita forest plays a central role in the socio-cultural life of the community. All ceremonies and rituals including all rites of passage⁴ make use of specific species of plants/trees from the forest. Some of these cultural practices are undertaken within specific sites within the forest. A total of 24 species of plants have been positively identified and linked with specific ceremonies and rituals within the Iloitai section of the Maasai (Maundu et al. 2001).

For men, all the rites of passage are enacted within the age-set system—one of the most central structures of social and political organization among the Maasai society. Some of the key ceremonies include *enkitupukinoto tiaji* (naming), *enkipaata* (age-set inauguration), *emurata* (circumcision/initiation), *emanyata oo ngusidin* (graduation into junior elder-hood), *olngesherr/eunoto* (graduation into senior elder-hood), among others. Although numerous tree species from the forest are utilized in this ceremonies including *oseperiperua*, *isek*, *olprion*—olorien is the most common under this category. This species has a sweet scent which symbolizes an aromatic, peaceful life.

Another interesting connection between men and the forest is the traditional wooden stool called *olorika*. Olorika is a very prominent feature throughout a married man's life. It is used in virtually all the ceremonies from marriage onwards. It serves as a symbol of authority, fatherhood and leadership within the household. Every married man is expected to have one.

The warriors too have their own unique ways of interacting with the forest ecosystem. According to one of our key informants, it is taboo for warriors to feed on meat at home, especially in the presence of women. *Menya apa ilmuran endaa tiang' amu enturuj* (Warriors rarely ate any other food except milk at home, it is taboo). For this reason, often warriors spent a considerable amount of time in *Ilpuli* (meat feasts encampment) deep in the thick and coolest sites of the forest. As observed by Enole Noosentui, *imepuoi ilpuli te nkop nairowua amu kengu'eyu nkiri* (Rarely do warriors go for the meat feasts outside the forest where temperatures are higher; rather they prefer the cool of the forest because it aids in meat preservation). While in the meat camps, which often could go on for months, the warriors also take plenty of herbal soup. *Olkilorit* (*Acacia nilotica*) is the most frequently used soup plant. These long stays in the forest provide the warriors with unparalleled opportunity to deepen their indigenous knowledge on the forest ecosystem. Women also participate in different ways in the lives of men, whether as mothers, wives or girl friends. Non-initiated/uncircumcised girls, for example, occasionally participate in the meat feast in the forest, thus getting an opportunity to learn with the warriors.

The forest figures prominently in women's fertility ceremonies. During the ceremony called *olamal loo nkituak* (women procession), hundreds of women pass through an arc formed by the stem of the sacred tree *oreteti* (*Ficus thonningii*). This is done deep inside the forest. When they come back to the village, two elders, one with a milk gourd and the other with beer, use the

leaves of *oltukai* (*Phoenix reclinata*) to sprinkle these liquids on the women as they enter. At the end of the ceremony, the women feast on meat roasted by elders on oloirien sticks (*ngeshereta*) and placed on oloirien leaves. Other tree species used during the women blessing ceremony for fertility include *osinandei* (*Periploca linearifolia*) and olokoret.

The forest also provides for women's aesthetic/beautification needs. The women participating in the FGDs discussed excitedly how an indigenous tree, *olng'eriantus*, is popular for this purpose. The tree, which according to the participants is also medicinal, is used to make beautiful marks or tattoos on the face of women and often on the stomachs of warriors. Several other tree species are curved into various forms and shapes for use as body accessories like necklaces and earrings.

Forest Management: Customary Laws, Systems, and Principles

Community taboos, norms, and regulation on forest management range from those regulating access to specific sites, tree species and their uses, type of forest product (honey, pasture, timber, wood-fuel, fruits, and medicinal plants), mode of harvesting, post-harvest management, and category of users, among others. These sanctions and taboos are learned early in life and passed down through generations. The norms and laws are enforced by four key customary institutions namely: *Olosho* (12 territorial sections); *Olgilata* (clan), *Olporr* (the age-set system), and *enkidong/Oloiboni* (the forest guardian, office of the prophet). Although each of these institutions has a clear jurisdiction, be it territorial, thematic, or lineage-related, they also serve to reinforce and complement each other while at the same time providing checks and bal-

ances (Tebtebba Foundation 2010). There are several rules and taboos guiding the local community in relation to harvest of forest products.

To begin with, cutting down a tree is equated to “murdering it,” and is traditionally believed to invite a curse. Thus cutting an entire tree across the trunk is prohibited. When it is absolutely necessary for one to cut down a tree he/she must “explain” the reason and “plead” with the tree, before cutting it down:

*‘Mme taa kaainyal, kaata entonai naadungie,
taramataki naa maataramata.’*

*‘It is not that I just want to destroy you. I have this
ceremony to perform; so take care of me as I take
care of you.’*

Cutting down a tree is essentially a ritual, especially for boys preparing for circumcision. *Enkare pus*, a symbolic concoction of a mixture of water, milk, and honey which are believed to be the symbols of life and vitality, is sprinkled on the tree after the “pleading.” *Ekeeta doi ilkeek enkishui, amu tenidung olchani, eeimu kulikae emanoo, neimu kulikae kule anaa enkare* (Trees have life, for when you cut one, it may discharge either a milk-like, blood-like, or water-like sap), hence the use of *enkare pus*.

Cutting down an entire branch of a fruit tree to access the fruit (however ripe and far removed) is taboo. In this case one is expected to either shake the branch, climb up or use a long hooked stick to harvest the fruits. The same principle is employed in the case of honey harvesting; *midu’ng, nemipejoo olchani otii ilotorok* meaning, “One is prohibited from cutting down or setting on fire a tree in order to harvest honey.”

When it is the bark of trees that has the medicinal value, debarking is never done all round the tree trunk; instead a vertical incision is made. Once done the exposed section is covered with fresh soil to facilitate healing and regeneration of the tree.

In instances when the roots are harvested for their medicinal value, only one lateral root is used and never the central/tap root. Once done, the spot where the roots were removed must be covered with soil. As a rule, trees must never be left exposed.

But still there are trees which even the “pleading” provision cannot work—the trees that are considered sacred must not be cut down. One of the key informers explained: *medung’i oreteti amu kemunyak*—“Cutting down the *Ficus thonningii* is totally prohibited for it is considered sacred.” *Minkarrishore oreteti o kulikae keek loo ntaleng’o*—“We do not use all sacred trees for fencing.”

Other norms and regulations relate to human settlement with reference to sacred sites and trees. For example, *Mimany iwiejitin oo ntaleng’o oo lMaasai, nemepiki imanyatt inemetii ilkeek oomunyak*, or “One cannot set up camp close to ceremonial sites, while at the same time, ceremonial homesteads must be established within or in close proximity to sacred sites and tree species.”

Access to watering points is highly regulated. Water, like the forest and pastureland, is managed communally and women play a critical role in this. As suppliers of water for domestic consumption, women would be the first to observe any changes related to availability and accessibility to water. As a rule, *mmikinchori imany ashu iturr enkong’u Enkare*, “No one is permitted to establish a home or cultivate/farm near watering points” (KII 2011).

These rules, norms and principles pertaining to the environment and forest conservation, no doubt, have contributed to the continued protection of the Loita forest against the alarming forest degradation and deforestation rates⁵ in the entire country. This gives credence to the assertion by indigenous peoples the world over that they have been practicing sustainable forest management and conservation since time immemorial, long before the UNFCCC REDD Plus discourse came to the fore. Because of

this, the REDD Plus mechanism would do well to integrate indigenous knowledge systems and practices in its design and implementation strategies.

Socio-cultural Context, Participation and Threats

Indigenous women's participation in forest management

Maasai material wealth and prosperity is measured in terms of land and livestock. Cattle form the basis of the entire culture, being the main form of sustenance, wealth, power, and medium of exchange. Maasai values were based on a cattle standard; hence, control over stock and its products is a mark of full adulthood for both men and women and a measure of civic responsibility, as well as virtue. The success in livestock keeping (pastoralism) is intricately tied to land and natural resource management, including forests.

In an earlier study conducted within the project site, only less than 15 per cent of the total responded interviewed thought that women had equal opportunity with men within the community with regards to control and ownership of property (Entashata Community-based Organization 2010). Further, the study demonstrated that although perceived ownership and use of livestock by women appears significant (at about 70%), the rights to decision making on the other hand is extremely low—rated at 30 per cent. Thus, although livestock ownership by women is rated highly, the right to the disposal of livestock especially through the market is almost an exclusive male domain.

Generally, most respondents associate the violation of human rights of women with marriage and sexuality. According to the

same study, only 20 per cent of women respondents reported having experienced some type of violence, associated with a lack of resource ownership and minimal participation in leadership and decision-making. About 60 per cent of all the respondents viewed education for girls/women as a key strategy to address human rights concerns for women.

The fear of eventually losing allocated land through sales to outsiders by male titleholders was of particular concern, especially among elders and women. Women, especially widows and those in polygamous families, expressed fear over the security of land tenure under privatized ownership. The reasons for this fear are varied. One is their non-participation in decision making processes of the Group Register (GR) especially in relation to land. Another is their not being joint titleholders with their husbands, which gives their spouses a free hand if and when they decide to sell the land to outsiders.

As mentioned earlier, women hardly have a chance to participate in decision-making around land issues: *Ilpayiani ake ooyiolo eneimie ilpolosien, ninche oopuo inkiguanaritin entim, maaikilikwani nanu*—“It is only men who deliberate on boundary lines, attend meetings on forest issues; I am rarely consulted” (KII 2011). They are not registered as GR members nor allowed to attend public discussions on land issues.

There is an intergenerational concern regarding land security, especially for women. Their fear is for both the elderly, who might eventually find they have nowhere else to go, and the unborn. With livestock decimated by subsequent drought, they fear that the young generation will sell the land. Women are particularly passionate about this, since as traditional caretakers of children within the household/family unit and with fewer options for alternative livelihoods, ownership of and secure access to land is critical.

Fearing an impending likelihood of landlessness due to expected land sales, women contend that government policy makers should make provision for joint titles between husband and wife. The process should begin with their inclusion in the Group Register and subsequent participation in meetings and decision making processes, but this is considered an assault on a traditionally male domain.

Participants of the FGD sessions and the KII were asked to comment on their level of awareness of existing national or local government laws and ordinances that promote the participation of women in addressing forest-related issues. Men and women alike demonstrated a low level of awareness of state laws and policies relating to forest management beyond the presence of a representative of the provincial administration, a Divisional officer who oversees government projects at the locality including environmental and forest conservation. One said: *Mmayiolo enaas serkali, kaning' eji eibung'ishoi teneitayuni imbaawuyi. Mayiolo sii sheriaa; komiti ake atoning*—“I don't know what government does, though I often hear that individuals who split timber are arrested. Am also unaware of any laws, but I've had of the land committee” (KII 2011). Further, participants in the FGDs claimed that State officials were easily corrupted as individuals.

Threats and constraints: an indigenous peoples' perspective

Land, like the forest, has always been regarded as a communal resource to be used by everyone. With greater degree of success, the local indigenous community has protected and managed the forest for years under their customary tenure system. This endeavor has not always been an easy one.

Threats, both to the indigenous customary system and to the forest itself, have mounted overtime. While most of the serious threats are exogenous in nature, endogenous threats abound, too. These threats range from an ever increasing drought in both frequency and intensity (forcing people to draw more from the forest), a rapidly growing population, a widening gap between the rich and poor, transformation of indigenous peoples' worldview through individual property rights, and individual profit market-oriented transactions. Encroachment and advance of crop farming is a growing problem, just as is the progress of Christianity, which is discussed later.

As demonstrated in an earlier study by Tebtebba (2010), the main threats and challenges with regards to indigenous peoples' control and management of the forest is contested ownership. The study documented how the state and agents of the state (local authority—Narok County Council, Kenya Forest Service, and Kenya Wildlife Service), conservation NGOs, and private sector players in the tourism industry all exert pressure on local indigenous governance systems and practices to cede control over the forest and forest resources. The resultant struggle participated in by both men and women to protect what they considered to be innately their resource, has raised tension and contributed to loss of human life and property (Tebtebba Foundation 2010).

Globalization, western-styled education, Christianity, and free market and consumerism, compounded by pressures from a growing population has had monumental impacts on local indigenous peoples' norms, values, and beliefs with regard to natural resource management including forests. The overly consumptive tendencies of "modernity" has expanded the spectrum of human "needs" and consequently contributed to intensified exploitation of natural ecosystems previously unseen in indigenous peoples' territories.

The result is an increasingly changing lifestyle. For example, the simple and small Maasai huts are evolving to more complex and large “modern houses” that make use of timber from the forest. This lifestyle change coincides with the increasing monetization of the local economy. Concerns also abound over the impact of the growing influx of other Kenyan ethnic groups into the Loita territory whose value systems with regard to the environment is perceived by locals to be utilitarian and more inclined towards the market economy.

In the respondents’ view, the growing acceptance of the Christian faith as opposed to Maasai traditional religion has also contributed to the dilution of the powers of the office of the Oloiboni, which has traditionally been considered as the “unseen guardian” of the forest.

But for the women interviewed, fragmentation and individualization of landholdings (collective versus individual rights) constitute the most serious threat. They believe that the overall negative impact of land fragmentation is the eventual weakening of social sanctions that have been instrumental in forest conservation. The increasing dependence on State Laws over Customary Laws, and growing power of government officers/forest administrators more than traditional age-set leaders and Oloiboni aggravate the situation. The issues and challenges surrounding the Loita forest were summarized by Ene Noosentui, a local woman herbalist in this first Herstory. She talks about the pressures that have put a strain on, and consequently, weakened the adherence to traditional/customary regulations and taboos which have been at the core of the people’s practice of forest conservation.

Herstory

'Etaa ilmaasai oo nkang'itie enye kumok. Eibelekenyate sii ilkuuaki looltuganak, netunguaitie ilmaasai ilkeereti lenye. Etamanyaki entim, nendungitoi ilkeek nepejitoi sii intimi to lameyu. Kegira enkop airowuaju naa ore sii ilapaitin oosha nemekure esha. Etaa kutik ilarin le nchan. Etaa kutik inkabilaritin oo inkaitubulu arasu ilkeek. Meekure aakumok ingwesi o motonyi, Netadotie inkariak tiatua entim nemeekure etii ilganayio oonya inkera. Etaa sii ilomon ake lenkitabu eyiolo inkerra meekure epuoi shoo nemeyiolo ramatare ang. Ore taata Kashetita enkaji e mabati nelo sii nainok ilkeek seroi leme oloirien.'

*'The local Maasai population and their homesteads have exploded. Indigenous values and communal belief systems are being eroded. People are increasingly settling close to or inside the forest and incidences of forest fires and felling of trees are on the rise. We feel an overall increased and sustained warming of the land; wet/rainy seasons are distorted and far-spaced. We also notice an overall reduction in population and disappearance of certain species of flora and fauna, (e.g., Cedar, *Olea europaea ssp*). The water volumes and wild fruits (for our children) in the forest are also on the downward trend. Our children are increasingly pre-occupied with 'books' and less on herding and acquisition of indigenous knowledge. Presently, I am constructing a corrugated-iron sheet house. I also occasionally use non-traditional types of wood to prepare fire. I treasure the non-economic benefits of the forest' (Ene Noosentui, a local herbalist 2011).*

Exercising Agency: Indigenous Women as Part of the Solution

Although not publicly accepted by men, indigenous women are essentially protectors of the forest. They protect and care for it since they only harvest dead wood for firewood, twigs and branches for construction and barks/roots for medicinal use (*Imikiyiolo iyiook enkoitoi e sokoni, anaa ilewa le kuna olong'i oonya Olchani olulunga*), declared one woman respondent. She also asserted that as women, “We do not know the way to the market, unlike the men of today who occasionally bring down entire trees and dispose these to the markets.”

Aside from their limited access to the markets, indigenous women do not have access to power saws and trucks for transport services. Hence, women in the community do not have access to technologies that contribute to forest destruction. Furthermore, they have limited participation in decisions to construct improved homes and houses, and have no access to some corrupt government officials who often facilitate forest degradation and destruction.

Women’s role as day-to-day caretakers of households (e.g., in preparing food and ensuring general hygiene), brings them to closer interaction with the forests more than their male counterparts. As they fetch water, firewood, medicinal plants, and plants for ceremonial uses, women come to develop and appreciate the critical value of forests in the local community’s indigenous livelihoods. As these services become increasingly scarce and farther away from the original human settlements due to increase in forest degradation and deforestation, women are not only the first to notice; often, they pay the highest price. However, despite their being the knowledge bearers and the immediate victims of negative environmental changes, the concerns of the women in the community are rarely recognized, much more addressed.

Although it is true that the Loita Maasai women seem to have very little role to play in the public arena, especially with regard to decision making over use and access of natural resources, this is not to say they are entirely locked-out.

Asked why there were no women representatives in the meetings during one of the discussions with the Local Council of Elders, an elder responded by saying: *Olmurani lai, keetai apake enkiguena naji enolchoni* (My son/warrior, for ages we've always made reference to a debate with the "hide/bed"). This meant that women often contributed to decision making processes indirectly through their husbands and or sons.

Moreover, the women in Loita division have also been organized into a Local Women Council in the fashion of the Council of Elders. While a lot of ground remains to be covered in attaining full women participation, the creation of a Women Council is a step in the right direction, being one of institutions that emerged during the years of struggle over forest ownership.

If there is anything that the struggles over ownership of Naimina Enkiyio forest demonstrated, it is that women are not passive observers. Women have actively participated in crucial decisions in the past including decisions to whether or not engage in warfare. An important device used by women to influence decisions is through the composition and singing of provocative songs.

The second Herstory account provides a description offered by one of the women respondents showing how women exercise their agency in relation to the forest.

Herstory

'Ekiata esipata ene emayianieki iyiook tentim. Ekeimaki inkituak enemayianieki, nesinyayu lelo keek ootamayanieki. Egira emayian oo inkituak alo dukuya Ilmaasae. Tenetum entim bata nerrep sii inkituak nemitu tenebo o olarikok lolosho toosinkoliotin. Ekiomonoki sii olosho lang Enkai. Kiaata sii esipata nikigelunye ilarikok oodupa nikintayu iloonya entim. Ore tenikiro too iltirenito ekiimaki inchidai naainyialita entim. Egira sii LDF⁶ aitengen iyiook, neutaki enkoitoi nawang. Ore sii oshi taata netaa kepikitaet intomonok komitii oo intimi. Egira ilturruri loo intomonok aibeleyen ilkuaaki le ramatata oo inkishu einyangu, neitipirr ilasho. Kareu sii isirkon enkare pee etum inkera aashom sukuul.'

'We've got a right to sacred sites in the forest for our blessing ceremonies. We often assert and claim this right by identifying and consecrating these sites. These fertility ceremonies are still practiced today. When our forest is threatened, we defend it through songs of praise both to the forest and our leaders. We also offer prayers for the security of the forest. We also recognize as electorates the right and opportunity to vote-in leaders of integrity and vote-out those who contribute to the destruction of our forest. At our informal gatherings in our huts we discuss the threats facing our forest. We equally benefit from the advocacy and awareness conducted by LDF (Loita Development Foundation). Of late women are slowly finding their way into forest committees. Women are also organizing themselves into women groups to positively influence development agenda. And I also use donkeys to fetch water to ensure my children go to school' (KII 2011).

The role of indigenous women in forest management and the global REDD Plus discourse

Climate change has indiscriminate negative impacts on all economic sectors and local communities in Kenya. Some communities, however, are more vulnerable than others. As a result of their historical marginalization, high poverty levels and strong reliance on natural resources and fragile ecosystems, indigenous peoples are highly vulnerable to shocks such as drought, famine and floods.

The good news is that global, regional, and national discourse, and intervention programmes that respond to emerging challenges associated with climate change have opened up a new arena for indigenous peoples' engagement with states and other relevant institutions.

Climate change negotiation processes aimed at crafting a global instrument to combat the negative impacts of climate change and the current mitigation and adaptation programmes (especially in the context of REDD Plus)⁷ have provided avenues for the indigenous peoples' movement and for indigenous women to push for the recognition of the unique challenges and vulnerabilities facing them. Indigenous women and the rest of the indigenous movement push for the recognition of the value of indigenous knowledge systems and practices in climate change intervention efforts.

The World Bank's Forest Carbon Partnership Facility (FCPF) Charter, for example, provides for safeguard policies in recognition of the special circumstances of the world's indigenous peoples, including the adoption of new rules recognizing the need to respect the rights of indigenous peoples and forest dwellers, in accordance with applicable international obligations.

REDD Plus has been recognized as a major climate change mitigation strategy. But since deforestation and forest degradation

so often accompany extreme poverty, particularly among the indigenous peoples and forest dependent communities, it has been argued that, unless properly safeguarded, REDD Plus can further impoverish the lives of the poor besides impinging negatively on biodiversity, food security, and national sovereignty.

At the global level, the Cancun Agreement offered a modest beginning in attempts to address these concerns. In the Preamble of the LCA (Ad Hoc Working Group on Long-Term Cooperative Action) text, the value of a *human rights*-based approach in climate change intervention with reference to indigenous peoples is underscored, a provision strengthened with recognition of UNDRIP (Annex I (2) and art. 87). Under Shared Vision (I, art. 7), *participation of indigenous peoples* is recognized. Chapter (II, art. 12) on enhanced action on adaptation, *traditional and indigenous knowledge* is recognized. *Land tenure issues, full and effective participation of indigenous peoples in all future REDD Plus mechanisms* is catered for under Enhanced action on mitigation (III, art. 69 Annex 1). Additionally, the agreement document calls for future REDD Plus intervention to take into account the *multiple functions of forests* and other ecosystems. (Emphasis in italics added.)

These provisions in the LCA text essentially cover some of the key principles being pushed by the International Indigenous Peoples Forum on Climate Change (IIPFCC). How to operationalize and translate the said provisions at the community level remains a challenge. At the national level, the legal and policy environment with respect to indigenous peoples and women interests has, in general, changed significantly.

Kenya's new constitution "is a clean break with the past and provides several avenues for the pursuit and strengthening of indigenous peoples' personal and collective rights" (SWEEDO 2010). To begin with, the new constitution (for the first time) defines marginalization in a language very close to that of the UNDRIP.

It defines a “marginalized community” as one that:

out of need or desire to preserve its unique culture and identity from assimilation, has remained outside the integrated social economic life of Kenya as a whole, or an indigenous community that has retained and maintained a traditional lifestyle and livelihood based on a hunter or gatherer economy; or pastoral persons and communities whether they are nomadic or a settled community that because of its relative geographic isolation has experienced only marginal participation in the integrated social and economic life of Kenya as a whole. (Emphasis in bold added.)⁸

The constitution obliges the state to provide for adequate representation of “marginalized groups” at all levels of government, execute affirmative action on behalf of those groups, and promote the use of indigenous languages and the free expression of traditional cultures. The new constitution also recognizes the concept of self determination, as enshrined in the UNDRIP, by recognizing the need or desire of these communities to preserve their unique cultures and identity.

The state is also required to recognize the role of indigenous technologies in the development of the nation. Not only shall the state promote the intellectual property rights of the people of Kenya, but parliament is also required to enact legislation which will ensure that communities receive compensation or royalties for the use of their cultures and cultural heritage and which will recognize and protect the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by communities.

Chapter Four (Articles 19-59), provides for a plethora of rights and freedoms. Article 56 specifically provides for affirmative action for minorities and marginalized groups through programmes

designed to ensure that they participate and are represented in governance and other spheres of life; are provided with special educational and economic opportunities; access to employment; programmes to develop their cultural values, languages and practices; and reasonable access to water, health services and infrastructure.

As provided by Article 63, community land shall be vested in and be held by communities identified on the basis of ethnicity, culture or a similar community of interest. Community lands include those lands lawfully held in the name of group representatives, lands lawfully transferred to a specific community and any other land declared to be community land by any Act of Parliament. It will also include lands lawfully held, managed or used by specific communities as community forests, grazing areas or shrines and ancestral lands and lands traditionally occupied by hunter-gatherer communities.

On environment, the new constitution obliges the state to ensure the sustainable exploitation, utilization, management and conservation of the environment and natural resources and to ensure equitable sharing of natural resources.

Under the new constitution, the current free primary education has now been made compulsory (at both primary and secondary levels) for all children, irrespective of their gender. This will go a long way in contributing to the efforts to eradicate illiteracy in Kenya, not least in indigenous peoples' areas.

Further, the new constitution provides for equity in resource ownership across gender within households, giving women a right to inheritance that was hitherto denied under customary resource tenure. The greatest achievement for women under the new constitution is the right to political representation. Each county assembly will elect a female member of parliament (MP), essentially guaranteeing a minimum of 47 female MPs in the National

Assembly. Additionally, the constitution demands that representation of either gender in all public offices shall not be more than two-thirds.

Recommendations

1. Build the capacity of indigenous women

Deliberate efforts should be put in place to promote and sustain increased awareness levels of indigenous women of the Loita community in the areas of climate change, REDD Plus and relevant State laws and policies with regard to forest management and resource ownership. One strategy would be to tap into and strengthen nascent local women groups to build grassroots social movement for environmental conservation and food security.

2. Ensure full and effective participation of indigenous women

Increase the participation of women, especially those from indigenous and local communities, in climate change-related processes, and implement gender mainstreaming in all UNFCCC processes at all levels. Specific measures must be undertaken to ensure that indigenous women who are victims of the negative impacts of climate change but also generators and holders of indigenous knowledge, are able to participate effectively in the design, implementation and benefit sharing of all climate change related processes.

3. Adhere to human rights principles

There is also a need to ensure that at the global level, the UNFCCC processes comply with existing women's rights legislation and best practice, as exemplified in the UNDRIP, CEDAW (UN Convention on the Elimination of All Forms of Discrimination Against Women), the Millennium Development Goals, and Security Council Resolution 1325.

4. Ensure access to funding and appropriate technologies

Ensure financing of gender-based approaches and specific instruments benefiting women, and start an approach to funding mechanisms that goes beyond market-based solutions. Emphasis should be placed on adaptation programmes especially for indigenous women.

5. Enforce existing legislation and addressing societal structural constraints

The state and other stakeholders should go beyond gender mainstreaming and address societal structures and patterns that perpetuate injustices, including ensuring indigenous women rights of access, control and ownership of property, especially land. Enforce existing laws such as the anti-FGM (female genital mutilation), sexual offenses and harassment bill, and free and compulsory education which are critical in addressing human rights concerns of women. Operationalize the new constitution especially the provisions relating to affirmative action on women.

6. Promote and integrate of indigenous/traditional knowledge and institutions

The state should institute measures to ensure continued protection, promotion, and integration of indigenous knowledge, systems practices and traditional institutions into all climate change mitigation and adaptation regimes. These efforts should routinely be informed by research. Specifically, the provisions in the new constitution relating to intellectual property rights with respect to indigenous technologies, biodiversity and cultures, should be operationalized to protect indigenous peoples' livelihoods and ecosystems from further exploitation. This should be supported by the state, the private sector and the civil society.

7. Ensure gender-sensitive social safeguards on REDD Plus.

Endnotes

¹ REDD Plus is the term used in the UNFCCC. This covers reducing emissions from deforestation and forest degradation, conservation, sustainable management of forests and enhancement of carbon stocks.

² A special type of tree chewed on one end and used to clean guards used in milk storage.

³ In this ceremony, women perceived to be barren receive prayers and blessings from the elders, for hopes of fertility

⁴ Naming, circumcision, marriage, death and other age-set related rites

⁵ Kenya's annual deforestation is placed at 12,000 hectares of tree cover (FAO, 2006 cited in Tebtebba 2010).

⁶ LDF – Loita Development Foundation, local CBO for Livestock development and environmental conservation.

⁷ These are implemented by multilateral, bilateral and unilateral organizations and institutions such as the World Bank, UN-affiliated bodies, and individual nation-states.

⁸ Constitution of Kenya, Article 260.

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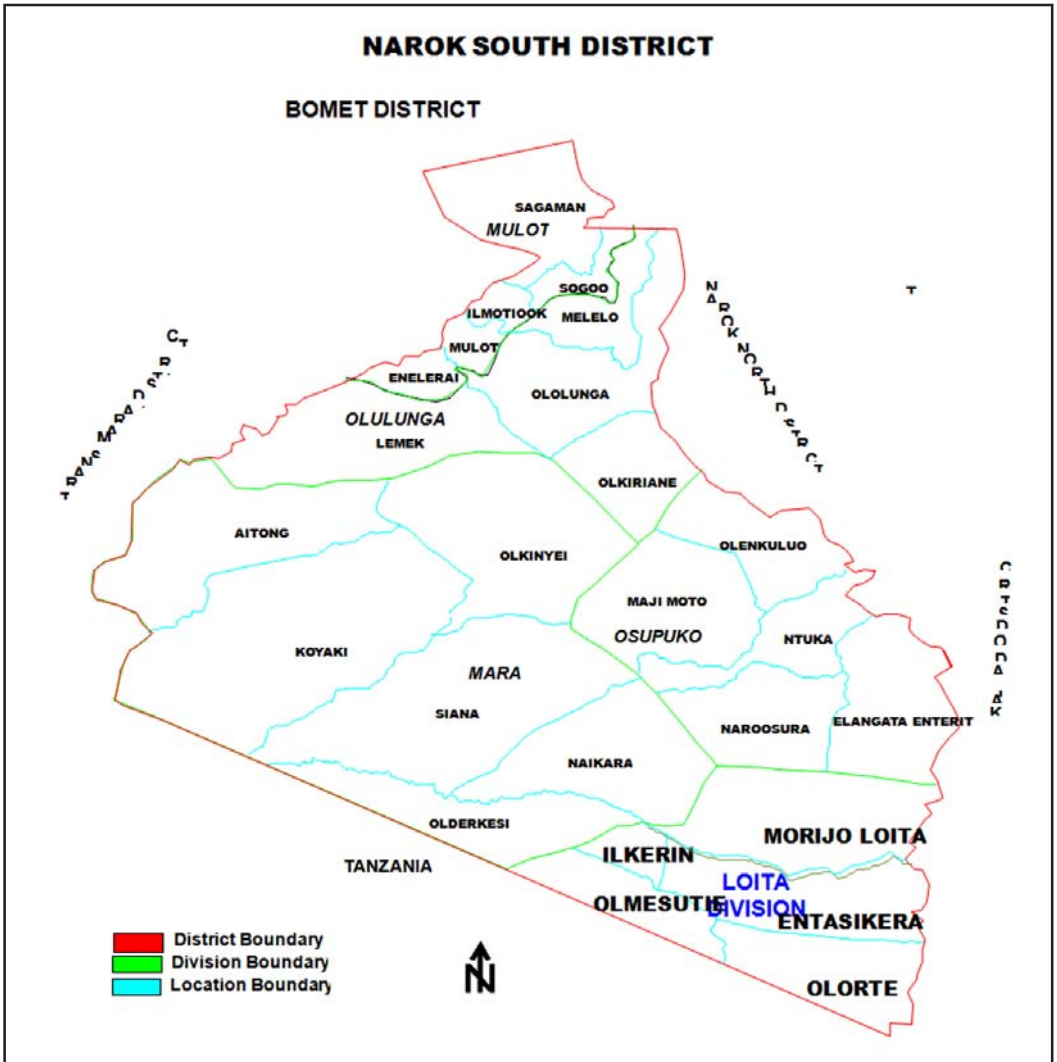
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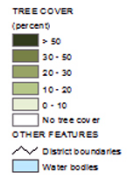
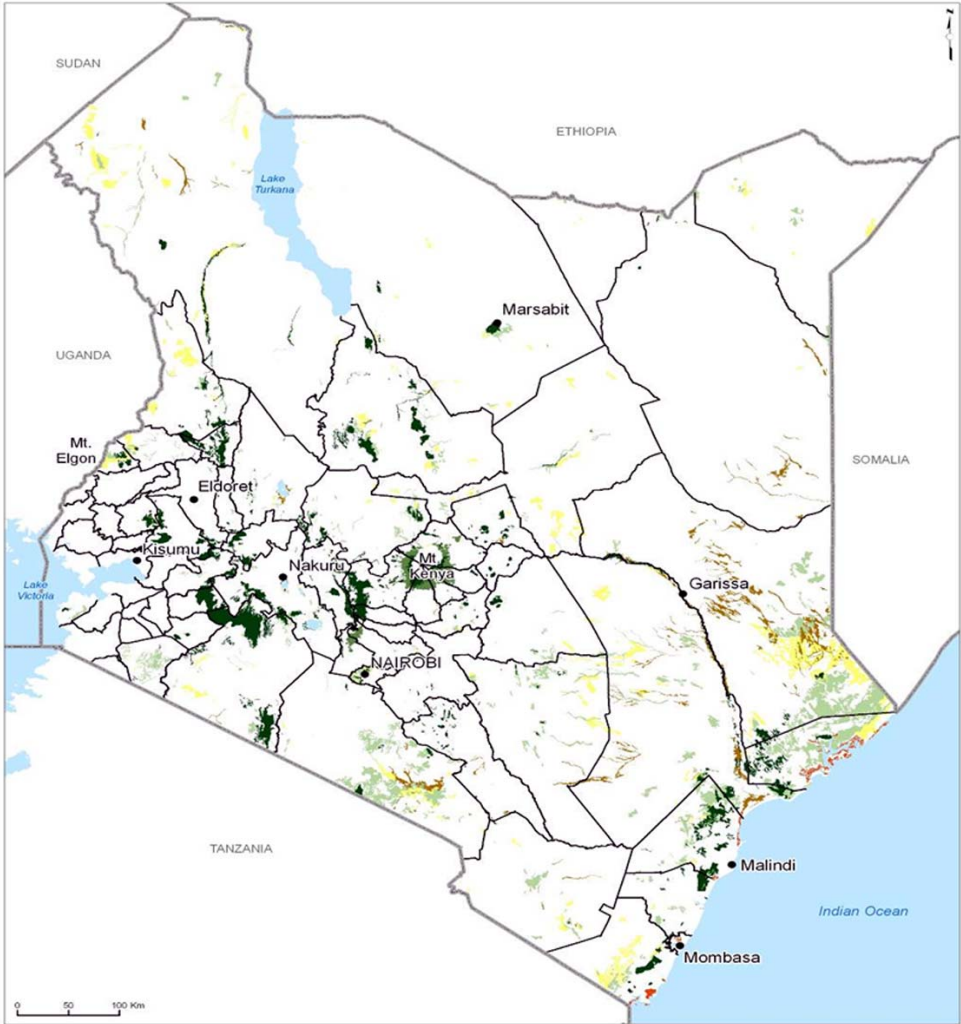
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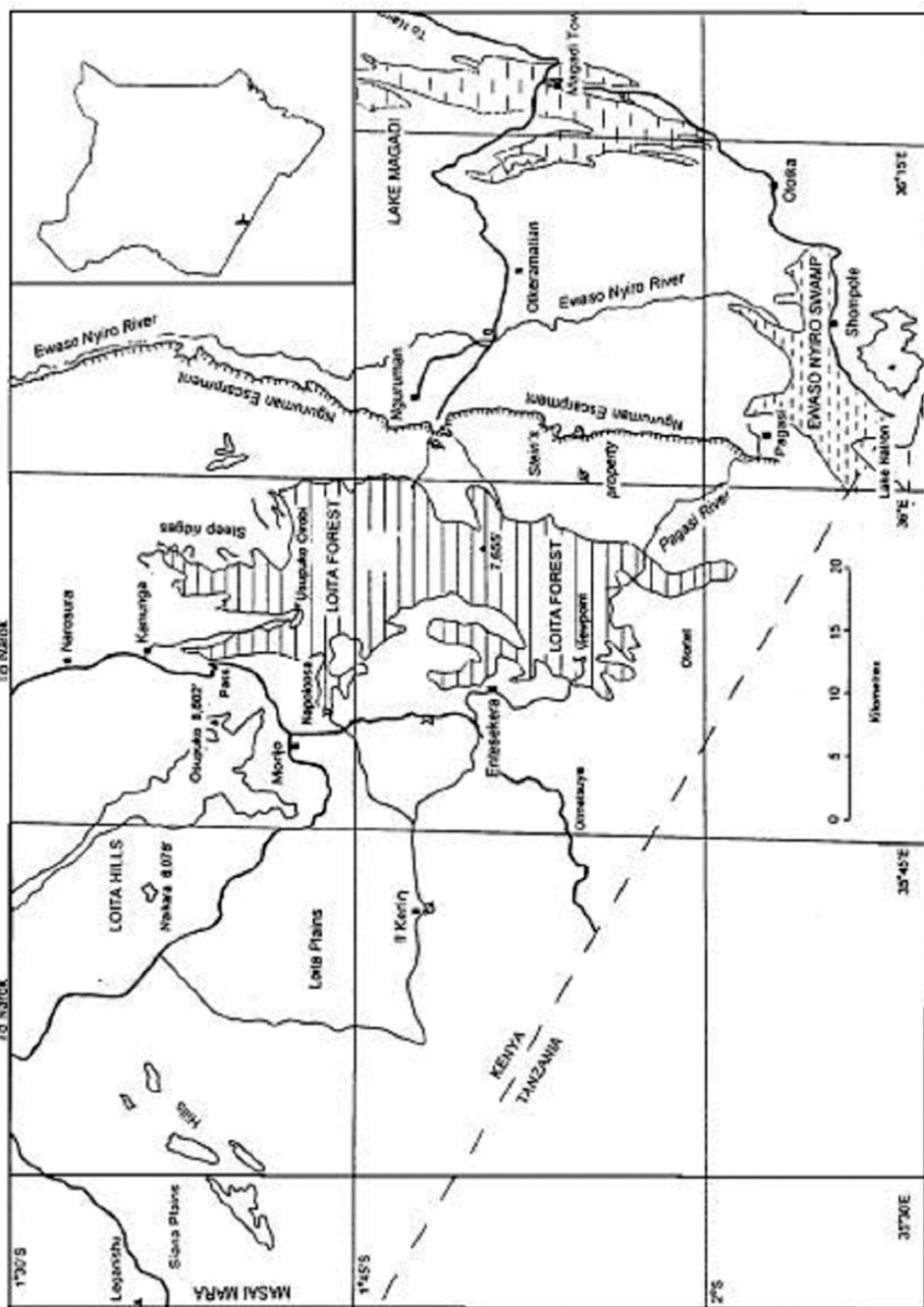
Annex 1. Administrative Map indicating Loita Division.



Annex 2. Kenyan forests with the relative position of Loita forest.



Annex 3. Loita Forest and Neighbouring Landscape



YÁNESHA WOMEN AND THEIR ROLES IN FOREST MANAGEMENT

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Introduction

'Sisters, let us sing to God our father. Let us sing with joy so that God our father will give us his blessing and so that the sun will shine on our crops and make them yield abundantly.'

Song offered by Yánesha women to the Yuca¹

The Peruvian Central Forest is the home of four groups of indigenous peoples that belong to the Arawak language family. These groups are: Asháninka, Ashéninka, Yánesha and Nomatsiguenga. The area used to be remote and isolated due to its thick forests and complex geography but it was made accessible when the Peruvian State was created at the end of the 1800s. With different events and actors impacting on the region's history, the Peruvian Central Forest became one of the most deforested areas inhabited by indigenous peoples, Andean settlers and Austro-Germans.

Anthropological studies made between 1960 and 1970 and mainly carried out by Santos-Granero and Smith on the Yánesha people document and analyze historical, cultural, philosophical, spiritual and ritual aspects of the community. The studies highlight principles which have guided the coexistence of Yánesha men and women. These works by Santos-Granero and Smith are used in the current study together with other researches and field

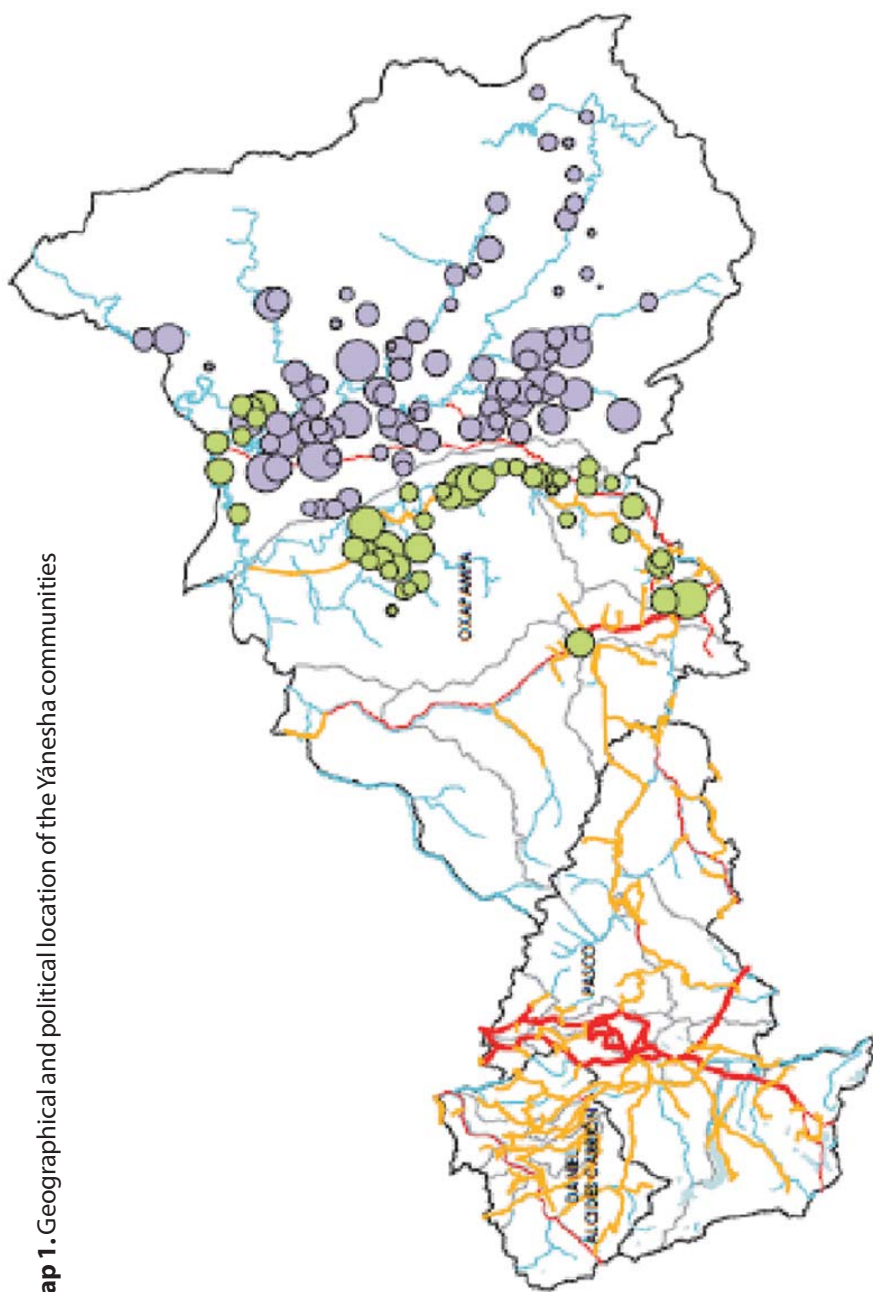
information to contextualize the relations that the Yánesha people have with the forests. The same documents are also used to account for the mechanisms undertaken by the Yánesha people in mitigating and adapting to climate change, especially those developed by women and those which have good chance of being regained and strengthened.

This study aims to illustrate the role of Yánesha women in forest management and to demonstrate their potential in contributing to Reduction of Emissions from Deforestation and Forest Degradation (REDD Plus) initiatives.

General Information on the Siete de Junio Community

As part of its Agrarian Reform, the military government of Peru issued Decree-law N°20653 in 1974. This decree, which pertains to the Law of Native Communities and of Promoting Farming in Forest Regions and in High Forests, directed the creation of communities among Amazonian indigenous peoples. The Siete de Junio community was therefore formed out of this process. Currently, this community has a property title for 8,782.25 hectares where more than 250 families live.

Sectors were created inside the community's borders according to where families lived. As of 2011, 11 sectors have been created. Each sector elects the authorities for the entire community. Among the 11 sectors is Pampa Hermosa which is located in higher parts of the community and borders with the Yánesha Communal Reserve. Politically, the community is located in the Palcazú District, Oxapmapa Province in the Pasco Region (see Maps 1 and 2).



Map 1. Geographical and political location of the Yánesha communities

Map 2. Yánesha Communities and Natural Protected Areas



Source: Information systems on Native Communities of the Peruvian Amazon- SICNA
Access <www.abc.org.pe/mapas> Accessed 13 October 2010.

Yánesha Women's Traditional Knowledge and Practices in Forest Management

The extent of traditional knowledge and practices that Yánesha women have in relation to forest management can be understood by considering these as complements to men's own contributions. However, these knowledge and practices cannot be understood without engaging in the Yánesha people's philosophy and spirituality which inform the principles that guide relationships between men and women in the family and relationships between families and foreigners.

The forest to the Yánesha

The forest takes central figure in the tradition of the Yánesha people. It can be said that their history is rooted in the forest because their spiritual practice involves natural features of the forest such as trees, hills, rivers and streams while their songs and prayers relate to planting and worship. Despite the size and diversity of the forest, the Yáneshas think that it is not a place alien to them because they believe that the children of the second generation of their Gods, whom they consider as their brothers and sisters, live there (Smith 1982). The forest, for them, is a medium of communication with the Gods.

For the Yáneshas, a forest that is in good condition is a favorable habitat for mammals, birds, mollusks, fish, and insects—all of which provide protein. A large forest is one where succeeding generations of Yáneshas can access arable land in the *pampas*² or in the river banks. It is where fruits, seeds, leaves, lianas (or creepers), reeds, and palm trees are accessible to families for food,

healthcare, upkeep of the house, musical instruments, clothes, and other things. It is also a place where rivers and streams stay cool rather than heat or dry up during summer months. In the forest, the Yáneshas do not differentiate between timber-yielding and non-timber-yielding trees; instead, they distinguish which insects or birds prefer to live in these trees; they identify which of these creatures greet them as they pass by or they discern whether these creatures forecast a good or bad omen for the day.

The participants narrated that in traditional forests before, climate conditions did not hinder work in the farm or in the hills. Nowadays, the afternoon sun burns people's skin and makes their eyes sore. When it gets very cold, the weather causes respiratory illnesses so people need to use warm clothing such as *chompas* or sweaters.

In traditional forests, children are not ashamed of speaking their language, so they refer to the fish they see there in their mother tongue. Men and women wear their *cushmas*³ made of native cotton and men play the drums and panpipes that are made of canes, while the women accompany them with a dance and a *shirareo*.⁴

The concepts of looking after and preserving the forest have been introduced as a result of the growth of commercial agriculture, timber extraction as well as the establishment of Natural Protected Areas. Yáneshas families look after their forest communities especially because they realize how small their area is compared to cattle farmers' properties, or those of (generally) Austro-German or Peruvian settlers. They know they have to look after the forests because they see how new intruders set up large farms and pasturelands within the Natural Protected Areas.

Nowadays the Yáneshas almost immediately associate the words "looking after the forest" with not extracting any type of tree from the Yáneshas Communal Reserve⁵ even from the forest

managed by the community, sector⁶ or family.⁷ It also means not overexploiting the soil for agriculture or not extracting too much bark or palm leaves. Looking after the forest includes protecting rivers and streams from resins or toxic substances which drive fish away or kill them. Because of this, the indigenous practice of using mullein⁸ to catch fish has been harshly criticized. As a result, it is now considered a harmful practice. In earlier days, this practice did not have a large negative impact but when the population increased, it was used indiscriminately with the aim of catching more fish for sale. Similarly, when timber-yielding wood is transported on rivers, they release harmful toxins which seep into the water and drive fish away, so this practice is being discouraged.

Benefits women obtain from the forest

Yánesha men and women share family duties in order to guarantee a steady supply of food for the family. Work on the farm is shared between men and women, whereas hunting and fishing is mainly done by men, although women and children can also go fishing.

Yánesha families make decisions on how much to sow of which crop and where to grow yucas, *pitucas*⁹ and yams. New farms are set up after secondary forests are slashed and burned. Women clear the farm and sow yucas according to variety and family needs. For their part, men go to the mountains to hunt *mitayar*¹⁰ for meat which go with the yucas and *masato*.¹¹ For the Yánesha, it is unthinkable to have yuca without wild meat or fish, or to finish a meal without masato.

Women have played an important role in maintaining the diversity of yucas in family farms. While we, the research team members, were staying in the Pampa Hermosa sector, we heard

about an array of yuca varieties like: *enana* (dwarf), *vela* (candle), *paloma* (dove), *tres meses* (three-month), *seis meses* (six-month), *señorita* (miss), *amarilla* (yellow), and other types of yuca. We observed that the choice of yuca variety that is grown in a family farm depends on how much the family members like the taste or other characteristics of a particular variety. Families, neighbors or friends then exchange the different varieties of yuca they planted.

It is worth noting that yucas have different ripening periods. If families have urgent need for yucas but are pressed for time in growing them, for instance after a natural disaster, they choose to grow the so-called three-month yuca. If time is on their side and there is no great need for food, then families plant the six-month yuca or other types that take longer time to ripen.



Women maintain diversity in the yuca patches according to the ripening process, taste and size of yuca.

Women are in charge of the supply and consumption of fruits, although not exclusively. In their childhood, women have the opportunity to have fun in picking the fruits they desire but they sometimes need the help of men, for example, in climbing trees. Native fruits such as *ungurabe*,¹² *aguaje*,¹³ *pan de arbol*,¹⁴ *pijuayo*,¹⁵ *cacao de monte*,¹⁶ among others, can be picked from the virgin or primary forest. In other cases, fruit trees can be grown in the riverbanks or in the mountain itself. Different varieties of banana, pineapple and lemon, among others, grow there. Reeds and lianas get tangled with the different trees and plants or spread across the ground and provide water for people who go to the forest.



Fruits are picked by women and children.

Accompanied by their children, mothers, grandmothers or friends, women also get brightly-colored seeds from the forest or family reserve which they use for decorating the broad sashes of their *cushmas*. Some of the seeds they gather are: *Huayruro*, *Ojo de llama* and *Chillusque*. *Huayruro* are seeds of a tree with the

same name and these seeds have intense red and black colors. Ojo de llama seeds, on the other hand, come from a kind of reed and are so named because these medium-sized seeds look like the eyes of a South American camel called llama which lives in the Andean Region. Similarly, the *Chillusque* seeds are from a kind of reed, too. These small seeds are white and gray in color. When they need to dye cloth with different colors, they likewise go to the forest or family reserve to collect *yetñor*, (leaves of a tree with the same name used to obtain the purple color), and bark of *payón* (crust of a tree of the same name that is used to obtain the color brown), and roots such as turmeric (for the color yellow).



Huayruro, held in the hands of a grandmother, which will be used to decorate cushmas or sashes.

Grandmother Rose
collecting palm leaves—
which have not
opened—to decorate
women's sashes.



A number of physical and spiritual ills are cured using medicinal plants which women are able to identify. Different plants are used to treat bites of snakes, spiders and ants; some are used to ease fever, painful births or irregular menstruation; while some are used to protect newly born children. Knowledge and practice on the use of plants, however, are not restricted to healing purposes because they extend to concerns in agriculture and family reproduction. For instance, there are plants used to increase crop productivity and some to determine the gender of a baby or to ascertain the number of babies conceived by a mother.

Economic income has become a new family necessity among the Yánesha. Trying to find a way to contribute, women choose to weave baskets and fans using the *bombonaje* (*Carludovica palmate*) that they obtain in the forest. First, they choose the leaves

without opening them; then they clean them and open them in order to obtain the blades which they later heat, dry and plait.

It is uncommon for women to hunt for animals in the forest. However, in some occasions when they leave the farm accompanied and helped by their dogs, they are able to hunt small or medium-sized animals such as *misho*,¹⁷ also known as *cutpe*. Women spend more time rearing smaller animals such as chickens, ducks, guinea pigs, and pigs either for sale or for family consumption.

Since most domestic tasks like cooking and making brooms are done by women, they also make the household utensils necessary for these tasks. For cooking, they choose and collect wood from the forest; they know very well that for this purpose they must select those which absorb heat such as *pacay* wood. They chop the wood using an axe and then tie the pieces together to keep them from getting wet. Women, too, look after the streams so they can provide water for the family. If the streams dry up during summer, the women fetch water from other streams or rivers. House-building is not exclusive to men because women sometimes do this, too. For instance, single mothers build their own houses by thatching the roofs with weaved leaves of small palm trees.

Providing an adequate summary of benefits which women obtain from the forest is difficult to do because there are many and because the benefits are conditioned by the individual circumstances of women members of the community. The benefits depend on what generation they belong, whether their parents are alive or deceased, whether they have children or not and whether they are in the process of reappropriating or undervaluing their culture.



Part of the rood made by Cleydi Miguel Sánchez, current female leader of the FECONAYA.

Yáneshas' knowledge on forest and resource management

The use, access, control and management of the forests and their resources are mainly defined by the Yánesha people according to terms they learned from customary practice. To adapt to dynamic and often adverse forces, however, they have recreated these customary practices over time. Their ability to do this enabled them to physically and culturally survive until today.

Although it was marked by a new context, the establishment of native communities was a recreated familiar way of relating to the forest. The main characteristic of forest management is the custom of dividing the land at a family level, splitting it between virgin forest, secondary forests, *shiringales* (land rich in rubber trees), and the pampas.

The virgin forest, also the family reserve, is an area of forest where there are a lot of timber-yielding trees and arable land. Each family has a specific aim for its family reserve. It may be maintained to bear plants, fruits, birds, and mammals then later given as inheritance to children so that future generations will know how rich the forest is in biodiversity. It may also be used to secure family income though this area generally has a steep slope which is not appropriate for farming.

Secondary forests or the pampas are areas meant for farming. The method practiced is crop rotation farming which follows a temporal and geographical cycle. The cycle begins in year 1, with slash and burn. During this stage, the ground is cleared of grasses and small plants; slim trees are felled and then burned. The size of the farm depends on how much land is needed to ensure supplies for the family, but the size generally does not exceed one hectare. On this land, yucas are planted. After the crops are harvested, the land is left fallow for 3 to 5 years. In year 2, the same steps of year 1 are repeated. In year 5, the land worked on in year 1 is cleared and planted with yucas. Corn, pitucas, sweet potatoes, beans, rice, and peanuts can also be grown on that land. The river banks are also favorite places for growing crops because plants obtain nutrients which come from rivers in the Andean area. For cattle farming, pasture is grown as a permanent crop.

The shiringales are marsh or swamp areas covered with all kinds of wood. These areas are abundant with currents of water so they are being looked after to ensure sources of water for the communities.

The Yánesha learn details of the forest management system from daily life. Children accompany their parents and grandparents to the farm or forest so they learn and know more as they grow older. In the same manner, sectors and communities make assessments on land use similar to those made by families in order

to organize their space and to guarantee that future generations have access to resources. To this aim, some areas are set aside for creating Reserves.

Yánesha's Principles in Managing the Forest and Other Resources

Since the communities were established, the population of the Yánesha has grown so the members of this community modified the uses of and customs on forests and other resources in order for them to adapt to new contexts. The following section outlines some of the guiding principles of the community with regard to resource management. This section also includes an account of women's relationship with the forests:

- a. **Complementarity.** Men and women have counterparts in most tasks. They both have roles to play in activities such as crop rotation, food production, preparation and distribution, among others. Complementarity also comes in the form of sharing between and among neighbors and community members;
- b. **Self-sufficiency and redistribution.** In every family, men and women work to guarantee the provision of food for the family. This principle guides the families, sectors and communities to set aside virgin forests as reserves. This measure ensures access to fruits, plants, birds and mammals. If for some reason a family comes short of food supply, its members may ask from others so that they do not go hungry;
- c. **Diversity.** By planting in the farms and by preparing food, women are able to maintain food diversity. For example, women plant yuca enana (dwarf), vela (candle), tres meses

(three-month), seis meses (six-month), amarilla (yellow). Women like growing yuca because of its flavor and the shape of its leaves. It also entails a short production time. Women also prepare masato (a traditional beverage) not only from yuca but also from *maiz* and *pijuayo*. An elder woman, Rosa Huancho, likes to prepare masato in wooden craters. These craters are made from *cedro* (a durable tree currently with high commercial value). Women's knowledge of food and food preparation are key aspects in maintaining biodiversity;

- d. **Intergenerational learning.** From childhood, the Yánesha learn their life ways by going to the farm, helping to hunt and fish and going to the river to play. Through this process of learning, the Yánesha become conscious about the uses and care of land and other resources. They understand that they need to allocate portions of land for farms and others for family reserves;
- e. **Spirituality.** When the Yánesha grow crops on farms and extract wood from forests, they seek permission from the Gods by singing, dancing and offering masato. In the same way, women pray and sing to Totana or God when they plant yuca to express gratitude for the generosity of the Gods and the land;
- f. **Diligence.** Work in the forest is very hard. Preparing the pampa for sowing involves slash and burn activities which require the involvement of the whole family and other relatives. Daily agricultural activities require hard work from all members of the community. *Puro* and coca leaves help men and women endure the long and hard days of forest and agricultural work.

Changes and trends in forest management

The forests in the Yánesha community have witnessed various changes. Affected by these changes, the Yánesha have been pressured to adjust their forest management in order to cope with different circumstances. Historical contexts are described below in order to identify and analyze causes of these changes.

a. Fixed territory with limited borders

The main factors in the Yánesha people's loss of land and displacement have been confrontations and struggles against settlers, religious missions, landowners, as well as European and Peruvian migrants. The Agrarian Reform at the beginning of the 1970s established a legal framework that guarantees the rights of indigenous peoples over a specific area in the form of the native community. The price for legal security was considerably high for the Yánesha given that the location and extension of the communities did not take into account indigenous peoples' movement, future growth, production for consumption or their philosophical and spiritual relationship to the territory.

Before the establishment of native communities, land for growing crops could be used by anyone wanting to work. Once they were established, the native communities, with their fixed points, limited the Yánesha's access to and use of the land. Even in the reduced areas which the Yánesha obtained, they recreated access to the forest at a family level and made family reserves. At the sectoral level, they set aside areas to generate income for the population and to reserve for future generations.

b. The establishment of natural protected areas

In the first years of the Agrarian Reform, Protection Forests were created together with the native communities. These were later merged to become what is currently the Yánesha Communal Reserve and the Yanachaga Chemillén National Park. Both are

part of SINANPE or the National System of Natural Protected Areas. That is to say they are managed by the government and therefore access and use of the same is restricted. For example, in the Yánesha Communal Reserve, the Yánesha have the right to hunt animals and collect wild fruits and plants but they cannot extract timber-yielding wood, build houses or farms and have pastures or cattle. In the case of the Yanachaga Chemillén National Park, all activities are restricted.

There have been two versions surrounding the creation of the Yánesha Communal Reserve. One indicates that it was established following a proposal made by the Peruvian State. The other suggests it was an indigenous initiative and decision taken by the Amuesha Congress, which was the first organization formed by the Yánesha people to tackle issues about their territory, culture, education and economic development.¹⁸

Reading the actual facts, we could conclude that the creation of the reserve comes from a mixture of both versions, given that the Communal Reserve category did not exist before the Agrarian Reform.

It is difficult for the Yánesha communities to exercise their rights over the Communal Reserve given a lack of information on the subject and, perhaps, also because of the way it is managed. The adjoining communities in the Communal Reserve elect a Directive Board which represents them in co-management between the Yánesha and the Peruvian State. The Board manages the Association for the Management of the Yanesha Communal Reserve (AMARCY), an organization being promoted by the Federation of Native Yánesha Communities (FECONAYA). Both spaces have different and contradictory objectives, and for some years, they kept away from each other. In addition to this, co-management relations between indigenous organizations and the State on Natural Protected Areas are unbalanced because

the State's financial, technical and legal advantages multiply its negotiating powers. The creation of Natural Protected Areas introduced the idea that the State also owns the land. Neither of these aspects help to create or reinforce the idea that the Communal Reserve belongs to the Yánesha communities.

c. Yánesha population growth

The growth of the Yánesha population, along with the aforementioned aspects, forced the communities to create a system of hierarchy which provides that daughters have rights over virgin or secondary forests only in exceptional cases. However, not all sons utilize their inheritance. Some of them migrate to cities in the Amazon, to Lima or abroad in search of work. Other young people choose to take technical or university courses so that they can join the labor market, while some join the army.

Married sons who choose to stay in the community ask for land from their parents. If the parents do not have enough land, they ask the sector through the community leader and chief who will show them the land they will work on with their new family. These concerns on access to land did not exist before, but with increasing population and scarcity of land, arrangements on limiting access to land have arisen.

An elder from the Pampa Hermosa Sector told us that in the past, they owned the land that they have cultivated, but this time, the community leader and chief determine the land that a community member will work on. In addition to this, it is worth noting that parents want to have at least one of their children to look after them in old age so they appoint the youngest son only as inheritor of the land.

d. Increased migration and population growth

Growth in population among settler communities and the Yánesha communities has been unfavorable to forest management because additional number of individuals now need resources while,

in fact, the quantity of resources did not have a parallel increase. As a consequence, timber was extracted from forests and this led to decrease in the reproduction of animals. There is a small chance of hunting wild animals such as *misho*, *quirquincho*,¹⁹ *paca*, deer and others. Because of this, Yánesha families now need to buy processed meat or they simply stop eating meat.

e. Extracting wood and new needs

The creation of the communities did not mean that these communities have absolute rights over the use of forests. The residents may want to use the forests for other purposes which are within the limits set by the community but they cannot do this. It is the State that grants a lease of use to the community. If the community wishes to use the forest that is found inside its boundaries, they have to do so under the Forest Management Plan, otherwise activities like extraction of resources from the forests are treated as illegal.

The idea of extracting and selling wood was not a concept of the Yánesha. It was introduced when Peru became part of international markets after its cities underwent industrialization and growth. In the Pampa Hermosa Sector, the trade of lumber merchants began in the 1990s, that is to say, less than 20 years ago.

The current needs for education, communication, transport, healthcare, among other needs, have mainly led to the adoption of some management plan (for example, conservation and reforestation ideas were introduced by the government once the Natural Protected Areas were established in Yánesha territory) and guidelines for the extraction and sale of wood. However, the terms of exchange have been considerably unfavorable to the Yánesha because of the low prices paid.

Forest Management in Yánesha Context

In this section, we deal with some aspects of the Yánesha people's culture. We present the shared rules of behavior in this specific society by describing how these rules manifest in concrete behavior. Ideas, values, norms, signs, and artifacts make up the culture and can be seen through art, customs, technology and rights, among other things.

Until 1950, different rites, prayers and songs were practiced by the Yánesha; clothing and offerings were given regularly to the Yánesha divinities, especially to the Yompor Ror, the father sun. Colonization, territorial displacement and death of religious leaders all weakened the delicate ties between traditional culture and spirituality.

Colonization began with the establishment of Catholicism in the Yánesha and Asháninka territories in the 18th century. The Franciscan missions that multiplied in the region considered indigenous ceremonies as pagan and prohibited their performance. Since then, the Yánesha people have faced increasing difficulties in keeping their religious practices. Today, Catholicism is not the only religion in the region. Adventist and Protestant churches have been established in some Yánesha communities, practicing what the missions did in the 18th century.

For these reasons, the Yánesha people face a serious challenge in reconstructing their cultural identity while being part of a global society. They, too, need to strike a balance between exercising their rights as indigenous peoples and taking on their individual and collective rights.

Beliefs and values related to the forests

For the Yánesha, forests are places where history, spirituality, astronomy, and geography connect with productive activities, songs, ceremonies, rituals, dances, clothing, food, and health. Throughout their history, the Yánesha people have created an entire system of beliefs and values which are based on the ultimate aim of achieving salvation.

We illustrate how Yánesha spirituality, their history and the forests are related with the following examples taken from the anthropologists Smith (1982) and Daigneault (2009).

The Yánesha women's principles of complementarity, self-sufficiency and spirituality are best expressed in a ceremony called the *Ponapnora*. This ceremony begins when a teenage girl has her menstruation for the first time. When this happens, the girl is moved to a hut in the forest for a time. While she is there, she needs to fast, wash using medicinal plants and learn how to sow and sing. The hut is traditionally located far from the family's house in order to give the girl complete privacy for the physical and spiritual transformation. The hut is therefore turned into a sacred place. As part of her purification, the girl must follow a diet of yuca without salt and water. The diet is related to obtaining vigor, becoming resistant to illnesses, staying youthful, increasing longevity, having black hair in old age, and having healthy teeth.

Another part of the purification process is the girl's taking of regular baths with specific plants. Women say that using the correct plant is very beneficial and that it helps in the transition from being a teenager to being a woman. During the ceremony, some mothers ask their daughters the characteristics they would like, and the mothers collect the plants which are believed to produce those qualities. Cristina Bautista, one of Yánesha women respondents by the anthropologist Daigneault said, "I remember my

mother used some leaves in a specific way for me to have long and thick hair. And as you can see my hair is long, thick and black!”

When the girl leaves the hut, her new condition of being a woman is celebrated by the community with singing, dancing and drinking masato. Many mothers and grandmothers consider celebrating the Ponapnora as a vital step for a woman to be strong, healthy and knowledgeable.

These kinds of ceremonies consolidate and strengthen the role of women in the family and their relationship to the forests. The virgin forest is not only considered as a group of trees, but also as a place of cleanliness and preparation for teenagers who will later have their own families and who will preserve the forests without expecting economic benefits. This example likewise illustrates how forest resources and forests themselves are intimate parts in the process of becoming a Yánesha woman. In this particular ceremony, the cultural knowledge and practices which mothers inherited from previous generations meet and are applied to their daughters who will in turn pass the knowledge and practice to their own daughters. In this way, the ceremony is an attempt to ensure the survival of the same knowledge and practices in the future.

Unfortunately, the Ponapnora has almost lost its role in teaching songs. An elderly woman who lived in Loma Linda said that when she had gone to the hut, her mother sang to her every day and this was how she learned songs. According to Daigneault (2009), the songs are difficult to learn so it takes years to master them. This anthropologist believes that this female ceremony is one of the pillars on which lies the transmission of Yánesha culture, language and music.

In effect, the songs played by men and women, either with instruments or not, are vital in passing on culture, spirit and his-

tory. For example, the song called “Mamasrech” is a female song described as praise to the yuca. It is believed that if this song is sung correctly, the plant will be happy and thus will yield more tubers. Smith (1982) identified other songs which are only sung by women. For example, the “Chechrech” song is related to peanuts and the goddess “Yo’ch’chech.” The song “Chochrech” is related to beans and the goddess “Yo’ch choch.”

The most important female deity is *Yachor Arorr* who is the moon, twin and wife of *Yachor Ror*, the current sun. On the other hand, *Yachor Mamas* is associated to masato, a basic ingredient of ritual and daily life. In the past, both deities were objects of religious rituals practiced by women. The deities are invoked before starting any activity, whether it is hunting, cleaning the farm, making a meal, drinking or singing a song. They are prayed to, given offerings and praised through songs. Until recently, they were the object of formal ceremonies of worship led by spiritual leaders (Smith 1982).

Yánesha rites and rituals in resource management

Yánesha women generally do not own land; therefore they relate to the forests and its resources when they are married or are still part of the paternal family through the use and management of its resources. In this section we describe some of the ceremonies practiced by women, especially during crop-rotation to sow and harvest yucas.

During the interviews, an elderly woman from the Shiringamazú community shared with us the following song to the gods and to the yuca patch:

Mellañotenrech Yepéch

'Sisters, let us sing to God our father. Let us sing with joy so that God our father will give us his blessing and so that the sun will shine on our crops and make them yield abundantly.'

This song and several of its kind is part of female ceremonies which, through musical tradition, keep alive the relationship between women, spirituality, the forest, farming, and food.

Another ceremony practiced by women is using puro in the same way as men. Mrs. Margarita Domingo, the Siete de Junio Community leader's daughter-in-law, told us that she was born in Cacazú, but when she married she had to move to Pampa Hermosa where her husband has land. In the following narrative, she told us why and how puro is used.

"The puro gives us strength to work"

The puro is chewed to encourage or motivate one to work. The puro is served in a receptacle which has crushed limestone in it. The chamuero plant, coca leaves and lime are chewed together.

Quite a lot of puro is found in family farms and in the home. Its fruit are picked and a small hole is made on it in order to remove the seeds; after it is cooked on the fire in order to make it very white, it is then filled with lime.

To make limestone, pretty stones are gathered from the river. Those that are chosen are the ones which are burned, not any other stone. When they are removed from the fire, cold water is splashed on them and they are then placed on a plank where the stones turn white as flour. Later they are carried in a bag and laid out under the sun. Soon they are sieved and what cannot be used are thrown away while the very fine ones are those that are added to the puro.

The chamuero is found in the mountains. It is a reed that climbs the crown of trees. After a tree is felled, the chamuero falls, too, so it is cut and brought home to put out in the sun. The chamuero's root is inside

that is why it has to be split into four. Its thick peel is removed and dried, too. One does not need a lot of chamuero because a small stick can be made to last. As for coca, some families choose to plant this crop. When the leaves are harvested, these are also dried in the sun. The coca leaf is chewed by most Yaneshas.

Some families who are used to it cannot work without coca. Some say it helps in getting rid of laziness and some think it gives strength for work.'

Intergenerational education among the Yáneshas

From childhood, new generations of Yáneshas acquire knowledge and practices from exposure to daily life and from the advice and guidance of elders. This process of education is not forced upon them by the older generations. On the contrary, one often hears that if the new generations want to learn, they themselves approach the people from whom they want to learn specific knowledge. In line with this, a man from Pampa Hermosa told us that:

'When you want to know the song for a crop, you have to say so (to the concerned persons) until they feel sorry for you and teach it to you. Those that know how to hunt and fish learned the melodies of the mountains or water.'

Other stories illustrate that learning is done through practice, strengthened through passing on the principles of self-sufficiency.

'Before, our parents would take us to work and would bring us back from the farm quite late. I tell my children very early on that wherever they go, they must work like men so that they do not go hungry' (Rosa Huancho).

Passing on traditional knowledge and practices down to the next generation begins at a young age when children are very curious and have a great ability to observe. In the photo, a grandmother is flaking bark from the payón tree to create brown dye for cushmas.



Other accounts demonstrate that adult advice strengthens intergenerational relationship and enriches the younger generation's relationship with the forest:

'I teach my children to plant fruit for them to eat. So that when they are grown up they can reap the benefits instead of having to go searching on the hill for pacays' (Alfonso Ballesteros).

Families teach their children how to carry out vital tasks. Fathers teach their sons how to slash and burn, hunt animals, fish in the rivers, and plant crops. In the same way, mothers teach their daughters how to make baskets, brooms, sieves, and masato; how to grow yucas, pitucas, sweet potatoes, etc.; how to clean and be tidy; and how to cook so that their future husbands will not feel unhappy with them.

Family reserves also play a role in teaching new generations as illustrated by the following accounts:

'We want our children to know what tornillo wood is and what cedar is like. If we cut all the trees our children will not know some of the species that there were. They will only know their names!' (Noé Cruz).

Finally, it is necessary to point out that from a young age, boys and girls live in the habit of working, helping themselves and creating *ayne* between brothers. “Ayne” comes from the Quechuan word “ayni” which refers to the supportive relationships between family members or between families in order for one to achieve goals which would require a lot more effort if done alone. Later, when it becomes necessary, the assistance given by a family member or another family is reciprocated by those who received it earlier.

The Yánesha Customary System and Forest Management

The community has its own rules ordered in a written statute and a system which ensures that these rules are followed. The community chief, the sector leader and the *arcanchi* play an important role in this system which consists of formulating and applying sanctions, as well as ensuring the prevention of punishable acts. The *arcanchi*, generally an elder, is the person who determines sanctions, but before doing this, he hears the recommendations or advice of the other members of the system who are also tasked to counsel the person who is going to be punished. Afterwards, either the community chief or sector leader orders the sanction to be carried out. For example, it is written in the statute that “Every family must set aside at least half of its farm for growing food throughout the year and to avoid conflicts between community families” and “Using *barbasco*, a poison used traditionally

for fishing (and obtained from the roots of the bush of the same name), is not allowed for fishing. Neither is it allowed for villagers to pollute the rivers with toxic substances from trees nor transport tornillo²⁰ wood on the rivers because they pollute the water and kill fish.” There are also customary laws which restrict the abuse or monopolize resources, as well as those that pertain to individual and community obligations.

To draw up laws and duties, each sector holds assemblies quite frequently. These assemblies, usually done on Sundays, are attended by the sector authorities and inhabitants to make collective decisions. Those in attendance discuss matters related to the sector and they decide on collective work for clearing paths and boundaries, carrying out various tasks such as building communal houses and schools, and other things. Both men and women attend the assemblies. If someone cannot attend, he or she must inform the leader beforehand.

In a family-oriented context, some practices are also considered customary laws. The following are examples:

- a. Setting aside virgin forests to ensure that the community has access to fruits, seeds, medicinal plants, palm trees and edible wild animals, birds, mollusks, and insects;
- b. Keeping trees around streams so that these will not dry up during summer;
- c. Keeping trees as protective barriers for crops on the river banks;
- d. Following a specific diet before hunting forest animals. The diet prohibits using salt and drinking plant-based drinks so that animals will not feel the danger;
- e. Practicing ayne between families and neighbors when farming begins;
- f. Sharing goods gathered from hunting, fishing or farming with neighbors;

- g. Visiting family and friends on weekends and drinking the masato, which is offered to the guests; and
- h. Using new knowledge that a person has acquired for the good of the community.

With the short list above, we want to show how the daily practices of the Yánesha have the same characteristics with customary laws which aim to maintain harmony between Yánesha men and women and the forests, and which strengthen the ties of brotherhood between friends, neighbors and family members. It is worth noting that some customary practices like praying with knees down to the Sun god at the beginning of the day and to the Moon goddess at the end of the day before hunting or fishing are not done as frequently as before. The same is true with singing sacred songs and praising the different deities. Reversing this trend requires strategies for recouping and invigorating Yánesha culture which will in turn help preserve and sustainably manage the forests. Hence, the forest is very much at the center of the Yánesha peoples' lives, especially the women. Not only does the forest provide the elements that indigenous women and their families need for food, agriculture, hunting, clothing, and housing, it also provides the elements that they use to nurture their spirituality.

The female in the Yánesha community has gained ground in different political spaces. For example, the FECONAYA established the Secretary for Women's Issues who is elected during the Yánesha Congress. In addition, the current leader of the Yánesha Congress is a woman. At community and sectoral levels, women also preside over economic organizations (tourism and handicrafts) and social ones (like The Mothers' Clubs and Vaso de Leche). These spaces have been won little by little through the women's own struggles to make themselves visible as people with rights and duties.

In relation to customary law, women are responsible for planting, harvesting, looking after the family's health, preparing food,

and cleaning the household. By doing all these, they have played important roles in the way agriculture is practiced, in the manner of preserving family forests and in the process of identifying trees and protecting farms and streams.

Women's Rights in Relation to Forest Ownership

The Yáneshas have established ways of occupying, owning and distributing land in response to different population dynamics which they have been exposed to throughout their history. With the appearance of yellow fever at the beginning of the 1900s, for instance, the Yáneshas occupied the Choropampa Valley either alone or in small groups (Smith 1974). After some years, the Peruvian State gave away land to bond holders and Austro-German settlers for expansion of agriculture and commercial cattle farming, following its policy of “making the Amazon productive.” Some parties observed, however, that this policy was created in order for the State to pay its debts. With these events, the Yáneshas population was displaced toward the Quillazú Valley or the Pachitea River Basin. At that time when the Yáneshas had to move in these areas, there were no urban centers or main nucleus of houses. Instead, there was a pattern for occupying land by family where small groups of brothers and sisters lived in the area of their elderly parents (Smith 1974).

For the Yáneshas, the concept of private property was incomprehensible when referring to forests, land and rivers. For them, resources were available for everyone to meet their physical, cultural and spiritual needs. This is not to say that the concept of property did not exist. Every man and woman was free to plant crops in the places they considered to be most appropriate like growing marketable crops of the times such as coffee. Nonethe-

less, each crop was respected, which means that the individual effort exerted for its planting and growth was recognized; but this recognition did not define ownership in the sense of confining sole consumption to the individual only or disallowing distribution or sharing among community members.

At the beginning of the 1970s, when the military government began the Agrarian Reform, the Yánesha had already been forced to leave their land, which stretched from the Huancabamba River to the Palcazú River. The aim of the Agrarian Reform was to put an end to the landowning oligarchy and give land ownership to those who worked on the land. This arrangement worked for the settlers, but not for the Yáneshas who had a different situation. For the latter, their cropping was meant for production of food for the family, not for commercial purposes; therefore, they did not cultivate large areas. In this context, the Law on Country and Native Communities (*Ley de Comunidades Campesinas y Nativas*) established the concept of communal property and with it came the additional concepts of legal borders, limits to the size of the land and movement of the population. With the concept of communal property, the Yánesha families were obliged to recreate ways of allocating and distributing land.

Because land is limited there are only two ways of inheriting it. In the first case, the parents bequeath virgin forests and secondary forests to their sons to guarantee food for them and possible income if there are timber-yielding trees in the virgin forests. The youngest sons are the usual inheritors of the forests. This decision is based on the parents' need to ensure they are looked after by at least one of their children in old age. In this context, it is uncommon for a daughter to inherit forests. She obtains land through her husband.

In the second case, an individual from another community presents his request to the community chief through a letter that indicates good behavior in the community where he came from. The

newcomer to the community will have to be accepted in a communal assembly. Following this, the community chief will show him the land that he and his family will work on and which they will own. In this case, wives can inherit land, but it must be land from the community even though the husband is not from there. Not all the community members agree on this land ownership arrangement. An old man complained that in the past, people owned pieces of land on account of their labor on these lands, but now some individuals simply identify which area is to be owned by which person.

Problems and Threats to Traditional Knowledge and Practices

Changes in the forest communities of the Yáneshas have been evident in the last 20 years when timber merchants, invaders and settlers arrived, and when the population in the area increased. With all the economic activities undertaken in the forests, these have largely deteriorated, thereby unable to provide the resources which they used to. With regard to mobility of Amazonian people in these forests, the conditions nowadays are different. Before the legal creation of the communities, they freely moved around their territory. At this time, however, their communities have fixed borders which are very difficult to extend so their movement and access for more resources are limited.

Because of new economic needs such as money for education and transport expenses, some Yánesha families have chosen to produce coffee, sell wood, develop small-scale farming or do cattle farming. These activities, however, have minimal contribution to deforestation compared to the large-scale commercial farming and logging done mainly by outsiders. Despite this fact, there is a line

of discourse that blames the Yánesha communities for deforestation. In some cases, this discourse decries traditional practices such as crop-rotation farming and felling trees so that *suris* and *tayuques*²¹ will grow in their trunks.

Among the main threats to the transmission of traditional knowledge from older to younger generations, we can mention the following:

- a. Children's migration to the cities to get into secondary school;
- b. Teenagers' migration to other places either to work or study;
- c. The rise of the Evangelical and Adventist Churches;
- d. Difficulties in writing down traditional knowledge;
- e. Economic needs which lead to extracting wood, rearing cattle for meat or practicing commercial farming;
- f. The new generations' greater interest in acquiring customs that are different from their culture;
- g. The strong sense that elderly people have in keeping their knowledge secret;
- h. Deterioration and fragmentation of identity and cultural practices; and
- i. Lack of policies or programs to recover, disseminate and teach the Yáneshas' own history

Searching for Solutions

Yánesha women have put forward proposals on how to sustainably manage forests and generate income. Economic initiatives such as homestay tourism, creating and selling ornamen-

tal items made from seeds, making cushmas, tablecloths, and bags with Yánesha patterns as well as rearing small animals (guinea pigs, chickens, ducks, and pigs) are a few examples of proposals made by women. Women, especially those who hold a post, go to institutions to put forward ways or supporting women through donations, activities or projects. To strengthen and maximize their initiatives, Yanesha women should accomplish the following:

1. Know which national, regional and local laws hinder their participation in forest management.

The establishment of Natural Protected Areas under the complete control of the State limits the participation of Yánesha people across the board. In the case of the Yánesha Communal Reserve, there is still a lack of female representation despite the presence of a Directive Board, which represents neighboring communities. Established relations with the State are also unequal.

2. Be aware of climate change and its impacts on the forests and on their knowledge and practices on forest management.

Yánesha families are aware that the climate has changed. In 2010, the Pampa Hermosa Sector was flooded with water level reaching beyond the sector's center. In the aftermath, crops, cattle, houses, and other properties were destroyed. The residents said they have never seen the river rise that much in only one night and they even recalled that the sun shone brightly that day. They also noticed that it has become extremely hot during summer so work in the farms is hampered. The rivers also heat up and are no longer able to cool people down. Streams and other small water sources dry up so women have to fetch water from the rivers which are generally far from their houses. The "burning sun" becomes a threat to crop growth because it burns the leaves. On the other hand, the sector experiences an unusually cold weather for an entire week. Those who are not used to such low temperatures suffered from different respiratory illnesses.

3. Be familiar with Government programs meant to avoid deforestation and promote conservation and forest protection.

Through the Environment Ministry, the Peruvian State has recently launched the National Forest Conservation Program for Climate Change Mitigation. This is the same program that has been disseminated to leaders of Yánesha communities as well as representatives of the FECONAYA and the AMARCY.

The program aims to give economic incentives to communities which preserve their forests with a minimum size of 500 hectares. The economic incentive given is S/10.00 (Nuevos soles) per hectare of preserved forest a year. The program focuses its efforts on conservation. There has been no mention about initiatives for sustainable management and enhancement of carbon stocks.

Recommendations

Although the State is promoting conservation initiatives, the cultural aspect, such as the indigenous forest protection mechanisms and the role of women in passing on values and norms, have not been incorporated in these initiatives. It is for this reason that indigenous organizations, especially those led by female leaders, have a lot of work to do. To allow and encourage a meaningful participation of indigenous women in forest management and to ensure that traditional systems of resource management are being upheld, the government must look into the following recommendations:

To ensure participation and practice of traditional knowledge:

- a. Improve productivity in the farms by recovering ancestral practices;
- b. Recover the farms' capacity to grow food by reforesting them with fruit-bearing, seed-bearing and timber-yielding

- trees, as well as exchanging seeds with nearby towns;
- c. Strengthen Assemblies and Congresses;
 - d. Strengthen the authority and leadership of the sector, community leader and organization's female president; and
 - e. Strengthen the institutional character of the Yánesha sector, community and organization

Finally, to guarantee traditional knowledge on forest management:

- a. Recover and disseminate Yánesha history;
- b. Convene researchers who studied the Yánesha culture in order to gather and organize scholarship on this community and culture;
- c. Make information on Yánesha culture available in schools;
- d. Encourage economic activities based on female forest management;
- e. Strengthen ties with the new generation;
- f. Overcome the high level of discretion among the elderly;
- g. Recognize and promote the role of women in biodiversity.

Endnotes

¹ Yuca is an Amazonian tuber. Yachor Mamahs is the Yánesha divinity of the yuca.

² Pampa is a term used by Yánesha and other Amazonian peoples to refer to agricultural land. This land has minimal slope.

³ Cushma is an Arawak word used to refer to a tunic used by men and women.

⁴ Shirareo is an Arawak word used to refer to an instance when a woman sings a song from Yánesha culture.

⁵ A Communal Reserve is a category of the National System of Protected Natural Areas. According to the Natural Protected Areas Law (Law N° 26834), the

Communal Reserves are areas designated for conservation of flora and fauna for the benefit of nearby rural communities. The use and marketing of resources will be under management plans approved and supervised by the authority and led by the beneficiaries themselves. The Yánesha Communal Reserve is managed between the State and AMARCY. The AMARCY is an association of Yánesha communities surrounding the Yánesha Communal Reserve. Each family could have between 15 and 40 hectares. Within this area, a Yánesha family could have a family reserve, yucca patch and livestock grazing.

⁶ Sector Reserve is an area of virgin forest that was established by the families that live in a sector. One sector belongs to a community. In this case Pampa Hermosa sector belongs to Siete de Junio community. The purpose for this kind of area is to have enough forest for the next generations or to manage them in a sustainable way.

⁷ A Family Reserve is an area of virgin forest. Yucca patch is a small (between 1 to 3 ha.) area appropriated for sowing yucca and other kinds of crops such as pituca, maní, sachapapa.

⁸ Mullein is a leguminous plant whose root is used to extract the toxin Rotenone to make fishing easier.

⁹ Pituca is an Amazon root vegetable of broad consumption.

¹⁰ Mitayar is an Arawak word for hunting.

¹¹ Masato is an Arawak word for a drink made from fermented yucca.

¹² Ungurabe or ungurahui is the fruit of the palm of the same name. Each palm can give between 3 to 4 clusters of ungurahui.

¹³ Aguaje is a drupe that is collected from a female palm with the same name.

¹⁴ Pan de árbol is the name for the seeds and fruits of the tree of same name.

¹⁵ Pijuayo is an Amazonian fruit of the tree of the same name. This fruit form a cluster.

¹⁶ Cacao de monte is the cacao tree but it is found in the forest without any kind of care or management of the families.

¹⁷ The misho is a rodent-type mammal whose meat is typically eaten by residents in the high and low forest areas.

¹⁸ The Amuesha Congress was later changed to Yánesha Congress to assert the Yánesha people's right to self-recognition. The Yánesha Congress gave birth to the current FECONAYA.

¹⁹ Quirquincho is also known as armadillo, a wild mammal with small bony plates whose meat is edible.

²⁰ Tornillo is a tree with commercial value.

²¹ Suris and tayuques are larvae which develop in the trunks of fallen trees. These larvae are placed between leaves and are cooked.

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ETHNIC MINORITY
WOMEN IN TRADITIONAL
FOREST MANAGEMENT AT
BINH SON VILLAGE,
THAI NGUYEN
PROVINCE, VIETNAM

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Introduction

Located in the North of Cuc Duong Commune, Vo Nhai District, Binh Son is a mountainous village with a complicated geography. It is surrounded by limestone mountains which serve as walls for the valley where residents live. The village has a population of 520 individuals living in 86 households. Most of the villagers are Tay but there are seven Dzao households and four Hmong's households. Women make up 51.2 per cent of the population.

The main source of income in the area is agriculture. Residents plant wet rice, maize, cassava, and vegetables. They also raise pig, buffalo and chicken. In the past, the main income source of the villagers was collection of resources from the forest such as arrow-root, yam and brown tuber. Women are the main labor force in many agricultural and domestic activities. They raise animals, fetch water, work in the mountain fields, and collect fire wood and other non-timber products from the forest. Working a lot in the forest, women have a great understanding and appreciation of the value of the forest in their family's life.

Methodology

This case study is based on personal stories of women with regard to forest management. It calls attention to the role of indigenous women in nurturing and sustaining natural resources. Data for this study were collected through key informant interviews, group discussions and field observations. Members of the community including local authorities are all participants in the study.

Dien Ma Thi, an 81 year-old Tay woman who is regarded as a historical witness by the villagers, is a key informant for this study. For accumulating valuable historical information and for being an active member of her community, she is the most reliable source of information in the village. In addition to her farming, she has taken part in social activities and organizations like the Women's Union and the Community's Board of Governors. Great-grandmother Dien is also recognized by the whole community for her work in forest protection, like recovering the village's forest and educating and encouraging different generations to join hands in protecting these valuable forests. Owing to all the efforts of Binh Son villagers, most of which are attributed to Great-grandmother Dien, the forests in Binh Son have regenerated. Now, these forests provide resources and opportunities to the villagers. In addition to the information provided by Dien Ma Thi, other information on the roles of women in forest protection and on customary knowledge passed from generation to generation were supplied by commune and village officials and local people, particularly other women.

Value of Forests to Bihn Son Villagers

Great-grandmother Dien recalled that when she was young, forests in her village were dense with many types of trees like *Markhamia stipulate*, *Erythrophloeum fordii*, *Madhuca pasquieri*, *Vatica odorata*, *Shoera chinensis*, etc. In rocky forests, there were *Burretiodendron hsienmu* trees which were very large ones; three people's hands cannot cover a single trunk. Beneath the forests' canopies were dried, fallen leaves; fertilized and damp land; and dense vegetation cover. There were also a variety of forest by-products like *neohouzeauas*,¹ which were as big as a human's calf, rattan which were several meters in length, etc. Many types of birds and animals such as jungle cocks, pheasants, crows, white storks, hawks, tigers, leopards, stags, monkeys, boars, and chamois were also found in the forest. Throughout the year, water ran from forests to streams but flooding never happened.

When asked about the significance of the forest in the past, both in her personal life and in the life of the entire community, Great-grandmother Dien said that forests provided land for slash-and-burn farms and hillside plots where maize, potato and cassava were grown and where cattle and poultry were raised. Forests provided wood, bamboo and neohouzeaua for house building and fire wood for cooking and keeping warm. Forests also provided Chinese Yam, Dioscoreales, bamboo shoot, honey, among others, in addition to precious plants like Amomum, Yen Mat, Ba Kich, Thien Nien Kien, Ha Thu O, Cay Xam, Cay Gio, Tam Gui, Ngai Cuu, Khuc Khac, Bach Bo, Canh Trau, Kin Ninh, and Linh Chi mushroom which were all used to maintain health and to cure illnesses. She said further that forests provided water for people's domestic use, livestock breeding and agricultural production. At that time, she added, the forests regulated the amount of water flow so there were no incidents of erosion, landslide, washout,

and flash flooding. Great-grandmother Dien further affirmed the pivotal role of forests in human life when she related that in the years of 1945 and 1946, there was a rampant starvation in the area. People living in Thai Binh and Hai Duong—two provinces located in the delta—would have perished if not for the foodstuffs like Yam, Brown tuber, Arrow-root, and others, which they got from the forests. According to Great-grandmother Dien, indigenous residents in these places have lived depending on the forests and they earned a living from the forests, too. The details of activities involving forests that Great-grandmother Dien and her community did in the past are listed in Table 1.

Information in the table reveals that throughout the year, women have more activities related to the forest compared to men. Young females aged 12 to 13 help pasture cattle in the forests while those who are aged 14-15 help their parents grow maize and other crops in slope lands.

Table 1. Shared work and responsibilities among men and women in the forest of Binh Son

	Activities in the forest	Time (Lunar Calendar)	Doer
1	Wood collecting	Whole year	Female
2	Gathering rattan to build garden	September to December	Female
3	Collecting banana trees and other forest vegetables for pig raising	Whole year	Female
4	Collecting bamboo shoot <ul style="list-style-type: none"> • “Vau” bamboo shoot • “Nua” bamboo shoot 	January-February April- August	Female
5	Cultivation in slope land <ul style="list-style-type: none"> • Land preparation • Planting, seed sowing • Harvesting 	November- December (previous year) January-February (next year) May-June (next year)	Female
6	Collecting Heo, Song, May (rattan), Medicinal Plant	Whole year	Female + children
7	Cattle Pasturing	Whole year	Female + children + Male
8	Chopping wood for building a house	July- December	Male
9	Collecting mushrooms	February-March (if weather conditions allow the growth of mushrooms)	Male
10	Collecting honey	May-June	Male

The forests have not only provided water and food for the community; they have also hosted the spiritual activities of the residents. They have served as venue for the community's festivals held annually. In January, the villagers organize the folk festivals in Khau Xa Lau jungle to honor the village patron who sacrificed his whole life for good weather, good crops and peace in the village. When beginning a new crop cycle, the villagers always organize the Long Tong and Ky Yen festivals to prevent rice and other plants from diseases. Together with prayers and offerings, traditional games are also done in these festivals. Examples of these games are Tung Con (throwing a ball around) and Ca Kheo (walking on stilts). Traditional songs like Luon and Si are likewise sung on these events. Female members of the community like Great-grandmother Dien are often the main organizers of these festivals. Many festivals and customs, however, were abandoned because in the 1970s, movements that want to abolish superstitions began to appear. These movements since that time have pointed out that the difference between superstition and cultural belief is ambiguous.

The following information reveals different behaviors of local people toward the forests in different periods of time. In Binh Son village in the past, forests were mainly forests of high trees which were rich and had multiple canopies. Inside the forests were a lot of big trees, value timber trees, animals and insects of all types. The forests were protected and maintained by the villagers in order to exploit a few products which were just enough to meet the daily needs of a household. At that time, extraction of forest products for profit did not exist. Regrettably, forests were later destroyed due to necessities and shift to cash economy. To arrest the results of deforestation, a reforestation campaign was introduced.

As a result, forests in the village mainly belong to the following types:

- Forests of high trees which are often watershed areas—these are few and distant from the village;
- Post-exploited regenerated forests;
- Bare and clear land after farming activities;
- Forests having only one type of trees like Acacia or Eucalyptus.

The roles of women and the whole community to each type of forest are as follows:

- Supervise the implementation of community forest management conventions on watershed forests;
- Maintain zones for protection, improvement and natural regeneration of regenerated forests;
- Care and protect terrace fields after cropping to facilitate recovery process;
- Improve newly planted forests by intercropping different species or indigenous timber trees and short-term wood trees;
- Diversify forest resources by not planting an area with Acacia or Eucalyptus only. Instead, enable a forest with mixed species by planting indigenous trees with other types.

Indigenous Women's Traditional Knowledge and Practices on Forest Management

In order to maintain natural forests in the village, local people, including Great-grandmother Dien, applied traditional knowledge in formulating and implementing community regulations. These regulations have strongly affected the processes of utilization and natural resources management of the community.

An example of a regulation in the community is the restriction of agricultural activities in forests with traditional names like Khau Khuyen and Xa Lau. Local people are allowed to do farming work around the foot of the mountains, but they are not allowed to chop down specific trees like the four varieties of iron wood with the local names: Dinh, Lim, Lat and Nghien for purposes of building houses. Anybody in the village who violates this regulation is given sanctions because residents are only allowed to gather low quality wood, fire woods and dried branches from these areas.

Although there are no written regulations about the utilization of forest by-products like honey, Jew's ears, mushroom and other medicinal plants, it has always been the practice of residents to use these products for daily domestic purposes not for commercial ones. Knowledge on the safe harvest and utilization of these by-products which has been derived from years of experience are disseminated and passed from generation to generation.

In the past 50 years, policies and practices on the use, protection and management of the forests have dramatically changed. Prior to the 1980s, the State advocated the establishment of state-owned forest plantations by assigning citizens with the duty of planting trees and by allowing them to use wood or fire wood but only within a given quota. The state-owned forests, however, were exploited by the State and private groups supposedly for national development. As a consequence, a large number of timber was extracted for sale and this led to the serious destruction of the forests especially because small trees were crushed in the process of chopping down big trees.

Moreover, some types of trees that grew naturally in the forests were cleared in order to be replaced with Mo and Keo trees whose better wood quality and shorter growth time spelled further and immediate profit. However, precious trees like Nghien, Trai, Ly, Lat, etc. were still cut for timber so the Binh Son forests

which used to be vast and diverse were destroyed. Another cause of deforestation is the clearing of a large area of forests by indigenous peoples for farming purposes. They said they had to do this because of difficulties in earning an income. While all these were happening, the number and salary of state officials specializing in forest protection and development (like forestry rangers) also increased.

The lives of Binh Son people were threatened by all the negative impacts of deforestation, particularly the prevalent cases of drought and water shortage. Great-grandmother Dien, together with other leaders and residents, gathered to discuss solutions and they decided to classify forest areas according to their use and value and create regulations on the use and protection of each forest category. In determining the classification and purpose of the individual forest areas, the village members took into consideration both state laws and customary rules. For instance, they identified categories like forest for watershed, forest for resources collection and forest for sacred activities.

In the first village convention conducted by the residents in 2001, the issues on biodiversity and water management were considered as the first priorities. In 2006, the regulations made in the earlier village convention were amended in order for the village to create stricter provisions by including more customary laws. All people in the village were unanimous and determined in implementing the revised rules. The provisions made in the village conventions were firm legal grounds in raising the villagers' awareness about protection, care and management of the forest.

Since then, the status of the forests has improved significantly. The forest has been better managed; trees have not been indiscriminately chopped down; the sloping land cultivation system has declined and illegal animal hunting has decreased. As a result, the forest in Binh Son village has regenerated and safe water has been available for the villagers.

Aside from the cooperation of villagers themselves, the experience, knowledge and devotion of Great-grandmother Dien account for the regeneration of the forests. Hers is a life dedicated to the protection of forests according to customary principles of diversity, respect and sustainability. She said that a healthy forest is one which has many types of flora and fauna such as: timber trees, medicinal plants, a variety of birds and animals. Below the trees' branches are fertilized, damp layers of soil. She also said, that caring, protecting and maintaining forests mean applying ways that do not impoverish forests. Instead, these ways should allow forests to naturally regenerate. She believes that sustainable development of forests can be maintained through the application of sound traditional knowledge to current situations.

The following list reflects the traditional ways of forest protection as enumerated by Great-grandmother Dien:

- Avoid indiscriminate use of forest resources. For instance, do not exploit trees that are blossoming and do not chop off the entire tree;
- Do not log precious timber trees;
- Use manual methods of chopping down trees like using axes, knives and saws. By doing that, saplings are not harmed therefore erosion and washout can be prevented;
- Use dried branches instead of chopping off small and fresh ones;
- Chop nehouzeaua for house building during the dry season to avoid worms, but avoid doing this from May to August when nehouzeaua are in blossom in order not to harm the forests;
- Bring along dogs and a small group of people for company when hunting and use wooden bells instead of guns to drive animals away. In this way, only weak animals are caught;

- In sloping land cultivation, just chop bushes, convolves and low-economic value trees and maintain perennial trees like Tram, Gie, Khao;
- In sloping lands, just apply traditional techniques in growing rice and maize like using sticks to make a hole and then putting the seed in. Lands can be protected from erosion by this technique, unlike when plough is used. After 2-3 harvests, abandon these lands for 3-4 years so that they can recover and other natural trees can grow on them.

In the opinion of Great-grandmother Dien and other Binh Son women, the following activities can harm the forests:

- Burning forests that can destroy many kinds of trees as well as the vegetation covers;
- Chopping both big and small trees lead to the disappearance of various types of trees, especially value timber ones that have been sold to Chinese traders;
- Burning forests for farming purposes or growing industrial trees;
- Turning forest lands into ponds for aquaculture;
- Hunting wild animals like tigers, monkeys, scaly ant-eaters, etc. in the forests for sale to Chinese traders;
- Building roads or hydropower stations that reduce the forest land areas.

These following traditional activities are thought to be seriously destroying the forests and therefore must be stopped:

- Burning and clearing forests of high trees and regenerated forests for farming;
- Burning chopped dried big and small trees;
- Using fire in the forests during the dry season. This is considered as the biggest threat to the forests because it may cause forest fire, although not intended.

Women's Involvement in Forest Governance

In addition to experience and traditional knowledge, Great-grandmother Dien and other women villagers are also aware of the main points (though not the details) of some laws and government programs in promoting villagers' participation in solving problems related to the forest. Great-grandmother Dien told us that she heard, but did not fully understand in detail, the Land Protection and Forest Development Law. Despite this, she and other women understand that in terms of rights, the households can be allocated with forest land and given a certificate.

In the village, almost all households have been allocated with forest land but only a few get the certificate now. The women also knew about the government forest plantation programs such as Program 327² and Program 661³ to encourage the villagers to plant trees in the forest and in vacant lands. In Great-grandmother Dien's opinion, the natural forest is better in terms of ecosystem than the monoculture forest (where only one type of tree is propagated) that is being promoted by Program 661. She said "the more monoculture forest, the less water for life and farming."

The Bihn Son community set up village conventions as mentioned above to manage forest and forest resources. The convention undertaken by the community consists of articles that specifically stated regulations for forest management. For example, article 7 indicates that "watershed and forest of high trees need to be protected to regulate water and to protect biological diversity" that is why "chopping down trees with more than 10 centimeters in diameter is not allowed when clearing forest for cultivation." Article 8 states that villagers must "plant the forest with diverse vegetation to protect forest and water source." There are also regulations on protecting water sources like "no villagers are allowed to conduct any activity at Ro Khon Forest" because this area is a watershed for the whole village.

Fines for certain offenses are also identified according to gravity of the offense, for example, VND10,000 fine for cutting down any young tree and VND30,000 fine for cutting down a tree with dimension of more than 10 centimeters. A serious offense, like violation of the provisions of the convention several times, is given an equally serious penalty which is exclusion from the village association.

In the process of setting up regulations to protect the forest, Great-grandmother Dien herself and other women actively participated in the whole process. They have equal rights with men in formulating, monitoring and implementing the provisions of the convention. One hundred per cent of the participants in this research said that women actively participate in most of the village's meetings. In fact, they say that women have more initiatives than men. All the suggestions from women were recognized by the community and these were added in the convention. The women participants said further that they involve in forest management affairs because they have a very sound understanding of the forests; in the family, women work more in the forest to get an income compared to men. Accounts also indicate that women monitored the forests more effectively than men; for instance, they discovered, reported and prevented cases of illegal forest activities. Having witnessed many violations, the same women proposed more serious penalties for people who committed violations. Women also consciously promote and pass on traditional knowledge for forest protection to the next generations.

Issues and Challenges Pertaining to the Forest

Comparing forest conditions in the past and in the present, Great-grandmother Dien and other Binh Son women said that there is a significant change in forest lands. They said that deforestation is much more serious now, especially in the rocky mountain forest. They also mentioned that the number of forest products and resources such as precious medicinal herbs and bird species has diminished. They likewise observed that forest lands are exhausted and plants grow slowly because villagers replant forests mainly for economic purposes, not for recovering natural forest.

According to Great-grandmother Dien and community representatives, the reasons for deforestation and degradation are:

- Increase in population;
- Poverty;
- Development in construction, transportation, hydroelectric power;
- Insufficient government's policies;
- Overlapping or impractical government policies;
- Management of the main part of the protective forest and cultivating forest by the Protective Forest Management Board and Commune People's Committee even if these agencies are not capable of managing the forest effectively;
- Absence of a suitable method to encourage villagers' undivided involvement in protecting the forest;
- Limited capacity, enthusiasm or sincerity of some officers who are in charge of forest protection. Some of these officers take advantage of gaps in laws in order to exploit or sell forest products;

- Replacement of traditional practices in forest protection with other methods. For example, people before cut down trees by knife, axe, hand saw and these are transported by buffalo; nowadays, people cut trees by electronic saws and are transported by cars or electronic cart. Therefore, the speed of deforestation is higher. Also, instead of just digging a small hole for the seed as villagers did before, villagers nowadays plough over the land and this causes a faster rate of land erosion. Furthermore, people now use too much chemical fertilizers and weed killers which cause damage to forest ecosystem;
- Building of hydroelectric plants and roads;
- Exploitation of minerals.

The community currently faces many urgent issues related to the forest. These are:

- Many households are not yet provided with land use certifications for their land and forest usage;
- There is conflict over land ownership because the distribution of land is not equal among villagers;
- Illegal deforestation increased and it seems that it will become more complicated;
- The young generations do not pay much attention to forest protection; in reality, they are the main labor force hired for illegal wood and forest products transportation and they accept this work because other jobs pay lesser salaries or there are no other jobs available;
- The forest is being threatened both in terms of area and quality; forest fires happen more often and there is high incidence of unregulated exploitation and cutting down trees for cultivation;
- People cut down natural forests to plant species for economic purposes. As a result, entire forests are exploited

and this causes land erosion, land exhaustion and stunted growth of vegetation;

- Traditional knowledge in using forests is lost in oblivion. Customary law in forest protection lacks legal basis for effective implementation;
- Village and commune leaders, together with villagers and women, are not fully aware of laws related to forest and forest land protection.

When asked about climate change, Great-grandmother Dien, other women and villagers said they have some information on this through public communication channels such as radio and television, but they do not know specific causes of climate change. Despite this, they know how to recognize the manifestations of climate change in their hometown—irregular or extreme weather conditions like cold weathers or hails, frequent and lengthy droughts, and occurrence of floods and soil erosions which damage forest lands.

Indigenous Peoples' Initiatives in Protecting the Forest

To respond to the threats on the forests and on the villagers' life due to deforestation, villagers and officers of Binh Son village came up with certain initiatives like setting up a village convention for forest protection to identify local watersheds that need to be protected. Great-grandmother Dien and other women actively participated in the process of setting up the Convention and, more importantly, they showed their serious involvement by closely monitoring the implementation of the provisions. They have also fought many times to prevent or denounce violations. Great-grandmother Dien said that at one time when the General Secretary visited their village, she frankly reported her community's con-

cerns related to illegal forest exploitation which she thought were not being taken seriously.

Women themselves have abided by the convention provisions. They do not go to the forest to cut down tree for cultivation; they do not set fire on the forest; they do not enter the watershed or secondary forest to collect branches nor do they cut down live trees for firewood. When interviewed, Ms. Ma Thi Lan, Ma Thi Vinh, Ma thi Van, Ly Thi Thom, all said that the forest must still have a lot of trees if everyone observed the prohibitions like they do.

Aside from following restrictions, women also adopt other means of protecting the forest. To reduce pressure on the forest, for instance, women actively changed their cultivation habits. They plant two crops of water-rice instead of one crop; from planting maize on the terraced fields, they shifted to planting on low hills and in winter, they plant other crops in the rice fields.

Even in their daily life, women have many initiatives to protect the forests. For example, they teach their children and grandchildren about the impact of deforestation. Also, when a family in the village has a big event such as a wedding or a funeral, women encourage each family to contribute two bundles of firewood to the family holding the event. This arrangement helps in eliminating the need for the concerned family to collect a large quantity of firewood from live trees for the event.

Conclusion: Views About the Future and Some Recommendations

This study on the role of women in forest management in the village of Binh Son shows their active participation in conservation and management of this important resource. As exemplified by Great-grandmother Dien, women in the village have a clear

understanding of the dynamics of forest conservation—they know what practices contribute to a healthy forest, and what practices “impoverish” it. They are also actively involved in the decision making processes pertaining to forest protection, as well as in the implementation of community policies and conventions on forest management. In all these, the indigenous women of Binh Son believe that the sustainable development of forests is anchored through the sound application of traditional knowledge.

At the same time, Great-grandmother Dien and other Binh Son villagers think that if the forests continue to be unprotected in another 10 years, the natural forest area will become smaller and the quality of the forest resources will decrease, while forests newly planted with pure species will increase. She and other women in the village wish to recover natural forests because these provide them with diverse and precious resources.

In order to effectively deal with threats to the forest, Great-grandmother Dien and other Binh Son villagers forward the following recommendations:

- Hasten the process of issuing forest land-use certification to villagers and communities;
- Enhance laws and regulations related to forest management and protection in general, and to ethnic minority women in particular;
- Increase awareness on gender equality in property inheritance laws. In contrast to current practice where only the son has rights for inheritance, both son and daughter should have these rights of inheritance to parents’ properties including forests and forest lands;
- Use of traditional institutions, traditional knowledge and customary laws in managing the forests should be placed in writing in order for these to have legal bases;

- Older generations should pass on to younger generations their traditional knowledge and practical techniques in using and managing forests;
- Greater awareness on climate change and its causes, and the role of natural forests in adaptation and mitigation.

Endnotes

¹ A species of bamboo.

² Program 327 (1993-1998) was the program which was focused on re-greening barren land and hills, including protection of existing forest areas, natural regeneration and forest plantations. In 1994, the program was amended and its focus was shifted to forest protection in critical areas and areas where slash and burn cultivation persisted, mostly in the Northern and Central Highlands.

³ Five Million Hectare Reforestation Program (1998-2010). This program was born out of the adjusted objectives of the 327 program and this focused on the forestry sector in the last years of its duration. The emphasis was put on protection forest and special use forest land; it also included protection, regeneration, and re forestation activities. The shifting focus of Program 327 led to the formulation of the Five Million Hectare Reforestation Program (5MHRP). The 5MHRP was approved by the Parliament in 1997 and by the Prime Minister with Decision No. 661/QĐ-TT dated July 29 1998. The 5MHRP, which was carried out from 1998 to 2010, aimed to increase nationwide forest coverage up to 43% of the total land cover.

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INDIGENOUS WOMEN
AND FOREST
MANAGEMENT IN
YULONG COUNTY, CHINA:
THE CASE OF SHITOU
TOWNSHIP

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Profile of Shitou Township

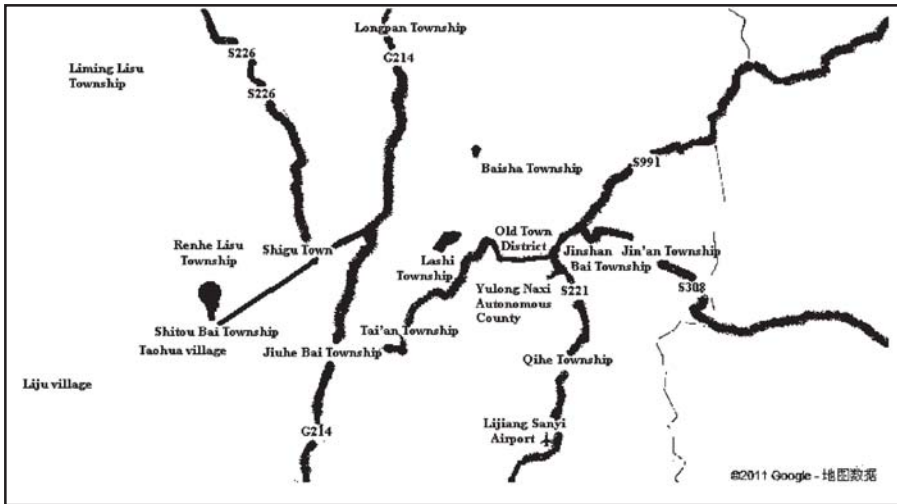
Yulong Naxi Autonomous County, which administers 16 townships, is located at the northwest of Lijiang City, Yunnan Province, China. Many indigenous peoples live in Yulong County, including, among others, the Naxi, Bai, Tibetan, Yi, Lisu, and Pumi. There are 118,474 Naxi people in Yulong County. This population accounts for 57.4 per cent of the total population of Yulong County. The Bai people have a population of 20,040 most of who are concentrated in Jiuhe Township and Shitou Township. Their number accounts for 10 per cent of the total population of Yulong County.

Shitou Bai Ethnic Township is located in a portion of Mt. Lao Junshan which is an important place because it is a part of the World Natural Heritage “Three Parallel Rivers” at the northwest of Yunnan. The east of Shitou is near Jiuhe Township and Shigu town. The west is next to Lanping county of Nujiang prefecture. The south is close to Jianchuan county of Dali prefecture while the north is adjacent to Liming Township. Shitou Township has an altitude of 1800 m to 4513 m above sea level.

In terms of terrain, the Shitou area is constituted by river valleys and mountains. Out of the 574 square kilometer total area of Shitou, 522 square kilometers are forests whose forest cover rate has reached 91 per cent. It is the biggest forest area and the best preserved vegetation in Lijiang.

There are five village committees in Shitou Township, namely: Shitou village, Sihua village, Taohua village, Lanxiang village and Liju village. The 9,422 people who live in this township occupy 2,562 households and they form 63 villagers' groups. The population includes indigenous peoples such as the Bai, Lisu, Naxi, Pumi and Yi. With a number accounting for 39.4 per cent of the population, the Bai people are the main indigenous peoples in Shitou Bai Ethnic Township.

Map of part of Yulong County including Shitou Township.



Nowadays, young women in Shitou Township prefer to work in the city. They likewise choose to get married to men from other places and move there rather than stay to farm in this rural area. Moreover, Chinese rural birth control policy gives preferential insurance for a family with two daughters or a family with one child in order to reduce rural medical service. Many of the indigenous couples in Shitou have one child.

Since 2009, the Yulong Women's Federation has provided an SPPA micro-credit program to encourage women to establish a business. Women can get a maximum of CNY50,000 together with

business-starting service and other supportive measures such as reduction in tax and dues. Until 2010, there have been three women who started their own business through the SPPA micro-credit program.

Agriculture and Forestry Activities

Shitou Township is abundant in forest and natural resources. The forestland accounts for 91 per cent of the total township area. With a timber accumulation of 480,000 cubic meters, this township is one of the primary forestlands of Yulong County. Forests such as the Ninety Nine Dragon Lake and the Liju Golden Monkey Reserve are some of the scenic regions of Mt. Lao Junshan which are also significant parts of the World Natural Heritage “Three Parallel Rivers.”

The Shitou area is rich in mineral resources such as gold, copper, iron, crystal and granite in addition to other natural resources like rare and endangered species of flora and fauna, for example: the golden monkey, azalea and mushrooms like Bolete, Matsutake, *Tricholoma matsutake*, *Collybia albuminosa*, among others. The forest products that have economic value are peach, plum, pear, apple, persimmon, pepper, garlic, Chinese chestnut, greengage, walnut, high mountain herbs, and others.

The cultivated area of Shitou is less with a total of 11,174 Mu¹ and 1.23 Mu per capita. At this time, the plain areas of Shitou are mainly planted with cured tobacco, paddy, wheat, and corn while the mountainous areas are planted with kidney beans, buckwheat, potato, and indigenous herbs if not used for livestock husbandry. The staple crops in Shitou are: paddy, cured tobacco, corn, wheat, rapeseed plant, potato, etc.

The Taohua village of Shitou Township has been famous for its rich forest resources. Out of its 120,265 Mu of forestland, 739 Mu is economic forestland. There was a logging factory in Taohua village before, hence at that time, the sale of timber was the main source of income for villagers.

When the Chinese government launched a Natural Forest Protection Program² (NFPP) in 1998, villagers were forbidden to extract and sell timber so they shifted their livelihood, planting kidney beans and cured tobacco.

As for indigenous women, their traditional forest activities such as gathering of fuel and manure were unaffected by the NFPP. In 2007, the Asia Green Culture Association (AGA) named Taohua village as the 1st Forest Culture Village in China. This association mobilized a great number of indigenous peoples to plant trees on Tree Planting Days and it disseminated information on sustainable development. These activities heightened the people's consciousness for forest conservation.



Forest Culture Village Signboard.



Full view of Taohua village.

Women's Role in Traditional Forest Management

Women play a central role in providing the family's nutrition, health and income needs through indigenous agriculture, in addition to collecting firewood, carrying pine leaves, collecting mushrooms, gathering natural medicine products from forests and converting natural resources to products for sale in local markets. Women in the village like selling expensive mushrooms such as *Tricholoma matsutake*, oyster mushroom and bolete. They do not have local customary laws to follow in doing these activities.

There are more than 250 herbal plants in common use in the Shitou area. Indigenous women are not healers but they have knowledge about herbal remedies passed to them by their parents or neighbors. For example, they know appropriate herbs to cure com-

mon illnesses like flu, indigestion, loose bowel, and sore throat. Women also know about suitable plants for livestock's disease as well as which distiller's yeast is best for brewing wine.



Indigenous woman of Sihua village carries sunflowers.

Indigenous women are familiar with local natural environment and environmental change; for example, which tree can be used as fuel, which place abounds with mushrooms, what season specific plants can be expected, and so on. The Slight Spring and Great Spring are the two main seasons for local farming in Taohua village. During Slight Spring, villagers start sowing and they harvest between September and May in the lunar calendar. People plant wheat, barley, broad bean, pea, potato, rapeseed, etc. On Great Spring, villagers primarily plant paddy, corn and soybean.



Walnut trees in the Forest of Shitou Township.

Indigenous women are the major transmitters of traditional forest conservation knowledge. Besides planting trees on Tree Planting Days, they disseminate forest conservation ideas through indigenous folk songs and dances which they especially perform during the Local Spring Festival organized every year by the township or a separate village. The beautiful ethnic songs and dances that the indigenous women perform not only bring happiness to all villagers but also express their wishes for better a life.



Bai people of Taohua in a performance.

Ms. Liu

'I was born in Taohua village. I am 56 years old. I have two children who earned undergraduate degrees and are now working as civil servants. I have been the Taohua village women's director from 1984 to 2005. My job has been primarily to meet women group leaders and disseminate national policies such as child policy, etc. In the beginning, there was no compensation for this position. It was only in 1991 when I started to receive some allowance as women's director. I am not well educated, but I am good at writing and singing songs. I wrote the words and music of the folk song "Protecting Ecosystems" in 2006 to welcome The Nature Conservancy's (TNC) biodiversity project in Liju village. I like teaching local women to sing the song that I wrote. Due to its nice rhythm and easy words, over 50 women and many little children can sing this song by learning it from each other. Protecting our forest is not only for us but also for our next generation.'



Ms. Liu, the writer of "Protecting Ecosystems."

Folk Song: Protecting Ecosystems (*Baohu Shengtai*).

Chinese Title: <i>Baohu shengtai</i>	English Title: <i>Protecting ecosystems</i>
<p>Baohu Shengtai, Zhen'ai women de jiayuan, Shouxian ganbu yao daitou, Renmin qunzhong genzhe zou.</p>	<p>Protecting ecosystems, Cherishing our homes, Leaders first should play a leading role in obeying rules, The people would follow the leaders.</p>
<p>Baohu Shengtai, Nannv laoshao qi dongyuan, Jinhou fazhan lvyouye, Renmin Shenghuo da tigao.</p>	<p>Protecting ecosystems, Men and women, the old and young will mobilize together, Developing tourism in the future, People's life will be improved enormously.</p>
<p>Baohu Shengtai, Women funv yao daitou, Funv zhan le banbiantian, Tuanjie jiushi liliang.</p>	<p>Protecting ecosystems, Our women should play a leading role, Women have held up half the sky, Solidarity means strength.</p>
<p>Baohu Shengtai, Qingnian nannv yao daitou, Jinhou xiangshou xiayidai, Women yao zhenxi.</p>	<p>Protecting ecosystems, Young men and women play a leading role, Our next generation will benefit, We should cherish.</p>
<p>Baohu shengtai, Guojia zhengce zhixing hao, Dang de zhengce shizai hao, Renmin xin xiang dang.</p>	<p>Protecting ecosystems, The national policies are implemented, The Communist policies are pretty good, People's hearts go to the Communist Party.</p>
<p>Baohu shengtai, Renren dou you ze, Xiwang jintian huiqi hou, Gege cunshu xuanchuan hao.</p>	<p>Protecting ecosystems, Everybody has responsibility, When we get back today, Each village must disseminate information well.</p>
<p>Baohu shengtai, Ding ya ding guagua, Tongxintongde ben xiaokang, Le ya le wanjia.</p>	<p>Protecting ecosystems, Fabulous, fabulous, People with one heart and one mind run well-off life, Happy thousands of family.</p>

Indigenous women feel climate change based on crop growth. One woman said that her family planted three Mu of walnut trees but some of these died due to drought in recent years. Her family plans to purchase a water pump this year for even though every household has tap water for daily use, women have to find irrigation water during dry season.

Indigenous women have specific cultural beliefs related to the forest. The Naxi people hold several rituals in the forest like sacrifice to heaven and sacrifice to nature god (*Shu*). In Naxi peoples' cosmology, the world is mastered by human being (*Cong*) and nature god (*Shu*). Human being administers crops and live-stock while *Shu* administers forest, river, lake and all wild animals. Human being and *Shu* are half-brothers so human being and nature should be harmonious (Li Guowen 1991).

The Xiyan village group of Taohua village is a pure Naxi village. Until now, the residents perform sacrifices to heaven during Spring Festival, usually on the 10th and 11th day of January in the lunar calendar. Every family clan of Xiyan village has a sacred altar in the forest for the ritual of sacrifice to heaven. They insert two oaks and one cypress in the sacred altar at the beginning of the sacrifice to heaven ritual. These items symbolize the heavenly father, heavenly mother and heavenly mother's brother. Green pine needles are then sprinkled on the sacred site and Dongba priests chant Dongba scriptures during the ritual process. After finishing the ritual procedures, family clan members have a picnic in the activity place near the sacrifice site. In the past, Naxi women were not allowed to participate in ritual. Now, however, traditional ideas change so Naxi women can participate in the ritual although they cannot enter the sacred altar.

For their part, the Bai people worship the Benzhu God who is considered as the guardian of the village. On the 1st and 15th day in every lunar month, old Bai women of Taohua village go to the Benzhu temple to ask for blessing. In the old days, however, there

was no Benzhu temple in Taohua village so the Bai people at that time went to the forest to offer sacrifices to a consecrated big tree which was regarded as the village guardian god. They did this also on the 1st and 15th day in every lunar month especially in January. For the offerings, women prepare one piece of fat, one egg, one bowl of rice, one piece of tofu, fried bean starch noodle, fried five-color sheet jelly and fried glutinous pastry, three incenses, one glass of boiling tea, and one glass of white wine. Moreover, the offerings also include one bowl of five cereals (rice, barley, wheat, corn, and soybean) with a little salt. People select one clean stone or tile then dip this in clean water mixed with *Artemisia stelleriana*³ to remove dirt. Afterwards all sacrifice offerings are placed on the stone or tile. This is an ancient Benzhu worship practice done by the Bai people in Taohua village.

Gender Division of Labor in Agricultural and Forest Activities

Even though villagers of Shitou believe in the common saying, “living from what the mountain and forest can give,” indigenous women and men play different roles in forestry and family life due to the entrenched notion of “breadwinning men and homemaking women.” Until now, this traditional notion on gender role prevails.

Although indigenous men and women both undertake agricultural and forest activities, women take on the additional burden of doing all housework.

Every day, women pay attention to domestic work which include cooking food, cleaning bowls, washing clothes, carrying dry pine leaves, collecting dry firewood, feeding animals, gathering animal manure and looking after the elders and children. For their

part, men try to find other jobs like bricklaying, carpentry and stonemasonry and they take charge of occasional family work such as building a house, butchering livestock, etc.

Distinction in the roles of men and women can first be illustrated in the delegation of tasks in agricultural activities like the cultivation of cured tobacco, which is the primary economic crop in Shitou. Usually men are in charge of plowing, covering soil with plastic film, curing tobacco leaves, categorizing different levels of tobacco leaves and selling the tobacco leaves. On the other hand, women are responsible for weeding, applying fertilizers, spraying pesticides, picking and weaving tobacco leaves.

The second illustration of difference in the roles of men and women is the varied distribution of decision making rights to each gender. Indigenous men and women make joint decisions on family and farming affairs, but the degree of decision making rights is not the same. Men decide on crops to be planted and the means of making them productive; they decide on the purchase or sale of livestock and they likewise decide which home appliance the family buys. On the other hand, women decide on daily domestic expenses and on the sale of secondary agricultural products such as walnuts, Chinese chestnut and fruits.

The difference in men and women's reliance on and utilization of the forest is the third manifestation of gender disparity in Shitou. Agriculture is the first income source in the Shitou area; livestock husbandry is the second while forestry is simply a supplementary source of income.

Women spend most of their time in farming activities, but they also get firewood, fodder and wild food from the forest and take part in forest productive activities in specific seasons. For instance, they gather wild fern and vegetable in spring, mushroom in summer, and bush firewood and pine needles in winter. They pay attention to forest resources in relation to family needs and sustenance. For example, they gather tree branches for firewood,

leaves for animal feeds, mushrooms, bamboo shoots, wild herbs and fruits for variety and enrichment of diet for the family.

Men, on the other hand, pay more attention to the income which may be derived from planting trees. They plant walnut trees, green plum trees, Chinese chestnut trees, and pepper around their houses or in the fertilizer source forest. Walnut has become the most important economic forest product in the rural villages of Lijiang due to its sustainability and potential for good income. Indigenous peoples plant walnut trees in moist fields such as those near a ditch or ridge. One variety of walnut trees can bear walnut fruits after seven years of cultivation and it stays alive for at least 30 years. Even the process involved in harvesting walnuts in September shows how men and women take on different roles. Men are responsible for hitting the walnuts while women peel off the walnut shells and sell the nuts later (Table 1).

Table 1. The season calendar of indigenous women in Shitou Township

Month	Indigenous women's farming and forest activities in the Shitou area
January	Plant herbal medicine, carry pine needles, gather firewood
February	Plant herbal medicine, carry pine needles, plant corn, gather firewood
March	Plant herbal medicine, carry pine needles, plant corn, gather firewood
April	Plant potato, plant corn, plant cured tobacco, harvest broad bean, pick wild vegetables
May	Plant cured tobacco, pick wild vegetables, harvest barley, harvest wheat, harvest rapeseeds, pick wild vegetables
June	Plant white kidney bean
July	Plant trees, e.g., Chinese chestnut, walnut, gather mushroom, process flue-cured tobacco
August	Harvest pepper, gather mushroom, process flue-cured tobacco
September	Harvest corn, harvest paddy, gather mushroom, harvest herbal medicine
October	Harvest white kidney bean, reap potato, harvest herbal medicine
November	Harvest herbal medicine, plant barley, plant wheat, plant rape, carry pine needles
December	Carry pine needles, gather firewood



Newly cured tobacco field of Shitou.



Flue-cured tobacco.

The Current Situation of Indigenous Women and Participation in Forest Management

A large number of indigenous women take part in forest activities but these women have low level of participation in forest management.

The forests in Taohua village are divided into the following six categories according to function: protection forest, ornamental forest, water source forest, commercial forest, fertilizer source forest and firewood forest (Table 2).

Every family's forestland has been composed of the above six categories after the Forest Tenure Reform in 2008. This provided some relief for women, as seen in Ms. Duan's story.

Ms. Duan

'We use dry corn stalk and dry pine leaves to fill up piggery and livestock stables. Women's main work in winter is carrying pine leaves because pine leaves get dry in winter. In the old days, I was often too tired to get up early in freezing winter, but I had to because many women picked up dry pine leaves in the same mountain so each one of us strived to be the first. If I got there late, nothing would be left for me. In those days, I spent three months to do this work, but the situation got better after the Forest Tenure Reform in 2008. The village decided that pine leaves could be gathered in individual household's fertilizer source forest. Soon women were relieved from this heavy burden. Now I need not compete to pick up pine leaves so I can sleep a little bit longer in the morning. Pine leaves are there; I can carry them at any time, even in the afternoon. Nowadays, I can finish carrying pine leaves in one month at most.'

Table 2. Forest categories and their corresponding management in Taohua Village, Yulong County

Categories of forest in Taohua village	Location	Vegetation Form	Utilization and Management
Protection forest	Behind the village or alongside the village road.	robur, <i>Pinus yunnanensis</i>	Cutting is forbidden to prevent the loosening of soil and mud-rock flow.
Ornamental forest	At the entrance of village.	ancient pines, <i>Castanopsis delavayi</i> , ancient precious trees	Cutting is not allowed.
Water source forest	At the village water supply area, depends on how far water-head area is.	robur, <i>Pinus yunnanensis</i>	Cutting is forbidden to protect water source area.
Commercial forest	The farthest from villagers' houses.	<i>Pinus yunnanensis</i>	Cutting timber in a family's own forestland is allowed for building a house but cutting license must be secured.
Fertilizer source forest	Near family houses, back mountain.	<i>Pinus yunnanensis</i>	indigenous women gather pine needle leaves to pile up manure.
Firewood forest	On spinney mountain, between fertilizer source forest and commercial forest.	non- <i>Pinus yunnanensis</i> growth, miscellaneous trees	Indigenous men and men prune and cut tree branches for firewood, f cutting big woods is prohibited.

Even though Chinese laws at different levels state that women have equal rights with men in all spheres of social life, indigenous women are still in a disadvantaged position.

Article 48 of the Constitution of the People's Republic of China stipulates that women enjoy equal rights with men in political, economic, cultural and social spheres. The constitution also provides that the State protects the rights and interests of women, applies the principle of equal pay for equal work among men and women, and trains and selects cadres from among women too. In addition, Article 22 of the Law of the PRC on Regional National Autonomy stipulates that the organs of self-government of national autonomous areas shall pay attention to the training of cadres at various levels and to the training of specialized and technical personnel of various kinds from among women of minority groups. Furthermore, Article 18 of the Autonomous Regulation of Yulong Naxi Autonomous County in Yunnan Province stipulates that the organ of self-government of an autonomous county shall select, train, and employ different cadres of various ethnic minorities. The same article says that in the selection of specialized and technical personnel of various kinds, more attention should be given to women cadres.

These provisions all indicate that women may participate in decision making and management in the Plan for the Development of Yulong Women (2003-2010), but in fact, women are restricted in the process of formulation, planning and implementation of policies. Although article 26 of the Autonomous Regulation of Yulong Naxi Autonomous County in Yunnan Province stipulates various terms of protecting local forest, there is no system that guarantees indigenous women's participation in forest management.

Forest administration departments ignore women issues by not including these issues in their agenda on forest management and resources utilization. Indigenous women themselves cannot ini-

tiate participation in forest management because many of them have little consciousness on the matter due to low level of education or lack of information and training opportunities.

Indigenous women are not only uninvolved or uninterested in forest management; they are also marginalized in village management affairs. There are only two ways by which women may participate in village management at present. One is through primarily village autonomy while the other is election of village committee members.

The Village Communist Party branch and village committee are the highest authorities at the rural village level of China. Taohua village has one Communist Party branch which supervises 12 Party groups. There are 82 male Communist members and 25 female Communist members while there are 90 ethnic minority Communist members. Four staff members compose the Taohua village committee. These are: the village director, vice director, Communist Party Branch secretary, and deputy secretary of the Communist Party Branch. All these positions are occupied by men. Though there is a woman director at village level in Taohua village who is responsible for child policy and publicity work, she does not belong to the formal village committee staff. Though every village group has a woman group leader, the male leaders are the ones who are generally responsible for strategic planning while the women leaders are primarily responsible for the dissemination of information on family birth control and other publicity work.

During my visit, I observed that male villagers usually attended meetings with the village committee or village groups. On the other hand, most women never attended village meetings, or in rare occasions when a few of them did, they did not speak in the meeting just the same. When asked why this happens, some women said that nobody cares about the opinion of women. They claimed that even if they expressed their ideas, these are considered to be useless anyway.

This situation seems to show that women themselves, to some extent, have given up on their right of discourse in the decision-making process at the village level. Rendered as mere spectators, women have little influence on village management.

When the Wangsanping village group of Taohua village formulated the Forest Protection Regulation in 2008, it was decided that among other provisions, the Regulation shall include a series of punishment articles and forest fire prevention rules. However, the provisions of the Regulation do not mention about women's responsibilities in these forest management affairs. Despite their apparent exclusion from the Regulation, local women endorsed its provisions. They seem to take for granted that forest affairs are men's business from the past until the present.

Indigenous women's participation in forest management is also largely determined, not to say restricted, by village rules. These village rules are means of village autonomy from government interference and are crucial to local village management. Even though national law states that men and women have the same rights in property ownership, women actually have unequal share in properties such as land and cash. This is because household land is contracted under the village collective control based on collective ownership of land as provided by the Rural Household Contract Management Policy. Forest Tenure Reform⁴ in rural China began in the early 1980s when agricultural land tenure reform was being implemented across China. The essential element of the tenure reform, in both agriculture and in forestry, was to give farmers user rights on collectively-owned land.

As for agricultural and forest resources in indigenous village levels, indigenous couples who married and had children after the Land Contract Home in 1980 experienced some restrictions. The wife and daughter did not have land rights to use private plot and private hilly land. Though these women got rights to use resources

through relationship with their husband, father or brother, they still did not have rights to control resources.

In July 2008, China launched a reform program which introduced a household contract system in the management of collective forestland and ownership of wood. This was done in order to give land use rights to farmers and to authorize legal right to use forest resources through the issuance of a Forest Ownership Certification.

In this arrangement, the production and management of forest land is entrusted to farmers through 70-year contracts. The contents of a Forest Ownership Certification aim to identify the holder and specific location of every household's forestland holdings.

For instance, Mr. Liu is a peasant of Taohua village. His family's Forest Ownership Certification illustrates that the forestland ownership holder is Taohua village collective, but the forest or woods ownership holder is Mr. Liu himself. As in the case of Mr. Liu, the husband or father is the head of the household so he is the holder of the Forest Ownership Certification.

Because the household is the unit used as basis for distribution of forestland, the holder has rights to allocate the family's forestland to his family members. In this case, a single parent, especially a woman who has children but who has no husband, cannot acquire a Forest Ownership Certification. If a couple divorced, the husband holds the certification so the wife loses rights to use resources.

However, there are two cases when women can get the Forest Ownership Certification. One instance is when the husband dies; in this event, the wife can succeed her spouse as holder of the Forest Ownership Certification. The other case is when the husband has a formal job while the wife, who is an indigenous peasant, does not. In this case, the woman can be named as holder of the Certification.

In addition to the factors that condition women's role in forest management already pointed out above, the issue of climate change is also an important matter that needs to be discussed. Climate change has adverse environmental and socio-economic consequences. For instance, it causes low productivity in agriculture due to decline of land resources and heightened incidence of certain diseases in crops and livestock.

Residents in Shitou related that forest pests rarely occurred before. They too remembered that Yulong county has recently suffered from serious natural disasters like drought in the spring of 2010. The villagers think that incidents like this are due to degradation of forests. There was a large area of logging in Lijiang in the past so the trees of what used to be a pristine forest were extracted.

In recent years, new tree varieties such as *Davidia involucrate*, Yunnan Taxus and torreya were introduced in the Shitou area and these have been planted to replace trees that were logged. However, the leaves of these new tree species are combustible so they are vulnerable to fire which may be ignited by lightning or careless practices of peasants such as burning trash. In fact, a serious forest fire happened in February 28, 2011. When disasters like forest fires happen, indigenous women's gathering of food, fuel and herbs in the forest is disrupted and this results to disturbance in their domestic routines and other social activities.

Women face the constraints of lack in capacity and resources, such as technological support, in confronting the challenges of climate change. For instance, the traditional agricultural activities etched in their calendar, which they have followed through time, have to be adjusted or modified according to the changes in climate. Now unsure of what the seasons bring, they need to anticipate possible problems by planting crops ahead of season or by changing what used to be set crops for a particular time.

Ms. Liu's story:

I belong to the indigenous Bai people of Taohua village. I am also a communist member of the same village. I am 38 years old with one son who is a high school student. Though the village committee formulated strict regulations to control logging, there was a logging concession in our village in 1998. I think the logging activities caused some mud and rock flows which occurred sometimes. The government therefore prohibited logging to avoid deforestation by formulating and implementing the Natural Forest Protection Program in 1998. In 2000, the government gave us economic tree seeds to plant. I understand that the forest is important to my family and to my village because it provides wood for building a house, it increases income and it protects water and soil. As with other villagers, my family's main source of income is sale of cured tobacco. We also planted walnut trees in our fertilizer source forest for five years.

In 2006, Taohua village officials called a meeting to disseminate the township's forestry policy and to formulate the village's forest regulation. Nearly 30 persons participated in that meeting, including village committee leaders, village communist members, forest rangers, forest administration members, village groups leaders, the elders and women messengers. I am both a woman messenger and a communist member. Even though five women, including myself, attended that meeting, most of us simply listened to discussions. In my understanding, it is not easy for women to become forest rangers and forest administration members due to their biological disadvantages compared to men. Though we have women messengers, their main responsibility is actually to disseminate policies on child care. Although only five women attended that meeting, many indigenous women took part in a cultural performance after the meeting.

The Forest Tenure Reform was not yet implemented in 2006 so I suggested that people could not cut trees in pine tree forests where women gather pine needles. The village collective or villager groups used to be the forest management unit in the past, but the situation changed after the Forest Tenure Reform in 2008. With this legislation, every family gained rights to deal with forest resources in their forestland.

There are some cultural practices and taboos in my village in relation to the forest. One practice is for every family to visit ancestors' graves

in the mountain twice a year, that is, during Spring Festival and Tomb-sweeping Day. When we visit our ancestors' graves, we first offer prayers by a sacred tree which we believe as the guardian of our ancestors' graves. We select that sacred tree which is usually a bulky pine tree near the graves of our clan members. We bring a big plate that contains offerings such as: fried sticky bun, fried sheet jelly, a glass of white wine, a glass of tea and several sticks of incense. We also burn paper money as sacrifice to the sacred tree. It is prohibited to cut the sacred trees around the graves of ancestors.

Another cultural practice in our village is the prohibition for every family member to go to the mountain when Spring Day begins. Everyone must stay home during this time. We also have another practice when Summer Day begins. On this occasion, we insert silver birch branches in our doors and sprinkle our kitchen and the entire house with ash in order to stop the devil from entering our house. We likewise insert green bur branches in the doors of our house and in our livestock sheds during the Dead Spirit Festival for the similar purpose of preventing the devil from coming in. Finally, there are some taboos during the Dog Days. Everybody is forbidden from going to the vegetable field on the first and third days while on the second day, everyone should not go to the mountains.

I think that the urgent problem of my family and village with regard to forest is that we do not get any rewards for planting trees. Except with the firewood forests and fertilizer source forests, we don't have rights to deal with other kinds of forests. As a consequence, activities for the protection of forests do not get any encouragements. If things go on like this, peasants like me who want to see and make more cover for our forests will lose enthusiasm with forest protection.

I also feel that we are not informed about important issues and we are not given enough opportunities. For example, I feel that the weather is getting warmer, but I have no idea about how we can adapt to climate change. I feel that drought became worse in recent years, especially in late May until the beginning of June. The schedule of natural cycles in crops has also become unpredictable. For instance, the ripening of crops comes ahead of time. Compared to the past, corn and paddy's ripening time have been earlier for 25 days to 30 days. In the past, too, women had a break after corn and paddy harvest, but with the warming climate now, we don't take breaks anymore. We have not picked corn yet but we already need to harvest

the paddy. Moreover, we make hybrid seeds from crops to adapt to the warm weather and to produce high yield. Ten years ago, the highest yield of paddy was no more than 250 kg per Mu, but in the last five years, the yield of paddy is about 500 kg per Mu. I also observed that in my village, the yield of Chinese chestnut trees, walnut trees and willows have decreased a lot.

My family wants to plant wild mushrooms or herbs in a large area in order for us to have more sources of income, but we cannot undertake this plan because we do not have enough funds. Despite this, I still hope that the plan of my family will push through in the future. I also hope that the forests around the village will have more cover so that we indigenous peoples will live a better life.

Issues and Challenges

It can be observed from the foregoing discussions and stories that indigenous women's participation in forest management involves certain issues and challenges. One of these is the fact that indigenous women take part in productive labor involving forest but they are not involved in forest management. Indigenous women have restricted participation in the process of formulation, planning and implementation of forest policies.

In addition, indigenous women have marginal roles in village management. Few women work in village committees and in the village Communist Party Branch. The opportunities for women in forest management are also hampered by prevailing notions on the gender roles of men and women.

As can be observed, the village is still largely patriarchal in structure and this social arrangement does not include a lot of space for the acknowledgment of women's potential and contribution. With their exclusion in forest management, coupled with their

lack of chances to voice opinion or acquire further education, indigenous women, to some extent, seem to have lost initiative to even do their traditional roles such as planting trees. They also feel powerless and helpless in adapting to climate change.

Recommendations

- The provisions of national and local policies about forest management should be fully implemented. Some of these policies are: Natural Forest Protection Program, Conversion of Fragile Farmland to Forest Program, Forestry Action Plan towards Climate Change, Yulong County Forestry Regulations on Administration of Lijiang City, Regulation of Yulong Naxi Autonomous County in Yunnan Province, etc. The Collective Forestry Tenure Reform should also be enforced in order to establish that peasants who take care and manage forestlands are rightful owners of these resources. This will ensure that the forest resources have stewards who have rights. With these rights, the stewards benefit from the forest resources but at the same time they also have responsibilities. In this way, the welfare of both the stewards and the resources is guaranteed;
- Although farmers plant trees in their own forestlands every year in addition to their spontaneous planting of willow trees on empty lands, they do not benefit from these efforts because extraction of timber from collective forestland is forbidden. Due to pressures for survival, they sometimes cut trees from these areas although they know that doing that is unlawful. To keep them from having to do such unlawful acts then, the government should give

corresponding incentives to farmers who do these kinds of forest conservation initiatives;

- Rural ecotourism may also be developed in the area. This is a good way of relieving local women from poverty because there will be an increased opportunity for other employments;
- Women will greatly benefit from the establishment of gender equality mechanisms at all levels of governance. It will also be to their advantage if communication, conflict resolution and negotiation mechanisms between the government and women will be set up. Also, the leaders of the Yulong forest administration department should consider the opinions and contributions of indigenous women in the process of policy making;
- A legal provision on the increase of number of indigenous women in decision making bodies should be created in order to guarantee women's participation. Indigenous women should participate in forest management at village and county levels, not only in terms of productive work, but also in decision making process;
- Women should be empowered by increasing their awareness and knowledge about pertinent issues on environmental care and other concerns in their community. When this is done through the use of various media, women may be able to better participate in community decision making;
- Building the capacity and confidence of indigenous women should be encouraged. Indigenous women should get more chances for learning agricultural skills, indigenous knowledge, and national climate change mitigation and adaptation programs by the government and other organizations.

Endnotes

¹ Mu is the Chinese measure of land. 1 Mu is about 666.67 square meters.

² Natural Forest Protection Program (NFPP). With a devastating flood disaster in China in 1998, the Chinese central government found out that excessive consumption of forest resources and deforestation caused the worsening condition of the environment. Hence, the NFPP has been implemented in a “top-down” process by the central government since 1998. With “top-down” process, the NFPP is being implemented through various levels of government like the province, county and town before it finally comes to the village level and local households in China. Large parts of the Chinese natural forests, including those owned by the state and those categorized as collective forests in main river basins in mountainous regions in Western China, are put under conservation with severe restrictions on commercial use of their resources.

³ Also known as boughton silver, this is a compact, low-growing, evergreen perennial with deeply lobed, hairy, silver-grey leaves.

⁴ In March 1981, the State Council issued its “Resolution on Issues Concerning Forest Protection and Development,” also known as the “Three Fixes” policy. The “Three Fixes” policy sought to transfer responsibility, and subsequently the benefits, of forest planting and management to farmers by clarifying rights to forests, with an emphasis on mountainous areas; delimiting private plots; and establishing a forestry production responsibility system.

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MANDALUYONG
DECLARATION OF THE
GLOBAL CONFERENCE
ON INDIGENOUS WOMEN,
CLIMATE CHANGE
AND REDD PLUS

PART

3



MANDALUYONG DECLARATION OF THE GLOBAL CONFERENCE ON INDIGENOUS WOMEN, CLIMATE CHANGE AND REDD PLUS

Legend Villas, Mandaluyong, Metro Manila, Philippines
18-19 November 2010

*'We must search through our past to understand the ways of
our ancestors for thousands of years when they lived in unity
with the spirits of the land and mother earth.'*

We, 80 indigenous women coming from 60 indigenous nations and peoples and representing our communities and organizations from 29 countries,¹ gathered together on 18-21 November 2010 in Manila, Philippines for the “Global Conference on Indigenous Women, Climate Change and REDD Plus.” We came to tell our stories on how we are differentially affected by the impacts of climate change because we are women and because we are indigenous peoples. We shared how we are coping or adapting to climate change. We also examined our distinct contributions in mitigating climate change or reducing the amount of greenhouse gas emissions in the atmosphere. On the last day, we agreed on priority areas of work and activities which we can collectively or individually do within our own organizations and networks.

While we have least contributed to the problem of climate change, we have to carry the burdens of adapting to its adverse impacts. This is because of the unwillingness of rich, industrialized coun-

¹ Aotearoa (New Zealand), Bangladesh, Burma, Burundi, Cambodia, Cameroon, China, Democratic Republic of Congo, Ecuador, Guyana, India, Indonesia, Kenya, Laos, Micronesia, Mongolia, Nepal, Nicaragua, Pakistan, Papua New Guinea, Peru, Philippines, Taiwan, Thailand, Tanzania, Suriname, the USA and Viet Nam.

tries to change their unsustainable production and consumption patterns and pay their environmental debt for causing this ecological disaster. Modernity and capitalist development, which is based on the use of fossil fuels and which promote unsustainable and excessive production and consumption of unnecessary goods and services, individualism, patriarchy, and incessant profit-seeking have caused climate change.

Extreme and variable weather conditions brought about by climate change have undermined our traditional livelihoods such as rotational agriculture, hunting and gathering, pastoralism, high montane agriculture, lowland agriculture, agro-forestry, marine and coastal livelihoods, and handicraft production, among others. These ecosystem-based livelihoods have ensured food and water security and the well being of our families, communities and nations for centuries. Unfortunately, these are grossly undermined not just by climate change but by the dominant economic paradigm which is highly extractive and destructive of nature. We have experienced and continue to suffer from unprecedented disasters brought about by super typhoons and hurricanes causing massive floods and landslides. Aside from the loss of lives, some of us have lost our homes and even our ancestral territories. With prolonged droughts, high temperatures and widespread bush and forest fires, some of our peoples suffer from hunger, disease and misery.

Diseases caused by the lack of food and potable water and by extreme hot and cold temperatures have been worsened many times over. Widespread outbreaks of vector-borne and waterborne diseases such as malaria, dengue fever, cholera and other gastrointestinal diseases, and leptospirosis, among others, continue to happen. Yet health services to address these are sorely inadequate. Thus, our burdens as caregivers and nurturers of our families and communities increased to a point where our capacity to adapt is now seriously weakened.

Water and food insecurity is exacerbated by the salinization of water aquifers in the low lying coastal areas in the islands of the Philippines, Indonesia and the Pacific; the deforestation and degradation of our tropical and temperate forests which are the watersheds; and the melting of glaciers in the high montane areas in the Andes in South America, the Himalayas in Asia and Mt. Kilimanjaro in Africa. Prolonged droughts have resulted in the drying up of our springs and rivers. All these have grossly affected our traditional livelihoods and well being, which are intricately linked with the integrity of our ecosystems. These also led to conflicts over water which are further worsened by the privatization of common water sources by foreign and domestic water corporations and the pollution of these by extractive industries like mining and oil extraction. As the main water providers, we have to search and fight for access to the few remaining water sources.

Rising sea levels are drowning or have already drowned our islands. Those of us from the small islands, such as from Carteret Islands in Bougainville in Papua New Guinea, are forced to leave our ancestral islands and are now refugees on lands located on higher ground. In this particular case, what is at stake are questions of territorial and political sovereignty and identity of the peoples of Carteret. What does sovereignty mean when your ancestral territory is lost? Many other low lying coastal areas are under the same threat.

Cultural norms and values that guide customary sustainable resource use and management associated with food production and consumption are weakened. Miskito women shared: "We now live in a hurry and daughters do not cook as grandmothers... We do not catch fish as before, do not cook as before; we cannot store food and seeds as before; the land no longer produces the same; small rivers are drying up... I think that along with the death of our

rivers, our culture also dies...”² In Cameroon, the continuing disappearance of the fish called *nwahka* has affected the performance of the traditional ritual for Baka girls entering womanhood. The inability to perform this rite not only deprives young women the pride and honor of being initiated into adulthood. It also leads to the continuing erosion of the culture, knowledge and values associated with the ritual. With food scarcity, the health and well being of the new generation are at risk.

Complicating these are the situations of multiple discrimination based on gender and ethnic identity. These are manifested in the lack of gender- and culturally-sensitive basic social services such as education and health and our lack of access to basic utility services such as water and energy. The systematic discrimination and nonrecognition of our sustainable resource management and customary governance systems and their access, control and ownership of their lands, territories and resources persists.

Out of the two billion people in the world today who do not have access to energy resources, a significant number of these are us, indigenous peoples, because we live in the most remote and isolated areas. Some of us, whose territories are used for mega-hydroelectric dams, still do not have energy in our communities. We spend between two to nine hours to collect firewood and biomass for cooking. The worsening conflicts over ownership and access to our land and resources brought about by past and present discriminatory legal, political and economic systems, some conservation regimes and some climate change responses, as well as the unregulated behavior of corporations, are taking a serious toll on us. We have to continue nurturing our families and communities under such difficult situations. The Bagua Massacre in Peru in

² Interviews with M. Bobb, Smith Otila Escobar Duarte, Albita Solis, Lydia Wilson, Clarence Tummy Cleophas, and Thomas Prudilia in a paper presented by Rose Cunningham, Wangki Tangni and CADPI, Nicaragua.

June 2009 where the military fired upon indigenous peoples protesting against discriminatory laws which favored mining corporations over them represents what is happening to many indigenous peoples in Africa, Latin America and Asia.

Pastoralism, which is nomadic or semi-nomadic in character, is the main livelihood of our indigenous sisters and brothers in West, East and the Horn of Africa, Mongolia, in the Himalayas, Russia, some parts of India, and in Samiland. While scores of cattle die due to prolonged droughts in Africa, pastoralism still contributes significantly to the national revenues of governments. We, indigenous women who belong to pastoralist communities, suffer discrimination from the State which considers pastoralism as backward and, as a result, systematically marginalizes us in many aspects. We have a high rate of illiteracy because we keep on moving, we hardly have access to basic social services like health and education. We suffer from violence committed against us in the forms of rape, sexual harassment and bigotry.

Amidst all these, we have and continue to struggle against institutionalized discrimination and inequality. Because we live in the most fragile ecosystems, we are highly vulnerable to the adverse impacts of climate change. Those of us from Ecuador, Guyana, India, Indonesia, Papua, Peru, Philippines, and Suriname shared how we stood in the forefront of the struggles against mining, deforestation, oil and gas extraction, and dam-building, which have led to the destruction of our forests and waters and traditional livelihood sources. In New Mexico, USA, our indigenous sisters are engaged in documenting the environmental and health impacts of uranium mining and pressuring government to implement the 1990 Radiation Exposure Compensation Act. Our Baka and Batwa sisters from the Democratic Republic of Congo and Burundi and our indigenous sisters from Thailand are not even considered as citizens in the States where they live; so they are struggling to get

their citizenship. In the Central Belt of India, Adivasi women such as the Jharkand and Oraon women continue to fight against the attempts of the State to further exploit their forests and open these to mineral extraction.

We shared how we are addressing the issues of food, water and energy insecurity. How we are sustaining and transmitting our traditional knowledge to the younger generations. How we are continuing our traditional land, water and forest resource management systems. How we are exerting our best to ensure the overall health and well being of our families and communities. Our efforts to recover, strengthen, use, and adapt our traditional knowledge and our ecosystems to climate change and to transmit these to our youth are bearing some good results. We recognize the imperative to enhance our capacities for disaster preparedness, management and rehabilitation but we should be provided the necessary financial and technical support. We shared our indigenous ways of predicting and coping with climate change-related disasters and we hope to further strengthen these knowledge and practices.

To address food insecurity, we are diversifying our crops and using and developing further our viable traditional plant and livestock species that are more tolerant of extreme weather conditions. We continue to use and adapt our traditional knowledge and land, water, forest and natural resource management systems to climate change. We, who belong to hunting and gathering communities, are getting more into crop cultivation including domestication of fruit trees and food substitution as we continue to protect our forests from drivers of deforestation such as logging, mining, large-scale chemical-based agriculture, and monocrop plantations. Realizing the adverse impacts of industrialized chemical-based agriculture, those of us engaged in rotational agriculture and small-scale cash crop production are reviving and strengthening tradi-

tional land, water and pest management systems, recycling of biodegradable wastes, among others.

We are also strengthening our mutual labor exchange systems which embed the values of reciprocity, solidarity and self-help, as well as our traditional forest management practices. Examples of these are the *ug-ugbo* of the Kankana-ey Igorot and *muyong* of the Ifugao in the Philippines, the *bakahnu* among the Miskito of Nicaragua, *dahas* of the Dayak in Indonesia, *engelehe* of the Maasai in Africa. Our spirituality which link humans and nature, the seen and the unseen, the past, present and future, and the living and nonliving has been and remains as the foundation of our sustainable resource management and use. We believe that if we continue to live by our values and still use our sustainable systems and practices for meeting our basic needs, we can adapt better to climate change.

We assert that before we take part in designing, implementing, monitoring and evaluating climate change mitigation and adaptation policies, programmes and activities, we need to learn more profoundly what the risks and opportunities are for us. All adaptation and mitigation plans and activities implemented in our territories, including initiatives such as REDD Plus (Reducing Emissions from Deforestation and Forest Degradation, Conservation, Sustainable Management of Forests, Enhancement of Forest Carbon Stocks), should be adequately understood by our communities before they make their decisions on how to deal with these. Our free, prior and informed consent should be obtained for any climate change project brought into our communities. Most of the world's remaining tropical forests which are those targeted for REDD Plus are our traditional territories.

We are therefore keen to see that the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) be integrally included as the main instrument to protect us against the potential risks from REDD

Plus. These risks include, among others, our possible displacement from our forests, elite capture of benefits, gross commodification of our forests and all resources found therein. At the same time, we can see some opportunities for us to occupy decision making spaces, reform forest and land laws to recognize indigenous peoples' rights, abatement of deforestation, and possible real and sustained efforts to address land tenure issues and the drivers of deforestation. As indigenous women who are dependent and who live in forests, we continue to play significant roles in protecting the biodiversity and other ecosystem services provided by our forests. We still gather wild food plants and medicinal plants as well as fuel, fodder and fiber. We protect the forest because of its multiple function and roles in our economic, environment, social-cultural and spiritual lives. We cannot see forests, therefore, as just timber or carbon. Our holistic regard and our reciprocal relationship with our forest and our rights to these forests and resources should be the defining elements to consider in any initiative around forests and climate change.

We agreed on the following priority areas of work and actions which we will seek to implement in our communities and organizations, jointly with our partners and supporters.

1. Awareness Raising, Skills Training Workshops, Information Dissemination

1.1. Awareness-raising and training seminars to increase our basic knowledge on:

- Climate change, policies and programmes on climate change adaptation and mitigation of States and NGOs at the national and global levels, which include, among others, the UNFCCC and Kyoto Protocol, REDD Plus, disaster preparedness and risk management;
- Human rights-based, ecosystem approach and knowledge-based framework to climate change adaptation

and mitigation;

- Understanding the UNDRIP and CEDAW (Convention on the Elimination of Discrimination Against Women);
- Gender analysis of policies and approaches for mitigation and adaptation.

1.2. Skills training workshops on how to develop popular education materials; effective and culturally- and gender-sensitive methods and approaches to teaching and learning; project proposal development and fund-raising, as well as organizational and finance management.

1.3. More effective and wider dissemination of relevant information and sharing of knowledge on climate change, adaptation and mitigation with the grassroots women's organizations:

- Develop and use diverse methodologies and technologies for information sharing and awareness raising, e.g., community radio, video documentation, community theatre, community newspapers and wall posters, etc.;
- Translation of materials into languages understood by community women;
- Setting up of multiple communications networks at the national, regional and global level for faster dissemination of information;
- Use of multimedia.

2. Research, Documentation and Publication

2.1. Research and documentation on climate change impacts on indigenous women and on climate change adaptation and mitigation:

- Undertake training-workshops on participatory and policy research for indigenous women who are inter-

ested to do research work that can be used for education and awareness raising and for policy advocacy. Research themes and agenda can cover the following areas:

- ◆ Food security and climate change—impacts and roles of women;
- ◆ Traditional knowledge and community forest management practices and the roles of indigenous women;
- ◆ Monitoring of climate change mitigation measures such as REDD Plus;
- ◆ Traditional livelihoods of indigenous women and climate change;
- ◆ Renewable energy development, energy security and indigenous women;
- ◆ Gender dimensions of adaptation and mitigation policies and measures;
- Use of multimedia to disseminate widely research results to the communities, to policy and decision makers and to the media.

2.2. Publish the studies prepared by the indigenous women for this Conference and launch this publication during the 10th Session of the UN Permanent Forum on Indigenous Issues.

3. Enhance Capacities of our Communities to Adapt and to Mitigate Climate Change

3.1. Enhance adaptive capacities and livelihoods including enhancement of our traditional agricultural practices and systems, agro-forestry and the development and promotion of ecological agricultural practices adapted to climate change impacts, including development of and access to diverse seed varieties for food fiber.

- 3.2. Facilitate direct access to adaptation funds and technologies for climate change adaptation at the local, national, regional, and global levels:
 - Gather and disseminate widely information on existing funds and resources which indigenous women's organizations and networks can tap:
 - ◆ FIMI (International Indigenous Women's Forum) – Indigenous Women's Fund: <www.fimi-iiwf.org>, Tebtebba: <www.tebtebba.org>, AIWN: <www.asiaindigenouswomen.org>;
 - ◆ Indigenous Peoples Assistance Facility (IPAF) – IFAD (International Fund for Agricultural Development): <www.tebtebba.org>;
 - ◆ UN Voluntary Fund for the Second Decade of the World's Indigenous People: <www.un.org/esa/socdev/unpfii>;
- 3.3. Enhance access of indigenous women to disaster and relief funds from governments and donor agencies and organize disaster and relief task forces of indigenous women.
- 3.4. Reinforce indigenous women's traditional knowledge on mitigation and adaptation and facilitate the transfer of this knowledge to the younger generations. This includes knowledge on traditional forest management, sustainable agriculture, pastoralism, disaster preparedness and rehabilitation, etc.
- 3.5. Enhance traditional community sharing and self-help systems like the ug-ugbo, engelehe, binnadang, and bakahnua, among others.
- 3.6. Facilitate exchange visits between indigenous women from different countries and communities for learning and sharing of experiences.
- 3.7. Document in multimedia, successful adaptation and mitigation practices of indigenous women.

4. Increase Political Participation and Policy Advocacy

- 4.1. Ensure full and effective participation of indigenous women in political and decision making bodies and processes and in the formulation, implementation and evaluation of climate change adaptation and mitigation policies, programmes and projects at the local, national, regional, and global levels:
 - Undertake training-workshops for indigenous women on political participation and policy advocacy and on leadership development.
- 4.2. Develop statements and interventions of indigenous women to be presented to relevant bodies and processes at various levels.

5. Networking

- 5.1. Participate actively in the Indigenous Peoples' Global Network on Climate Change and Sustainable Development (IPCCSD).
- 5.2. Facilitate participation of indigenous women to relevant national and global processes related to climate change and human rights and encourage them to join or play active roles in national, regional and global climate change multistakeholder formations such as National Climate Change Networks, National REDD Plus Formations, etc.
- 5.3. Facilitate linkages of indigenous women with existing civil society and women's NGOs and organizations that are doing work on climate change.
- 5.4. Facilitate participation of indigenous women in campaigns and mass actions that are related to women, climate change and human rights.
- 5.5. Support indigenous women parliamentarians or those in the bureaucracies of official bodies to promote indigenous women's agenda on climate change and human rights.

6. Work with States, the UN, other Intergovernmental Organizations and Multilateral Financing Institutions, NGOs and other Indigenous Peoples' Formations to Ensure the Recognition and Effective Implementation of the United Nations Declaration on the Rights of Indigenous Peoples in All Climate Change Mitigation and Adaptation Programmes and Activities.

7. Develop with Others a Holistic Framework for a Gender-Sensitive, Ecosystem, Human Rights-Based, and Knowledge-Based Approach to Climate Change Adaptation and Mitigation Efforts.

Signed by indigenous women in 19 November 2011 at the Legend Villas in Mandaluyong, Metro Manila, Philippines

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PART 1: Indigenous Women and Climate Change - Vulnerability and Potentials of Indigenous Women in Climate Change

The Grandmothers of the Wangki by *Rose Cunningham Kain*,
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Forests and Indigenous Women in Tuapi: "Return to Auhbi Piakan" by *Nadia*
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Indigenous Women and Climate Change in South Cameroon by *Lelewal*,
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Indigenous Women in Khasur and Kalleri Villages of Nepal: Traditional
Knowledge and Adaptation Strategies in the Face of
Climate Change by *Tsering Sherpa*, *Nepal Federation of Indigenous*
Nationalities (NEFIN) and *the Women of Khasur Village Lamjung*, Nepal

The Women of the Chittagong Hill Tracts and their Experiences on Climate
Change by *Senjuti Khisa*, *Maleya* and *the Women's Resource Network*,
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PART 2: Indigenous Women and Traditional Forest Management - The Centrality of Indigenous Women in Forest Management

Indigenous Women and Territoriality Challenges to Equality in the
Governance of the Indigenous Communities of Tasba Raya *by Julie Ann
Smith Velásquez, CADPI, Nicaragua*

Indigenous Women in Forest Management: The Maasai Women of Naimina
Enkiyio Forest, Southern Kenya *by Stanley Kimaren Ole Riamit, Kenya*

Yánesha Women and their Roles in Forest Management *by Nadesca Pachao
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As indigenous women who are dependent and who live in forests, we continue to play significant roles in protecting the biodiversity and other ecosystem services our forests provide. Our reciprocal relationship and our rights to these forests and resources should be the defining elements to consider in any initiative around forests and climate change.

- Mandaluyong Declaration of the Global Conference on Indigenous Women, Climate Change and REDD Plus, November 2010

