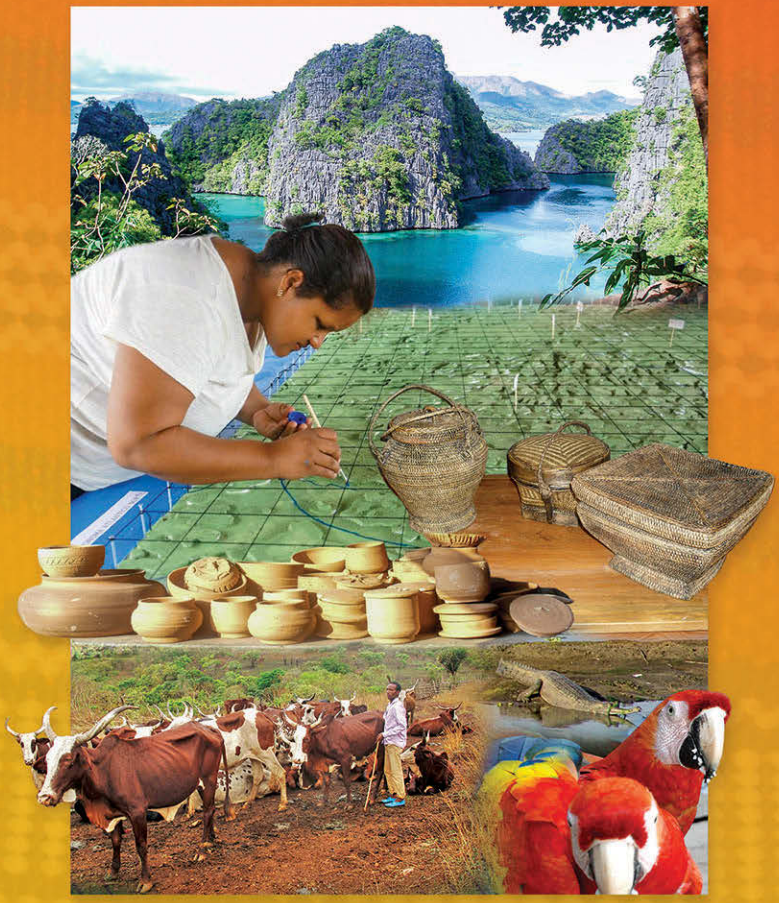
Enhancing Indigenous Peoples' Development through Community-Based Monitoring and Information Systems (CBMIS)



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Acronyms

AMAN	The Alliance of Indigenous Peoples of the Archipelago
AMA-JK	*AliansiMasyarakaAdatJalai-Kendawangan* (The Alliance of Indigenous Peoples of Jalai-Kendawangan)
APL	Areas for Other Uses
BPN-RI	National Agrarian Agency of the Republic of Indonesia
CBD	Convention on Biological Diversity
CBMIS	Community-Based Monitoring and Information Systems
COP	Conference of the Parties to the UNFCCC
CUGK	Credit Union GemalaKemisiq
DRSRS	Department of Resource Survey and Remote Sensing
FGD	Focus Group Discussion
FPIC	Free, Prior and Informed Consent
GPPK	*Gerkan Pemberdayaan Pancur Kasih* (Pancur Kasih Empowerment Movement)
GPS	Global Positioning System
HCV	High Conservation Values
HPH	*Hak Pengusaha Hutan* (Right to Forest Use)

ICCAs	Indigenous Communities Conserved Areas
ID	Institut Dayakologi
IHA-IPSSDD	Integrated Holistic Approach to Indigenous Peoples' Sustainable, Self-Determined Development
IK	Indigenous knowledge
ILO	International Labour Organisation
IPDP	Indigenous Peoples Development Plan
IIPFCC	International Indigenous Peoples' Forum on Climate Change
IP	Indigenous peoples
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPSSDD	Indigenous Peoples' Sustainable, Self-Determined Development
IW	Indigenous women
KULBIMIS	"Open our eyes," in Baka Pygmy language
MINAS	Ministry of Social Affairs
MINDAF	Ministry of State Property and Land Tenure
MINEPDEP	Ministry of Environment, Nature Protection and Sustainable Development
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting, and Verification
MUSTODAT	*Musyawarah Tokoh Adat* (Customary Leaders' Assembly)
NCCRS	National Climate Change Response Strategy
NGO	Non-governmental Organization
NORAD	Norwegian Agency for Development Cooperation
NTFPs	Non-Timber Forest Products

PCDP	Participatory Community Development Program
PPSDAK	*Perkumpulan Pemberdayaan Sumberdaya Alam Kalimantan Pancur Kasih* (Association of Kalimantan Natural Resources Empowerment Pancur Kasih
PT. FAP	PT. Fangiono Agro Plantation
SDGs	Sustainable Development Goals
SIS	Safeguard Information System
R-PP	Readiness Preparation Proposal
REDD	Reducing Emissions from Deforestation and forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation (REDD), including sustainable management of forests, forest conservation and the enhancement of forest carbon stocks
Ruai TV	Ruai Television
TK	Traditional knowledge
UN	United Nations
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNFCCC	United Nations Framework Convention on Climate Change
UNPFII	United Nations Permanent Forum on Indigenous Issues
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
WCIP	World Conference of Indigenous Peoples

Preface

ELATIA[1] (the Indigenous Peoples Global Partnership on Climate Change, Forests and Sustainable Development[2]) underwent a series of workshops and consultations for the past years and agreed to operationalize Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD), as the integrated and holistic development framework within their communities.

In the context of IPSSDD, the partners agreed to develop and establish Community-Based Monitoring and Information System (CBMIS) as a participatory action research using various tools, methodologies and technologies for the generation of baseline data, mapping their territories, and coming up with resource inventories and relevant reports about their communities.

CBMIS is not a new methodology or process. Indigenous peoples have traditionally and continuously been monitoring changes within their own ecosystems, resources, and other developments within their environment in the past until the present times. Indigenous peoples had always openly shared or reported to their communities any changes that they observed in their environment which, in turn, they also collectively analyze and make their own actions and decisions in response to such changes.

Building up from this traditional monitoring knowledge and practice, CBMIS—as a collective and iterative process, with identified tools and methodologies, and currently integrating the use of new technologies—has been maximized to

systematize the baseline information and further monitoring of results or changes in their surroundings and situation through the years.

The generated CBMIS data, information and reports serves as the basis for indigenous peoples' collective analyses and decisions to strengthen their ownership of their lands, territories and resources, for further developing their community development plans, assessing and sustaining their traditional livelihoods with appropriate technologies and innovations, and strengthening their low-carbon climate change actions within their community.

The reports generated from their CBMIS work are also maximized for their advocacy work for policy formulation and changes at various levels and structures of governance; and for monitoring of agreed indicators and changes in their community affairs and concerns, as their contribution in the achievement of broader sustainable goals and specific self-determined initiatives.

Specific to systematizing and managing the data, information, and various reports generated through CBMIS tools and methodologies, the ELATIA partners also agreed on the common core domains or key thematic areas that they will cover for data generation, analysis, planning and monitoring. These core domains are the following: 1) land, territories and resources, 2) traditional knowledge, 3) full and effective participation, 4) traditional governance, and 5) human rights, that also cover gender and intergenerational concerns. Indicators were identified that they will monitor under each of the core domains.

Over the years, ELATIA partners have documented and told significant stories resulting from their CBMIS work within the context of operationalizing IPSSDD in their communities and territories. They have shared these stories outside their communities at district, regional, national and global levels for advocacy work on indigenous peoples' issues and concerns.

The CBMIS experiences included in this publication focused on the importance, achievements, and lessons learned

in CBMIS and IPSSDD implementation. These reports affirm the significance of the collective ownership, control, and management of data and information by indigenous peoples themselves; the importance of strengthening indigenous knowledge and experiences in the sustainable management and use of their lands and resources; and the imperative of securing indigenous peoples' rights to their lands, territories and the resources within as basis for self-determining communities. These reports also show how indigenous peoples ensured the effective participation of the community, including women and youth, in both customary and new, co-existing governance systems on the advancement of indigenous peoples' rights and women' rights, as key elements of IPSSDD implementation.

Our sincerest gratitude goes to our partners in ELATIA for putting into writing, their stories that show the relevance and impacts of CBMIS in the lives of several of their indigenous communities from Latin America, Africa and Asia. Finally, Tebtebba acknowledges the generous support of the Climate and Land-Use Alliance to our sustained work on CBMIS and for making this publication a reality.

Grace Balawag
Tebtebba CBMIS Team
01 July 2018

Endnotes

[1] Elatia is a Maasai word meaning "group of neighbors doing a common decision or plan of action," which the partners adopted as the name of the indigenous peoples' global partnership organized by Tebtebba in 2009.

[2] This global partnership is composed of 18 indigenous peoples' organizations, networks and NGOs from 13 countries across Asia, Africa and Latin America regions, which is coordinated by Tebtebba. It is composed of the ff: 1) Aliansi Masyarakat Adat Nusantara (AMAN) and 2) Institut Dayakologi (ID) - Indonesia; 3) Maleya Foundation – Bangladesh; 4) Silingan Dapit Sa

Sidlakang Mindanao (SILDAP), 5) Naundep ni Napahnuhan ni Kalanguya (NNK), and 6) Ugnayang Pambansa para sa Katutubong Kaalaman at Talino (UPAKAT) – Philippines; 7) Centre for Indigenous Peoples' Research and Development (CIPRED) – Nepal; 8) Centre of Research and Development in Upland Areas (CERDA) – Vietnam; 9) Lelewal – Cameroon; 10) Mainyoito Pastoralist Integrated Development Organisation (MPIDO) and 11) Indigenous Livelihoods Enhancement Partners (ILEPA) – Kenya; 12) Dignite Pygmee (DIPY) and 13) Union Pour l'Emancipation de la Femme Autochtones (UEFA) – Democratic Republic of Congo; 14) Asamblea Mixe para el Desarollo Sostenible (ASAM-DES) – Mexico; 15) Centro de Culturas Indígenas el Perú (Chirapaq) – Peru; 16) Centro para la Autonomía y Desarollo de los Pueblos Indígenas (CADPI) – Nicaragua; 17) Conselho Indigena de Roraima (CIR) – Brazil; 18) Federacion por la Autodeterminacion de los Pueblos Indigenas (FAPI) – Paraguay; 18) Tebtebba.

Strengthening Indigenous Territorial Governance Through Participatory 3D Mapping

By Centro para la Autonomía y Desarrollo de los Pueblos Indígenas (CADPI)

Summary

The general framework of the activities of CADPI (Centro para la Autonomía y Desarollo de los Pueblos Indígenas) is sustainable development and food security—objectives both closely linked to the goal of realizing the rights of indigenous peoples. Recognition, respect and redemption of traditional knowledge as part of indigenous peoples' culture is among CADPI's most important principles and lines of action.

Adopting a holistic approach, CADPI pursues such tasks, as supporting territorial governance, and helping address climate change and attain climate justice and gender equity. Concretely, these tasks involve the construction of 3D maps, participatory reforestation, forest inventory, vegetable production, strengthening structures for territorial governance and training of young people and leaders in technical issues.

Three high-relief maps (3D) were constructed in the communities of Miguel Bikan, Waspam and Sahsa of the Autonomous Region of the North Caribbean Coast that contribute to the establishment of a community territorial information and monitoring system in indigenous communities and thereby strengthen territorial governance and the indigenous peoples' right to self-determination. This community experience made it possible to bring the population together and engage it in gathering field data and developing maps that helped resolve conflicts, reaffirm collective ownership and preserve the integrity of natural resources.

Methodology

The traditional CADPI methodology for assuming and developing a sustainable development project or specific activity in an indigenous territory or community begins with the establishment of a solid and lasting relationship with the community authorities. This method facilitates the appropriation of the initiative by the community and ensures the project's sustainability.

In the case of work in the Wangki river area (Coco River), CADPI turned to a local partner: the Wangki Tangni Indigenous Women's Organization, which enjoys the benefits of a huge social base in the area, aside from extensive knowledge of the local context and co-information.

In the Tasba Pri case, CADPI has been working directly with the Territorial Government Board of Directors for some 10 years now, in the process forging a strong relationship of mutual trust.

Among the methodological techniques used over the past decade were: meetings with boards, individual interviews with leaders, men and women, focus groups with people of diverse backgrounds, in-depth interviews, *in situ* observation, organization of work groups with elders, hunters, women, youth and children, review of plans of work, revision of development plans, training-workshops with leaders, and exchange visits.

Main Organizations Involved

The following constituted the principal participating organizations: CADPI; Wangki Tangni Indigenous Women's Organization; Tasba Pri Indigenous Territorial Government; Wangki Awala Kupia Indigenous Territorial Government; Tebtebba; and Bread for the World; Regional Government - Regional Planning Secretariat.

Place

Located in the North Caribbean Coastal Autonomous Region in northeastern Nicaragua, the three communities that are the object of this study are: Miguel Bikan, Waspam (Municipality of Waspam) and Sahsa (Municipality of Puerto Cabezas).

The Miskitu community of Sahsa is found in the indigenous territory of Tasba Pri, Municipality of Puerto Cabezas. It occupies 25,000 has and comprises a total of 480 families. This multi-ethnic community lives in a busy area of the only road linking the cities of Bilwi-Rosita, a route that leads to Managua, the capital city of Nicaragua.

The Waspam community consists of about 3,000 families residing 138 km from Bilwi. This Miskitu town, lying on the border with Honduras, retains many of its customs, cultural traditions and traditional way of life.

Meanwhile, the community of Miguel Bikam is situated 120 km from the city of Bilwi and 45 km from the municipal head of Waspam, in a detour away from the main road. There live a population of 149 families, 100 percent Miskitu.

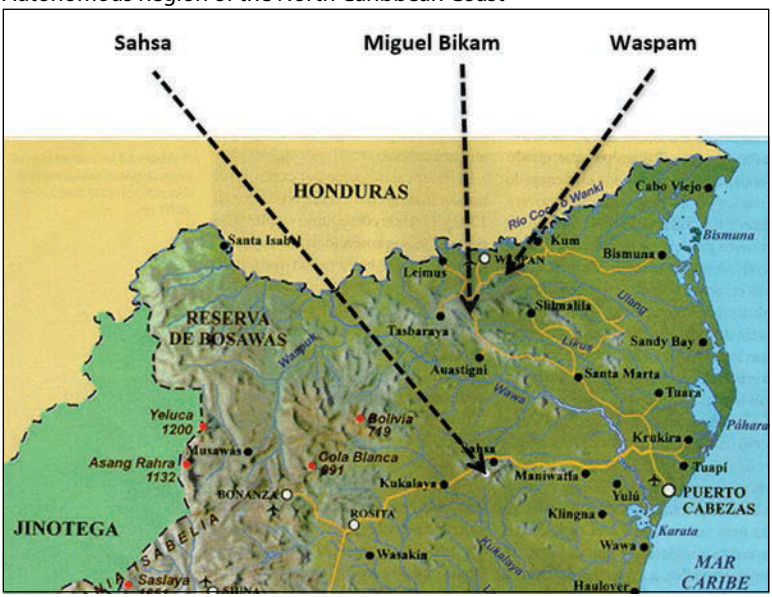
The map next page shows the Autonomous Region of the North Caribbean Coast, where the said communities are located.

Case Study Description

1.1 Background and Context

The indigenous peoples of the Caribbean of Nicaragua have a long history of land tenure problems, intertwined with international geopolitics since the intervention of the British in 1633.

Autonomous Region of the North Caribbean Coast



Nicaragua was thus controlled by Britain until 1860. But, a decade earlier, the United States of America had already become interested in the area, rushing in April 19, 1850 the passage of the Clayton-Bulwer Treaty, signed between U.S. Secretary of State John M. Clayton, and British Minister Sir Henry Lytton Bulwer.

In line with this treaty, the two powers sought to harmonize their respective plans on the probable construction of an interoceanic canal in Central American lands.

The British colonial empire yielded this continent to the dictates of the Monroe Doctrine, through the declaration of the President of the United States in Congress in 1823. The treaty was to limit British claims in the region of the continent where the inter-oceanic canal was to be constructed.[1]

In 1860, however, Britain and Nicaragua entered into treaties, such as the Treaty of Managua, also known as the Zeledon-Wyke Treaty, that enshrined the right of indigenous peoples and Afro-descendant communities to title their lands

and territories. From then on, they would demand from Nicaragua the realization of this right.

Later, Nicaragua and Great Britain agreed to submit the most controversial points of the treaty of 1860 to the arbitration of Emperor Franz Joseph I of Austria-Hungary. His decision, released on June 2, largely conformed with the interests of the Miskito—and by extension, the British.

At any rate, after the British retreat in 1850, the Miskito coast remained an autonomous region of Nicaragua for 44 years. It would maintain its own laws and regulations until 1894, when the region was integrated into Nicaragua, by decree, but not in fact.

However, soon after, in 1901, a new agreement between the U.S. and Britain, the Hay-Pauncefote Treaty, overturned the Clayton-Bulwer Treaty of 1850. Negotiated by U.S. Secretary of State John Milton Hay, Secretary of State and British Ambassador to the U.S. Lord Pauncefote, the new treaty granted to the U.S. the right to build an interoceanic canal across Central America.

This was followed by the Harrison-Altamirano Treaty of 1905, which abrogated the Zeledon-Wyke Treaty. Under this agreement, Britain recognized Nicaragua's absolute sovereignty over the Mosquitia Reserve.

In September 1997, in the context of the counterrevolutionary war and as a mechanism for seeking peace, the Sandinista government of Nicaragua approved Law 28 on the Statute of Regional Autonomy for the Caribbean zone of Nicaragua. This measure resumes the old demand of the Miskitu peoples but expands the effort to establish a multiethnic autonomy. The Statute is the basis for the Autonomy of the Atlantic Coast, the rights of indigenous peoples and ethnic communities and the control and regulation of natural resources and the environment.[2] Law 28 on the statute of autonomy is comparable to a constitutional law, that is, it has a strong constitutional rank. It is, at the same time, a rule of the autonomous regions and of the state legal order, but its content cannot go beyond the constitutional framework.[3]

In 1996, the National Commission for the Demarcation of Indigenous Lands of the Atlantic Coast (CONADETI) was created. Thereafter, the Law 445 on the Property Regime of Indigenous Peoples and Ethnic Communities of the Autonomous Regions of the Atlantic Coast and of the Rivers Bocay, Coco, Indio and Maize was promulgated in 2003. This law granted the Autonomous Regions powers to manage their natural resources. Moreover, it defined Autonomy as encompassing economic, social, cultural, ecological and administration rights. Under this law, the territories of the indigenous peoples and ethnic communities of this region now totaling 25 and reaching 31 percent of the national surface are being demarcated and titled. As such, the arduous process of constructing *territorial governance* has begun, though it has yet to be finalized.

Nevertheless, the interesting, complex and long process of strengthening autonomy continues. New laws have emerged, supportive of autonomy and indigenous peoples' rights.

In the field of health care, a law appreciating indigenous peoples' ancestral healing knowledge, Law No. 759, "Ancestral Traditional Medicine Law" was passed in 2011 and published in *La Gaceta*, Official Gazette in July 2 of that year. In line with this policy thrust, a model of intercultural health care (MASIRAAN and MASIRAAS) that integrates traditional medicine into the national health policy was created.

Among the laws protective of the cultural rights of the indigenous peoples is the Law of Languages of the Atlantic Coast of Nicaragua Law No. 162 of 1993. Thus, in the case of the education sector, the Regional Autonomous Education System or SEAR incorporates indigenous mother tongues into the national education system.

In this way the autonomous or self-determination process is being strengthened in order to reclaim the rights of the original peoples.

On the basis of Law 445, the ownership of land by indigenous and ethnic communities is organized in Indigenous Territorial Governments (ITGs). These ITGs are a conglom-

eration of communities that have decided to join forces to effectively manage their affairs vis-à-vis municipalities and the central government. Each ITG has a Board of Directors, composed of community delegates that make up the ITG. During the last 10 years, ITGs have built up their capacities for the self-management of their territories. However, changes in the leadership of the ITGs resulting from the democratic election process every two years has provoked a leadership movement, whereby the consolidation of structures and the lessons learned are acquired very slowly.

Once demarcated and titled, the indigenous territories of the Caribbean Coast of Nicaragua need to develop full and effective territorial governance, both internal and external.

Among the issues of internal governance is creating and building capacity for responsible governance of forests, water resources, soils and biodiversity. This constitutes one of the greatest challenges facing the country's indigenous autonomies. Governance must start from the premise that the actors and institutions of the communal level develop and articulate their own territorial approaches that contribute to a balanced intercultural coexistence. This also means encouraging the creation of spaces and opportunities for women and young people. The participatory construction of high-relief maps has become a key input to promote and accompany the development of various instruments of territorial governance.

The communities of Miguel Bikan, Waspam and Sahsa experienced instability under conditions of dominion over their territories and resources, the persistence of invasions and the presence of settlers in the indigenous lands. However, the problem of the illegal occupation of indigenous territories does not occur everywhere with the same magnitude.

While some situations have been satisfactorily resolved, others have triggered conflicts and even killings of both indigenous and settlers. For each Autonomous Region, the challenge is to work on deepening the legal framework of the autonomous regime and to achieve a political-normative framework that strengthens the territorial governance model.

1.2 Sustainable Development and the Community-Based Monitoring and Information Systems - CBMIS[4]

Immediately after the long process of demarcation and titling of indigenous lands in the autonomous regions, where indigenous peoples have lived for centuries, a great and new challenge emerged for these peoples: the governance of their territories.

Leaders of indigenous territorial governments (ITGs) must now take steps to achieve responsible and effective territorial governance. To achieve this, it is necessary to answer the following questions: What resources do these territories possess? In what part of the territory are these resources found? How much is there? In what conditions are they? When should they be better exploited? How many hectares of each crop are produced each year? What yield per hectare? How many cattle are there in the territory? How much milk, cheese and meat does it produce?

These questions cover not only environmental resources, but also human resources: What population is there in the territory? What skills and knowledge do you have? How many students are there? How many doctors and nurses do they have and need? How many professionals and technicians does the ITG have? How many non-indigenous families are entering the area and under what conditions? And many more questions should be part of the indigenous territorial government agenda.

Of course, there are limitations and problems that must also be resolved. Persistent in the structures of territorial and communal governments are weaknesses, such as the lack of expansion of political participation, the lack of women's access to decision-making bodies, the unfair distribution of benefits from the use of natural resources in the community, the lack of quality educational services, the lack of control over resource use, and their weak planning capacity.

A major threat is the constant migration of peasants, ranchers and entrepreneurs from the center and the coun-

try's Pacific coast to indigenous territories, with the aim of appropriating land resources and making use of other existing resources. Competition for land generates social conflicts and the loss of knowledge and cultural values. In addition, the Caribbean territories face significant challenges to prevent, mitigate and adapt to climate change as they are exposed to the effects of extreme weather events.

Faced with this enormous challenge, we need to answer the question: how to chart the path to sustainable development, food security and good nutrition?

The answers to this and other questions are coming up, little by little, but much is still needed in preparation, planning and implementation capacities. Among the initiatives that have taken place and that take an integral approach and sustainable development are:

Reforestation

Due to such factors as forest fires, illegal logging, community logging to meet household needs, pressure from companies and traders on forest resources and water shortages, some communities have decided to undertake reforestation initiatives at sites they have identified as critical, such as watersheds, burnt forests and deforested areas.

In the case of the Wangki Twi Awala Kupia territory, it was possible to transfer thousands of plants of various forest and fruit species from Bilwi to Wangki or Coco River communities through the women's organization Wangki Tangki (River Flower), in coordination with CADPI and the delegation of the National Forestry Institute (INAFOR). These plants were distributed among women from the communities of Waspam, Koom and Andris. The trees were provided by INAFOR under the national reforestation program. In those communities it was possible to involve the families, the students of the schools and the women themselves who were the ones that submitted the proposal for the reforestation.





On the other hand, a different situation exists in the community of Sahsa, located about 160 kilometers away from Waspam, towards the south of this small town, and its population created from displacement by the war of the 80s in the country. Sahsa has an excellent service record of drinking water supply, thanks to its source located in the Miramar Hill. Seven other communities also supply water from this hill. That is why the Miramar Hill was declared a few years ago a municipal natural park. However, the municipality never

appointed technical, financial and human resources for its care and protection.

Perhaps for that reason, Miramar Hill is constantly under pressure by people who deforest, people who want to practice small mining, and who go to this place to hunt small prey for their meat and even people who want to settle on the hill. It is a constant struggle to defend and protect Miramar Hill as a watershed.

The Territorial Board of Sahsa, the board of Tasba Pri territory, accompanied by CADPI and with the participation of Sahsa women, youth and children, managed for three years to bring to the hill more than 15,000 trees to reforest, with native timber species and fruit trees.

These families worked under the modalities of food for work, that is, each family had the allocation of 10-15 trees to plant, in exchange for a basic food basket composed of rice, beans, sugar, salt and cooking oil. The organization of the reforestation activities was carried out by the Sahsa communal board. Here too, the trees were provided by INAFOR under the national reforestation program

These actions sought to demonstrate the interest of the collective in conserving Miramar Hill. The community of Sahsa wanted to draw attention to the environmental services that Miramar Hill offers.

Forest inventory

At Miramar Hill, in Sahsa, many efforts have focused on maintaining its capacity to generate environmental services—water, fresh air, wildlife refuge, landscaping, preservation of arboreal species, but the threats continue. Since Miramar Hill enjoys the status of Municipal Natural Park, a group of community members, its leaders with CADPI managed to propose that a step be taken to protect the hill. That step meant leveling up Miramar Hill to the status of national park or nature reserve.[5]

The first step we had to take was to present to the Ministry of the Environment (MARENA) a forest inventory of Miramar Hill. Tebtebba and a church-based German funder Bread for the World provided financial resources to carry out the forest inventory. This allowed a group of 30 people from the community to enter the mountainous thicket of the hill for a little more than a month under the direction of two forest engineers. Its objective was to make the forest inventory. During this activity, compasses, GPS, tape measure and other specialized accessories were acquired.

Once the field work was completed, data processing was carried out to produce the forest inventory report. Then the regional delegation of MARENA in charge of the analysis of the report ensured that it reaches the central level of this ministry and that the process of formalizing and establishing Miramar Hill as a National Reserve be continued. The advantage of bestowing on Miramar Hill a national reserve status was that it would allocate resources from the national level for the Hill's conservation and protection.

About 150 kilometers from Miramar hill, north of Sahsa, is the community of Miguel Bikam. Though small and with no more than 80 dwellings, this Miskito community harbors an important forest mass of Caribbean pine (*Pinus caribbea*) in the savannah of northeastern Nicaragua and another part of broadleaved species. This community is not burdened by the problems that beset Sahsa. But, they are interested in owning a forest inventory in order to help them refine and improve their forest management and use plan. This process is expected to start soon.

Vegetables production

An extremely relevant element of the sustainable development of communities and territorial governance is the participation of indigenous women. In that sense, we see that the rights to the territory is closely linked to the rights to food, nutrition and general welfare. It is the women of Kisalaya, in

the vicinity of Waspam who have been able to demonstrate their capacity for the production, commercialization and transformation of agricultural surpluses. With the help of Wangki Tangni and CADPI, women receive small amounts of vegetable seeds, which they cultivate for 120 days to produce excellent tomato, cabbage, watermelon, melon, chili, carrots. This production is sold in the city of Waspam and even in Bilwi, located 160 kilometers south of Waspam.





Sometimes tomato surpluses are processed to produce sweet sauce, so as not to waste the tomatoes. These activities allow the women not only to generate income, but also provide the opportunity to share their concerns as women and seek collective solutions.







Video: Women in selling vegetables in Bilwi.
https://www.youtube.com/watch?v=0JMU6LtybdA

Exchange visit between Diriamba mestizo cooperatives and Tasba Pri indigenous Miskitus, Wangki Awala Kupia and indigenous Mayangna from the ITG Mayangna Sauni As

An exchange visit on climate change adaptation and mitigation practices was organized in the Municipality of Diriamba, Department of Carazo, Nicaragua, from June 21 to 24, 2016 by CADPI and La Cooperativa de Proyectos Agropecuarios de Diriamba (COOPAD, RL) with the support of Bread for the World. Producers from the San Miguel de Guayacan, El Aguacate and San Antonio de Rivas communities of Diriamba municipality participated in the exchange visit with producers from two indigenous territories: Bonanza, Mayangna Sauni As and Waspam Wangki Twi Awala Kupia from the Caribbean North of Nicaragua.

The aim of this exchange visit was to strengthen the adaptive and resilient capacities of Miskitu and Mayangnas indigenous women, men and young people from the two indigenous territories.

Currently, both communities face uncertainty in make decisions in agricultural production due to adverse climate change and the resulting poor farming conditions. They suffer from irregular rain, prolonged periods of drought, low yields, high incidence of pests and diseases, lack of soil and water conservation, and food insecurity. In the face of these challenges, indigenous peoples have carried out the exchange of traditional knowledge and practices such as organic agriculture, compost and management of soil and water system that they have been practicing to overcome the effects of climate change was used. Learning through exchange visits is highly effective and necessary to strengthen responsible governance of resources in indigenous territories. Climate change is a factor that needs to be monitored as part of territorial governance for sustainable development.

Local Strategy for Sustainable Development under Climate Change in the Indigenous Territory Wangki Awala Kupia

The indigenous territory of Wangki Awala Kupia (WAK) is one of the eight indigenous territories that make up the Waspam municipality in the Autonomous Region of the Caribbean North Coast, Nicaragua. The region where it is located is what is known as the Nicaraguan moskitia, because the neighboring country has its own zone or region known as the moskitia Honduran, although people say, these were previously recognized as a single territory, the Miskito nation.

The WAK territory is in the process of consolidating its autonomy as a territory, after being detached from another indigenous territory, the Wangki Twi Tasba Raya. This process of autonomy consists of consolidating the organizational and governance structure, defining territorial boundaries, and obtaining legal recognition from the central government, among other aspects. It has already made significant progress. One of them and very important, is the territorial planning.

Territorial planning is not a final purpose, but a tool that acts as a guide for the territory to reach and maintain the development situation it aspires in the future. This future situation, considering the free self-determination of indigenous peoples or territories established in national and international laws and treaties, should be defined by the same actors of the territory, from the local perspective and with the resources they have, without rejecting what comes from outside. This is a premise with which this work was developed, while also considering a global problem, such as climate change.

The methodology of territorial planning used, when considering the current and future impacts of climate change on the local and territorial scale, is transformed into a local strategy of sustainable development under climate change. This methodology emerges from the CATIE's Academic Program for the Practice of Development and Conservation, which has been validated in several countries and at different scales: basin level, natural reserve, extensive territories of several municipalities, territorial level such as WAK and at community level.

The local Sustainable Development Strategy for WAK territory consists of four stages. The first is a mapping of actors, in order to identify different governmental organizations, NGOs, etc. with presence in the territory. The second consists of an analysis of the territory based on the dimensions of the Territorial Rural Development proposed by ECADERT (Central American Strategy for Territorial Rural Development), in order to know its current situation and its future trend. The third is to conduct a vulnerability analysis to climate change, identifying the level of exposure, the sensitivity of livelihoods and resources, and the adaptive capacity of the territory. The fourth and last, takes up the results of the previous processes, and consists of the planning of the local development strategy for the territory.

The strategy planning process was addressed in a participatory and inclusive manner. Information gathering tools were developed with women, youth, farmers and representatives of organizations, always seeking to be representative and fair.

1.3 Rationale for the Construction of the 3D Map

For the sustainable development of indigenous peoples, participatory monitoring of physical, social, economic and cultural aspects is extremely relevant in order to achieve proper management of a territory and to develop effective maps.

The above-mentioned tasks, such as forest inventory, reforestation, strategic planning, women's vegetable production, and training support initiatives, generate territorial governance dynamics that extend over the long term. Therefore they must be treated in line with the strategic vision of the Sustainable Development Goals by 2030.

Maps are very useful tools for this purpose and also for answering the questions raised earlier. First, they allow us to renew our understanding of the geographic space inhabited by the community. They enable us to visualize conservation areas, agricultural areas, hunting areas and other land-use

areas, thus facilitating the ability of the community and its leaders to better manage order and conservation. In this way, maps contribute to preserving collective ownership as a highly relevant issue and key guidepost for sustainable development.

By strengthening traditional knowledge, its participatory construction reaffirms self-determination. In addition, 3D maps serve as instruments for reconciling territorial boundaries with other territories and communities, contributing to the peaceful resolution of conflicts. They are a powerful educational tool that makes it possible for students of all levels to know more about the topography and location of the main resources present in their living space.

On the other hand, the maps play a key role in the identification of zones of geological risk and the prevention and management of risks to extreme climatic phenomena, such as tropical storms and hurricanes. They also serve to georeference the illegal presence of settlers or locate environmentally degraded areas. Finally, they ensure a better understanding of forest inventories to move towards the digitization, processing and elaboration of management plans.

1.4 Activities

From the very beginning of this work, the technicians from CADPI maintained close contact with the community authorities, paving the way for the creation of trust and credibility. This led to the approval of the idea of constructing the maps and of involving the population of each community. Once the activities were planned out, they were monitored and supported over several years. This was a bit difficult as the of the community members were expected to make more frequent and more intensive use of the maps. The members of the Directive Boards from the three communities remained in contact with CADPI staff and the women 's organization, Wangki Tangni, the social counterpart of CADPI. These relationships and contact generated narrative reports that have been taken into account in the preparation of this report. Keeping alive the in-

terest of the community in the map presented itself as a great challenge, because concern quickly turns into indifference if people are not trained in using these maps or if they do not actually use them and generate information from them.

During the construction of the maps the best way to work was to form commissions or groups of work with very specific tasks, with its own community coordinator, since in each community 80 to 100 people participated constantly for 15 days. That allowed control over people and activities.

Another method used was the direct observation method, which was very effective, especially in the cases where the work periods were relatively short and the actions very fast (15 days of work in each community for the construction of the maps). This method made possible the identification of non-official leaders and natural leaders, and the evaluation of the attitudes and performance of all participants. It was interesting to observe the interactions between boys and girls doing their tasks. During these observations, the working groups made notes on the performance and enthusiasm of the group and the people (men, women, adolescents, children and the elderly), and the level of participation of women and other community members.

The focus groups were part of the methodology that, on the one hand, facilitated the grouping of information-gathering groups by theme, as in hunters, or the elderly, while enabling validation of information between groups and individuals. Each group had a person who took notes.

Finally, interviews were conducted with people who had specific information and who supplemented or confirmed the information from the rest of the community.

The part of the maps related to gender violence in Waspam was a complementary work produced later by the women's organization Wangki Tangni, with the technical support of an intern of the Center for Tropical Agricultural Research and Higher Education (CATIE).

The activities described below were conducted between May 2014 and June 2015:

A pilot project of the Center for the Autonomy and Development of Indigenous Peoples (CADPI) and the Wangki Tangni Indigenous Women's Organization, in partnership with the Tebtebba, participatory 3D mapping in the communities of Miguel Bikan, Waspam and Sahsa is aimed at creating and strengthening of capacities in support of responsible governance of indigenous territories and sustainable development.

The process launched in Nicaragua was based on the support provided by Tebtebba, which allowed CADPI staff to train in the Philippines and Thailand in the construction of 3D high-relief maps as part of CBMIS.

Methodologically, training the community in the construction of the map was on the march, that is—learning by doing. However, if was not enough to explain in the training workshop the concept of the map, its usefulness, its impact, and its methodology, but also its sustainable development framework and the political conditions developed both nationally and internationally from the perspective of indigenous peoples.

The objective of creating a high-relief model, representative of the community was to describe the geographic elevations, slopes, boundaries, location of rivers, streams, forests, vegetation, productive or degraded areas, sacred sites and fauna present in the territory.

The first activity of the project in the indigenous communities consisted of holding meetings with the communal authorities to make known the idea of building a 3D map and explain the details of the work methodology. As a result of these informative meetings, prior consultation with the communities was accomplished through a Community Assembly in which everyone agreed to participate in the process facilitated and accompanied by CADPI.

The community board was aware of the methodology for organizing the work and called on the community to participate. Thus it was possible to provide detailed information to the community for the construction of the 3D map. These

sessions defined concepts and reaffirmed the commitment between the parties.

Then began the formation of several work commissions, in accordance with the tasks that the community needed to fulfill. The logistics commission shouldered the task of securing the wood, nails and labor necessary to build the base on which the map would be placed. The size of the base was based on having a community map at a scale of 1:10,000. Thus this commission proceeded to construct the base.

Another commission was responsible for gathering the social, economic and cultural information of the community. It also documented the stories and traditional knowledge of the community members. This phase was carried out through a series of surveys, ranging from the general community context and lifestyles to economic activities, production systems, water sources, social history, demographic and geographic data.

Information was also collected on forest uses, whether in protected, harvested, reforested or deforested areas, either by their exploitation or by the advance of the agricultural or livestock frontier. In addition, sites with tourist potential, hunting and fishing areas, and collection areas for medicinal plants were identified.

It should be noted that in order to collect the data (see Annex 1) in the communities it was necessary to translate the question guides into the Miskitu languages to acquire a better understanding on the part of the informants and to obtain representative descriptions. The questions and answers were divided according to the following focus groups and their specific tasks:

- Community leaders and elders provided information on the geographic area, natural resources, surrounding communities, areas of forest, areas for agriculture and livestock, as well as the historical review of the community. In addition, a diagnosis was made of the internal territorial conflicts present in the communities.

- Women midwives and healers supplied information on traditional medicine and prepared a recipe that was included in the official mapping document. At the same time, they detailed the sites of spirits and deities in the community.
- Religious leaders and teachers collected data on detailed socio-economic aspects of the community, such as school-age children, weight-to-height ratio, number of churches in the community and their main activities.
- Producers provided data and descriptions of the production systems, the agricultural calendar of the community, species currently planted and those that are no longer planted, actions in times of drought and flood, as well as data on livestock.
- Hunters—in particular, a team of expert hunters knowledgeable of the territory and its boundaries and accompanied by a field technician—were in charge of geo-referencing the limits and relevant points of the community through the use of GPS. In addition, based on their observation in the course of frequent walking trips through the forest, they provided information on biodiversity, water sources, and sacred sites.
- Boys and girls participated by contributing their knowledge of the animals they see in the forest, the fruits they collect through the different seasons of wild fruit production, as well as the recreation sites, such as the places where they learn to swim.

Another commission, mostly made up of women, was responsible for working with the facilitator of the activity. They reviewed the tasks, revised the original map at 1:50,000 scale to cut the contour lines to 1:10,000, then pasted and gathered all the pieces of the map, under the guidance of an architect. This same group of women participated in painting the map.

The different commissions provided information, enjoying the opportunity to feed whatever information they had collected into the model. They also agreed on the legends (titles) that they would use for each area or sector. They also defined and established a set of symbols and colors for record-

ing the data of the different resources and the uses that are given to each of them. This list was very important because it defined and determined everything that would be placed on the map.

The various commissions sought to gain knowledge of not only the biophysical aspects of the territory but also those social, cultural and economic aspects of the community needed to plan out the sustainable development of the community. This information gathering was carried out jointly by community members and the women's organization Wangki Tangni, with the technical support of the CADPI.

A week after the 3D map was constructed, a communal meeting was called in which each of the committees reflected on their experience, lessons learned and perspective of using the maps. The 3D maps would remain on display in the community premises, available to students, visitors, authorities and interested in the subject and, fulfilling its informative and illustrative function.



The technique used to create the map is really very easy. With this technique, we can make maps in other communities. Other communities are perhaps going to say—how nice the map of Sahsa—and as you learned in this workshop maybe you can support to make another map.

Yonaysi López – Women from Sahsa

Reflection: *The map is very useful for the community, so we have put a lot of interest in developing this map, to be sure how the community is, so we also tell you what it specifies, what we have. The map will also show everything that exists, production areas, hunting areas, fishing areas, where we have the reserve forest, where protected areas.*

Leonardo Romero, community judge of Sahsa

1.5 Achievements

The delimitation, demarcation and titling of indigenous territories has been ongoing in Nicaragua for more than 13 years. Much of this process has allowed for the institutional growth and development of political, technical, administrative and financial capacities of territorial governments. The collective construction of three 3D maps in the three communities also entails the formulation of governance statutes and the collection and systematization of traditional ecological standards, which have been part of the instruments used by the indigenous territorial governments of the Autonomous Region of the Caribbean Coast to advance their exercise of their right to self-determination.

The maps have facilitated and contributed to the elaboration of community statutes and territorial management plans (please see some examples in Annex 2). In the territory of Tasba Pri (Sahsa), the statutes were published with support from CADPI and the United Nations Development Program (UNDP). In the case of Waspam, the community continues to develop and revise statutes and standards, which are more focused on a semi-urban approach. The ITG has been sup-

ported by a Mexican student who has offered his services as a volunteer. Miguel Bikam still handles territorial governance through oral tradition. Now 3D maps are part of the community heritage and remain educational tools for induction students, researchers and the general public about the environmental, social, economic and cultural characteristics of the territory.

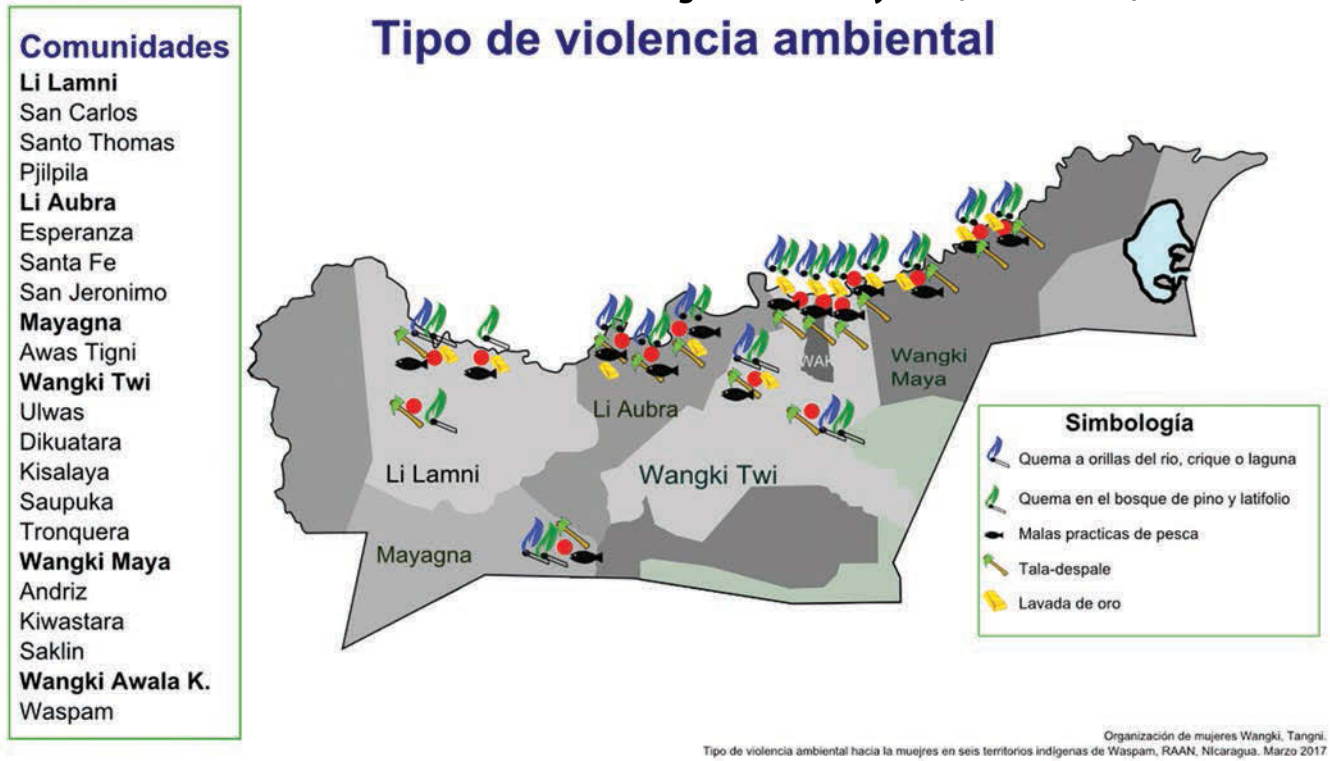
This mapping project was closely related to Miramar Hill reforestation initiatives in the vicinity of Sahsa, both being guided by the vision of sustainable development. Aimed, among others, at helping raise the Miramar Hill's status from municipal reserve to national reserve, the forest inventory undertaken here also involved 3D mapping. Funded by the German NGO Bread for the World, these activities were likewise designed to push forward the implementation of a sustainable development policy in the area. The community board managed to obtain additional resources from the National Fund for Forestry Development (FONADEFO) to continue the reforestation work initiated in Miramar Hill, also in line with the perspective of sustainable development. In that same vein, the community members and leaders fought to prevent the occupation of illegal settlers in the area.

In the case of Waspam, the mapping project was integrated into another complementary initiative in which gender violence and climate justice were studied and addressed in several neighboring territories. With these objectives in mind and despite the negative attitude and indifference of the men, the activists of Wangki Tangni—all of them women—gathered information that allowed to follow up the cases of domestic violence, gender violence and trafficking in persons.

The map, next page, on environmental and gender is a sample of the work done.

Environmental justice maps present three types of data: types of damage or violence, perpetrators of violence and trouble shooters of those damages. The Wangki Tangni organization makes use of these maps involving the national police, environmental authorities, local community authorities and organized women, in order to push for action against violence.

Environmental violence during the last five years (2012 - 2017)

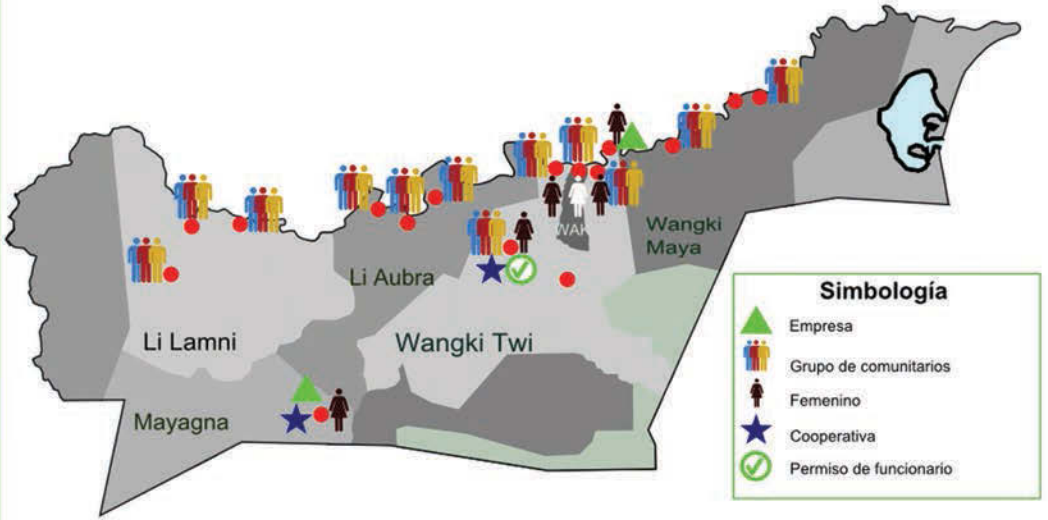


Comunidades

Li Lamni
San Carlos
Santo Thomas
Pjilpila
Li Aubra
Esperanza
Santa Fe
San Jeronimo
Mayagna
Awas Tigni
Wangki Twi
Ulwas
Dikuatara
Kisalaya
Saupuka
Tronquera
Wangki Maya
Andriz
Kiwastara
Saklin
Wangki Awala K.
Waspam

Who are practicing violence?

¿Quién ejerce la violencia?



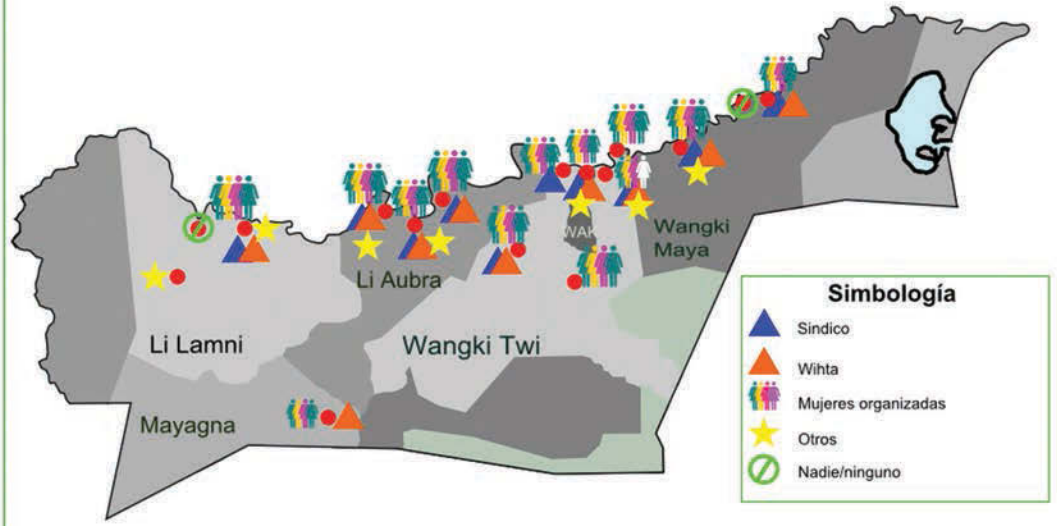
Organización de mujeres WangkiTangni.
Tipo de violencia ambiental hacia la muejres en seis territorios indígenas de Waspam, RAAN, Nicaragua. Marzo 2017

Who did something against violence?

¿Quién(es) hicieron algo al respecto?

Comunidades

Li Lamni
San Carlos
Santo Thomas
Pjilpila
Li Aubra
Esperanza
Santa Fe
San Jeronimo
Mayagna
Awas Tigni
Wangki Twi
Ulwas
Dikuatara
Kisalaya
Saupuka
Tronquera
Wangki Maya
Andriz
Kiwastara
Saklin
Wangki Awala K.
Waspam



Organización de mujeres Wangki, Tangni.
Tipo de violencia ambiental hacia la muejres en seis territorios indigenas de Waspam, RAAN, NIcaragua. Marzo 2017

Noteworthy are the following additional achievements:

- Women demonstrated the high level of knowledge they have acquired of the various social, economic, environmental and cultural processes in their community, in terms not only of the information reflected in the 3D map, but also of the perspective of sustainable development.
- Men at various times had to recognize the importance of the role of women in the community, in many cases in the face of their biases against women.
- Women's self-esteem emerged and grew in strength as a product of such intense work.
- Today, 3D maps are being used in the communities of Miguel Bikan, Waspam and Sahsa for various purposes such as supporting collaborative processes in the definition of boundaries or areas of shared use among neighborhood communities. These maps facilitate land-use planning by defining reserve areas, areas for agricultural use, urban development areas, fishing areas, and hunting areas, as well as sacred or special sites and; risk areas in extreme weather events.

Below we present the evidence of the work done:



Draft Tasba Pri Multi-Ethnic Government Statute, with the support of UNDP and CADPI:
https://avarindigena.wikispaces.com/file/view/Estatuto+GTI+Tasba+Pri+nuevo.docx



Mayangna Sauni As Territorial Environmental and Economic Development, Conservation and Management Standards Charter, carried out with the support of the MASRENACE and GIZ Program:
https://masrenace.wikispaces.com/file/view/Mayangna+Sauni+As_Cartilla+de+Normas.pdf



Video in YouTube:
https://www.youtube.com/watch?v=Yb-uwVqHKpo
https://www.youtube.com/watch?v=LupfsJlj6Vg
https://www.youtube.com/watch?v=sp5M02rtBTU
https://www.youtube.com/watch?v=0FdjWz3GRR8

2. The Lessons Learned from the IPSSDD - CBMIS

2.1 Lesson Learned

The local ownership of this mapping tool was key in the development of the project, which achieved unprecedented levels of participation in the three communities. In each of these communities, 100 persons of all ages were participating for 15 days with a high level of enthusiasm.

Part of the success of the experience was due to its incorporation into the educational field. The project's educational dimension and approach encouraged the participation of the elderly for their traditional knowledge, the women, children and young people from the communities. For example, the students of the primary and secondary schools visited the site where the maps are displayed, thus engaging in a process of education based on traditional knowledge and its transfer from one generation to another.

The local perception of the territory should not be sacrificed in the name of perfection. The accuracy of the information is relative and only valuable during specific moments, as for instance, when very detailed data on communal boundaries are needed. The important thing is to understand the meaning of the data for indigenous peoples, their knowledge and the relationships they maintain with the territory or some specific resource (see Annex 1).

The role of the facilitators of the construction of the 3D map will mark the general tone of the process. Therefore, they must strive to create a climate of trust and mutual respect, letting participants know that there are no good or bad answers in themselves, because the information and opinions of everyone count.

It should be noted that the current debate on indigenous territorial governance and the management of natural resources is of paramount importance, highlighting the need for legal and institutional support.

The participative construction of maps generates ways of understanding the territory that is shared among the actors involved, regarding the main threats that threaten the territories, as well as the challenges and opportunities for their strengthening.

Maps reproduce people's knowledge in a geo-referenced cartographic format that is understandable to any observer. This places internal actors (members of the community) and external actors (scientists, researchers, government officials, civil servants, consultants and others) on an equal footing, facilitating interaction, mutual learning and negotiation.

To gain the knowledge of the territory, it is necessary to develop tools and techniques that ensure that this knowledge is practical, useful and transmissible. Mapping stands out as a knowhow capable of ensuring these features. Clearly, maps are among the main tools for condensing, managing and sharing information.

2.2 Challenges, Opportunities and Recommendations

Although the Autonomous Regime in Nicaragua has been in existence for three decades, it is limited, since state structures continue to function in parallel with the regional and territorial governance model, to the point of substituting for them and preventing the autonomous authorities from fully performing their functions.

The definition of mechanisms that contribute to strengthening and ensuring the full exercise of territorial rights and natural resources of indigenous peoples remains a major challenge. It is recognized that the legal framework is of a high quality but there is weakness in the implementation capacity.

Hurricane Mitch, known as one of the most powerful tropical cyclones of the modern era, struck the region in October 1998. Hurricane Felix, which reached Category 5 on the Saffir-Simpson scale, severely affected the territory of Puerto Cabezas in 2007. These extreme weather events, aggravated by global warming, reveal the urgency of continuing to study

the territory to contribute to the proper management of risk areas. Ancestral knowledge of indigenous peoples can play a key role in mitigating the environmental and social impacts of climate phenomena.

The appropriation of the map, the understanding of its direct utility and collateral benefits must be realized by the leaders and community. Only this way they will take care of it, safeguard it and use it in all its potential.

One of the major challenges of this experience is to continue the work of collecting data and updating the territorial and social information on a regular basis, while preserving the physical state of the map. To achieve this, the interest of the community authorities in the information system must be maintained. One way would be to link the 3D map to the geographic information system of the autonomous regional government.

Another major challenge would be to move on to the data digitization phase, which would generate additional information for the authorities and the community. To this end, a multimedia version needs to be prepared in order to register all the gathered information.

The importance of a database, status reports, and monitoring and control of the various events, is that in the long run we are talking about a contribution that maps offer to planning for sustainable development. This includes build-up of the governance capacities of indigenous territories. Historically, indigenous peoples have been marginalized from planning and development, but now, with the demarcation and titling of their lands, they are able to govern and to decide their future. That is self-determination as sustainable development.

The following recommendations are presented in order to contribute to the further upscaling and strengthening of IPSSDD + CBMIS work in the partner communities:

a. For external governance, the ITG must create and develop capacities to negotiate, manage, and challenge the political and technical institutions of the autono-

mous region and the level of central government.

b. Reforestation, forest inventory and forest management plans should be pursued in order to achieve responsible governance of land, soil, water and forests.
c. Community training workshops on climate change, with all its derivations (adaptation, mitigation, finance, capacity building, technology transfer, loss and damage, Paris Agreement and others) should continue.
d. Young people should be more involved in such a way as to identify potential and visionary leaders.

Annexes

Annex 1

Some aspects and indicators to be monitored

Among the aspects to be monitored are

1. Number of inhabitants of the community
2. Number of homes today compared to previous years
3. Number of women (of all ages)
4. Number of men (of all ages)
5. Number of women and men who can read and write Number of children in the community by age
6. Weight/height ratio of children in the community
7. Number of boys and girls of school age
8. Number of children attending school by grade
9. Number of female heads of households
10. Number of hectares cultivated per crop type and planting season Crop yields per hectare, type of crop and harvest season Volume of crops lost per crop type
11. Production by family and community surveyed, by type of product
12. Production volumes for consumption and for sale or exchange
13. Number of water collection sites
14. Water flow at each site (per month)
15. Number of newly deforested hectares
16. Amount of hectares abandoned for natural reforestation
17. In universities: number of monographs written on ecology,

forests,
18. Biodiversity, water, soil, other
19. Number of families working with medicinal plants
20. Number of families with medicinal plants in the courtyards
21. Vulnerable sites
22. Adaptation measures that have been implemented
23. Environmental Variations:
    a. In the rainfall regime
    b. Incidence of droughts
    c. Increase/decrease in temperature
    d. Incidence of storms and hurricanes
24. Time and distance for collection of water and firewood.
25. Volumes collected from water and firewood
26. Number of hectares deforested in the community
27. Number of hectares deforested in river basins
28. Amount of timber leaving the community standing boards.
29. Record of water flow per month
30. Increased sedimentation in riverbeds
31. Degradation of soils due to erosion of rain and wind
32. Distance or proximity of cultivated areas to areas of threat
33. Food shortages in the community
34. Decrease in wild animals
35. Reduction of medicinal plants and other uses
36. Incidence of forest fires (number of forest fire outbreaks), quantity of forest fires
37. Burning Forest - Burned hectares
38. Presence of invading colonists in indigenous territories: indicators previous
39. Distribution of benefits established in Law 445 and its application at the community level:
    a. For sale of sand, wood, stone, water, other.

Annex 2

Examples of some articles of the rules in Tasba Pri

CHAPTER II

ADMINISTRATIVE POLITICAL REGIME INTEGRATION AND NOMINATION OF THE MULTIETHNIC TERRITORY OF TASBA PRI

Article 11.- The Government of the Multiethnic Territory of Tasba Pri is composed of 29 active communities and six population sectors, each with

its community inhabitants, natural, cultural, economic, social, political and population resources. 1. Kukalaya, 2. Sihka, 3. Sahsa, 4. San Pablo, 5. Altamira, 6. Kuakuahil II, 7. Naranjal, 8. San Miguel, 9. Nazareth, 10. Progreso, 11. Santa Fe de Akawás, 12. Columbus Central, 13.Salpaka, 14. Guácimo, 15. Wakiwás Tungla, 16. Salpaka II, 17. Sukwas Arriba, 18.Sukwas Down, 19.Greytong, 20. Camarón, 21. Camarón, 22. Los Milagros, 23. Arenal, 24. The Called, 25, Sumubila, 26. Nazareth II, 27. San Martín Akawasito, 28. Dos Bocas, 29. La Gloria, 30. Pinares Tungla, 31. Nueva Esperanza de Akawás, 32. Leymus, 33. Bocana Of Greytong, 34. Akawasito, 35, El Retiro, 36. Nueva Esperanza Cerro Azul.

FORMS OF ORGANIZATION AND INTEGRATION OF WOMEN IN THE TERRITORY OF TASBA PRI

ARTICLE 46. In the Territory of TASBA PRI women have the right to organize with the participation of all the women of the member communities of the territory, all have the same rights, duties and guarantees, whose main function is to represent women In all areas of decision-making, promoting access to resources in an equitable way, making use of the 50% quota that as women we have rights.

Within them they will choose their coordinator and inform the communal and territorial authority. They will perform the following functions of the organization:

1. Organize women without distinction of race, political creed, religion, and ethnic origin to participate actively and visibly in economic, social, cultural and environmental activities.
2. Represent women in the community and within the territory.
3. Be part of the assembly, council and territorial and communal board on equal terms.
4. Ensure that single, widowed, elderly women mothers are included in the programs and projects to be implemented within the territory and the community without distinction as to political, religious or cultural creed.
5. Organize territorial fora and participate in municipal, regional, national and international fora.
6. Provide its own training plan to be included in the plans and programs of the community and the territory, with priority given to the principle of equality.
7. Promote permanently the principle of free and informed consent within the territory.
8. Denounce any type of violence against women, whether intra-family, economicor social, before the community, before the territorial assembly and before regional and municipal

authorities.

9. Organize teams of advisers for each community sector and integrate the community into actions of unity and reciprocity.
10. Organize sports teams and represent the territory.
11. Organize and conduct cultural and cultural fairs
12. Advocate for the conservation of the environment, natural resources.
13. Promote compliance with the norms, decrees and regulations emanating from the communal assembly, as well as laws, decrees, ordinances, resolutions of the national, regional and municipal level, according to the customs and traditions of their community.
14. Ensure that every program and project implemented in the community is equitably distributed (50%) between women and men.
15. Perform other functions that the women's organization and territorial and communal authorities consider necessary.

TITLE V

OF COMMUNITY PROPERTY IN THE MULTIETHNIC TERRITORY OF TASBA PRI

CHAPTER I
PROPERTY AND COMMUNITY ADMINISTRATION

Article 51.- In the Multiethnic Territory of Tasba Pri communal property is formed by the land, its natural resources, existing on and below it. This belongs to indigenous communities native members, and native Mestizo communities. Each one is delimited according to its customs and traditions, titles of individual or collective property extended in due form. These have validity, which must keep the common and reciprocal respect of the constitutional precept that recognizes collective and private property, subject to the following provisions:

1. Communal lands are inalienable, cannot be sold, seized or encumbered, and are imprescriptible. The communal and territorial property is inalienable, imprescriptible, unbound and non-negotiable.
2. The children of the indigenous and mestizo communities who work on land parcels and enjoy the goods and benefits

generated by the work must be protected by the competent communal authority. No person may use more territorial space than established by his legal document or title of property.

3. The areas of common use, their resources and their elements shared with other territories are the responsibility of the territory to protect and preserve it between the parties. The agreement generated between the parties is standard and applicable for the whole territory.
4. The communal lands and the resources in the areas of common use and areas of generational reserve will be protected by the communal authority and its members. The territorial authority shall ensure compliance with this established guarantee.

Annex 3

References and Additional Reading Material

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Endnotes

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PERU

Empowering Yanesha Communities: CBMIS and IPSSDD Implementation in Peru

By Centre for Indigenous Cultures of Peru (CHIRAPAQ)

I. Introduction

This document presents the case study of the Community-based Pilot Programme of Development and Monitoring (CBMIS)* and Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD), carried out in 2014 in the Yanesha communities of the Palcazú Valley in Pasco Region, Peru. Coordinating this undertaking are Centre for Indigenous Cultures of Peru (CHIRAPAQ) and Tebtebba, in alliance with the Federation of Native Yanesha Communities (FECONAYA).

That year, the project "Participatory Mapping of the Natural Resources and Cultural Heritage of the Yanesha Communities in the Palcazú Valley" was implemented with great success. The aim of this initiative was to train the indigenous communities in the generation *in situ* of information, which could then be used to monitor the state of their natural resources.

As a result of this process, the communities today possess systematized information that helps them manage their territory and natural resources. The maps and mapping technology serve as very useful tools for the defense of the land and

* The CBMIS is a collective and participatory process of generation, analysis and use of data to keep track of changes or trends in the condition of the land, territories and resources, traditional knowledge, participation, traditional governance and human rights.

territory, as well as for the self-determined development of their natural resources.

Under the CBMIS, the leading role is played by the Yanesha communities. They themselves make decisions governing their forests and systems of livelihood based on their needs and priorities. This participatory monitoring constitutes a pilot experiment that has given rise to lessons, adaptation and improvements in their livelihoods and to their appropriate management of their resources and their culture.

The monitoring system is not at all simple to implement, and its self-sustainability is a challenge. There are documented cases of some successful and effective participatory monitoring programmes. However, there are also cases of other programmes that have not worked and are beset with limitations.

This case study analyzes the mechanisms that have allowed the CBMIS to be integrated into the lives of the Yanesha communities and to strengthen the community organization and families, as well as the involvement of local authorities. It also lays bare the current challenges faced by Yanesha communities, such as those affecting their livelihood and weakening their culture.

This report has been produced, using a descriptive and analytical approach. The first part describes the essential characteristics of the Yanesha people, the geographical location of their territory, economic activities, culture and organization, together with the methodology of the case study. The second part explains the process of the implementation of the Community-Based Monitoring and Information System (CBMIS) with the communities of the Yanesha in the Palcazú Valley, along with activities complementary to the CBMIS. The third section focuses on the analysis of achievements, lessons learned, and the difficulties and opportunities presented by the implementation of the CBMIS, together with current challenges.

1.1 Geographical Location

The Yanesha population is spread over the oriental slopes of the Andes in Peru's Central Jungle, specifically in the sub-basins of the rivers Palcazú, Huancabamba-Pozuzo, Pachitea and Perené. One of 56 indigenous peoples that inhabit the Peruvian Amazonia, the Yanesha belong to the Yanesha ethnic group, whose language belongs to the Arawak family.

The native Yanesha communities of Nueva Esperanza, Santa Rosa de Chuchurras, Buenos Aires, Shiringamazú, Loma Linda - Nueva Aldea, Santa Rosa de Pichanaz and San Pedro de Pichanaz, which participated in the CBMIS, are found in the district of Palcazú, province of Oxapampa, Pasco region.

The Yanesha communities of the Central Jungle in this district lie within the buffer zone of the San Matías - San Carlos Protected Forest and the Yanesha Communal Reserve. The territorial areas of the Yanesha communities range between 1,460 ha and 7,140 hectares.

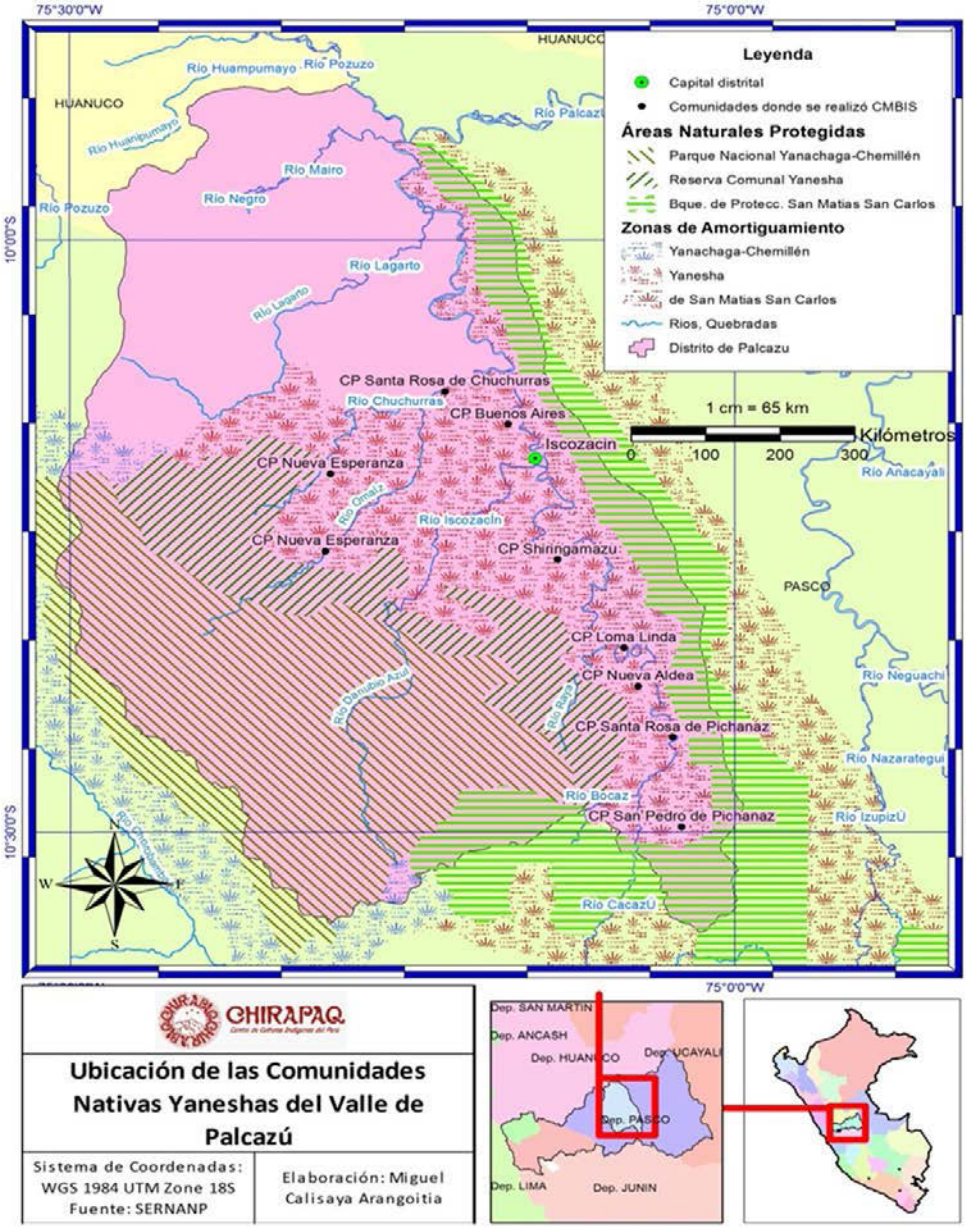
The Yanesha number approximately 7,000, of which only 26.8 percent use the land. Fifty percent of Yanesha territory is covered with primary forest. The area of the pastures occupies not more than 20 percent of the territory, and, on average, 11 percent of the lands is devoted to farming.

1.2 Economic Activities

Their forest and territory are the most essential aspects of the lives and identities of the Yanesha people, as from these they obtain the food and medicines they use to cure their ailments.

Their principal subsistence activities are hunting, fishing, gathering, and slash-and-burn farming. In recent years dependence on the resources of the forest has been diminishing.

Hunting is still common and traditional. The Yanesha employ different hunting techniques, the most traditional


75°30'0"W
75°0'0"W
10°0'0"S
10°30'0"S
HUANUCO
Río Huampumayo
Río Pozuzo
Río Palcazú
Río Mairo
Río Negro
Río Lagarto
Leyenda
Capital distrital
Comunidades donde se realizó CMBIS
Áreas Naturales Protegidas
Parque Nacional Yanachaga-Chemillén
Reserva Comunal Yanesha
Bque. de Protecc. San Matias San Carlos
Zonas de Amortiguamiento
Yanachaga-Chemillén
Yanesha
de San Matias San Carlos
Rios, Quebradas
Distrito de Palcazu
CP Santa Rosa de Chuchurras
Río Chuchurras
CP Buenos Aires
Iscozacin
CP Nueva Esperanza
Río Omaiz
Río Iscozacin
CP Shiringamazu
1 cm = 65 km
0 100 200 300 Kilómetros
Río Anacayali
PASCO
CP Loma Linda
CP Nueva Aldea
Río Neguachi
Río Raro
CP Santa Rosa de Pichanaz
Río Nazarategui
Río Bocaz
CP San Pedro de Pichanaz
Río Izupizú
Río Cacazú
Río Danubio Azul
N
W
E
S
CHIRAPAQ
Ubicación de las Comunidades Nativas Yaneshas del Valle de Palcazú
Sistema de Coordenadas: WGS 1984 UTM Zone 18S
Fuente: SERNANP
Elaboración: Miguel Calisaya Arangoitia
Dep. SAN MARTIN
Dep. ANCASH
Dep. HUANUCO
Dep. UCAYALI
Dep. PASCO
Dep. LIMA
Dep. JUNIN

being the use of bows and arrows and traps. Over the past four decades, other hunting practices have been incorporated as well, such as the use of dogs and hunting rifles. Fishing is among the other most important activities in the communities. The Yanesha utilize a variety of fishing methods, associated with the bow and arrow, gill-nets, metal fish-hooks, traps, baskets, and seine nets.

Traditionally and historically, they have based their subsistence on the resources of the forest. However, the migration of game animals, owing to the effects of deforestation and the scarcity of fish in the rivers, have obliged the Yanesha people to adapt their activities to include the cultivation of plants such as cacao.

Gathering is an activity carried out particularly by the women and children, though men sometimes participate, too. Foodstuffs, seeds and medicinal plants are foraged as part of the daily chores; it is not always a planned activity, except for craftswomen and wise women who practice traditional medicine.

The Yanesha people did not traditionally practice farming, but over time new activities have been adopted, including the growing of important crops such as cassava, plantains, bananas, and papayas. The cultivation of cacao is a more recent addition. Agricultural techniques have been gradually improving, as there is a demand for these products as food, and the surplus generated from extra production may be sold.

Many families have started to grow cacao and annatto, and to raise cattle or keep small animals, such as chickens, turkeys, pigs, or guinea pigs, in order to achieve food security.

1.3 Culture/Organization

The Yanesha still conserve a wealth of orally-transmitted stories handed down from their ancestors, in which the relationship with their historic and cultural space is explained. Among these tales are the myths that tell how their world

originated, and how changes were brought about through the influence of their most powerful ancestors

There are many stories and songs about their past, also reflected in the symbols and iconography of the patterns in their handcrafts. Music plays a very important part; inasmuch as before they discovered and embraced it, they were living in a constant state of war, with no social links among them.

However, the Yanesha culture is currently suffering the loss of its cultural identity, especially of the language. The young people have chosen to abandon their native language for a number of reasons: early migration to the cities in search of work, the lack of intergenerational transmission of the language from the parents to the children and finally, the policy of the Spanish language as the sole medium of instruction in schools.

At present, the primary schools are reactivating their activities towards the revaluation of the Yanesha language through the Ministry of Education and the Municipal District of Iscozacin, with the support of a teacher who assists the communities in language teaching.

The Yanesha system of government is based on a two-tier political structure. The first level is represented by Federación de Comunidades Nativas Yanesha (FECONAYA; Federation of Native Yanesha Communities). This organization has two governmental organs: the Yanesha Congress, held once a year, and the Governing Board, led by the CORNESHA, which directs and executes the agreements generated by the Congress during a three-year period. FECONAYA is adopting a new organizational structure with the recent creation of the Secretariat of the Indigenous Women and the Secretariat of the Indigenous Youth.

The second level is more operative; it is made up of the community councils and led by the heads of each of the communities. The internal organization of the communities operates on the basis of a system of duties, rights and codes of conduct set out in the Internal Statutes. The functions of the community council are to look after the needs of the people,

attend congresses, call assemblies, organize communal tasks and coordinate with other organizations. This community council is made up of a president, vice-president, spokesperson, secretary, and treasurer.

1.4 Investigation Methods

The three-month study began with the review and organization of information from all the communities that participated in the CBMIS. It was also possible to collect and analyze information related to the "Participatory Mapping of Natural Resources and Cultural Heritage of the Yanesha People" and the project "Strengthening Indigenous Peoples' Advocacy Capacity as Key Players in REDD+ 2014 Decisions." The second part started with the design of tools for data collection. Eventually, we adopted a qualitative methodology centered on determining perceptions of the direct actors through interviews using a questionnaire. To conduct the key interviews, we established methodological criteria for preparing the questionnaire..

The interviews were extended to the personnel involved in the CBMIS project. During the focus group sessions, participatory induction work was done to ensure frank and honest assessments and perceptions on the project's achievements and to identify jointly how CBMIS should be improved. The third part involved the processing and analysis of the information collected in the field and the preparation of the study report.

II. Community Monitoring and Information Systems (CBMIS) of the Yanesha People

2.1 Participatory mapping of the natural resources and cultural heritage of the Yanesha communities in the Palcazú Valley

In 2014, participatory mapping of the natural resources and cultural heritage of the Yanesha communities in the Palcazú Valley was carried out. This included identifying and gathering information on the state of their forests, lands, traditions, and way of life, and producing an inventory of the biodiversity in flora and fauna, as well as a documentation of their culture, legends and myths.

The information obtained was set out in textual material and maps, which would enable each community to manage its resources

The mapping operation has made it possible for other interested state and private institutions to become involved in the process. Facilitating this activity were the prior meetings conducted on awareness-raising and the dissemination of mapping tools. The project eventually succeeded in developing the synergetic collaboration and mutual support needed to meet the objectives of the CBMIS programme and IPSSDD.

The project benefited from to the predisposition of the Yanesha people to consider and finally accept new methods to find out about the condition of their natural and cultural resources. On the other hand, further strengthening the project was its capacity and success in ensuring that the modern methodology, such as the mapping and the use of GPS instruments, was adapted to the needs of a people willing to be knowledgeable about the state of their resources.

For the Yanesha, the information that they derive from mapping forms part of their CBMIS indigenous information system, which serves to facilitate the management of their resources on the land and in the territory and their choice of development alternatives.

The mapping in the seven participating communities took about 15 days during which information was gathered from the field. The process featured a wide range degree of participation from the communities. All in all, 282 people from the seven communities participated: 52 children, 23 adolescents, 98 adult women and 109 adult men. Workshops were held in which speaking maps and matrices were used to collect traditional information on the forest and woodlands, traditional medicine, gastronomy and other fields of study.

The tools employed at the workshops and on the field trip helped considerably in the visualization and overall appreciation of the territory. Systematized information was culled on the communities' forest, fish, wild animals, medicinal plants and dyestuff plants, in addition to their cultural heritage, such as their stories, legends, songs and customs

The information accumulated was vital as it enabled a detailed diagnosis to be made, based on variables and indicators that revealed the condition of their resources, such as water, forest, plant and animal wildlife and cultural wealth, as well the conflicts shaping their communities. The key indicators of the components of community mapping are shown in Table 2 (see Annex).

The results obtained from the mapping were widely shared among the seven participating Yanesha communities.

Here are some comments from the participants on the experience of community mapping:

I took part in the mapping of Shiringamazú. Several of us, community members, were involved and we worked in groups. It was an interesting experience. Some of us were assigned to observing the terrain, the clay licks (ccollpas), the rivers, the sowing-seed and the medicinal plants. We worked for a whole day, but it helped us a lot to see how we are looking after our woodlands. We made a reconnaissance of our territory, and for us, this has been a great help.

David Valerio Miguel of the Shiringamazú Community





With the mapping, we were able to see on the spot how many hectares of forest we have: primary forest and secondary forest. It helped us to recognize by sectors how many hectares of woodland we have to protect, and from there, the idea of conserving and protecting our forests, and recovering them, was born. Men, women and children, we all participated. The elderly folk helped us identify the medicinal plants, so we all learned something.

Maritza Suárez of the Nueva Aldea Community



The mapping has made us realize that we are losing our medicinal plants without realizing it. Now we are replanting with dye-yielding species—those that can be re-forested. The rest we can find in the secondary forest. We are aware that we should be reforesting; it is important not to lose the custom and to continue producing handcrafts for sale to help the family finances.

Josefa Soto Chávez of the Buenos Aires Community

2.2 Implementation of Sustainable Livelihoods

This section deals with the implementation of sustainable livelihoods that arose after the participatory mapping operation. These livelihoods are the outcome of thinking about the matter and analysis of the results of assessing the situation of the forest and the reduction in the abundance of game animals. These actions have benefited from the technical understanding needed in the management of the communities' resources. Key to this management has been rediscovering the process of recovering the traditional knowledge of farming to produce foodstuffs, and the recuperation of the biodiversity in flora and fauna, including cotton and the plants that yield colorants, being planted on secondary plots mainly by the craftswomen and elderly people.

The implementation of sustainable livelihoods covered the second half of 2014 until December 2015. After this period, in 2016 and the first quarter of 2017, the families occasionally received advice and technical support from CHIRAPAQ in the management of guinea pig and chicken breeding and running family gardens.

Raising chickens

The rearing of small animals emerged, owing to the scarcity of game animals, the lack of fish in the river, and the indiscriminate hunting of species in danger of extinction.

Keeping chickens for egg-laying and chicken meat has now become a part of the means of subsistence of the Yanesha families

Egg-production units with hens were set up using techniques to enhance yields. The techniques promoted involved the preparation of the shed, the distribution of spaces, feeders, balanced feeds using local produce for animal consumption, ensuring animal health, and handling during egg production. These production techniques were based on the local knowledge possessed by the families, their customs, their experience and their use of local resources.

At total of 280 families are engaged in rearing hens in 11 sectors (Azulis, Santa Rosa, Nueva Aldea, Nuevo Progreso, Pueblo Libre, San Luis, Sacha Vaca, Pampa Hermosa, Nuevo Amanecer, San Carlos and Buenos Aires).

From their experiences, we can see that the Yanesha women have consolidated their skills in the management of egg-laying hens. This change has enabled their diets to be diversified with the inclusion of protein-rich food (eggs and meat) in the absence of fish and game animals.

Three years after the intervention, the families have egg-laying hens which have been reproduced with their creole-hen breeding stock. The families produce and maintain hens for their own use and for sale at the market. Currently,

each hen is sold for 40 soles (approximately US$12.00) and one kilogramme of eggs for 8 soles (approximately $2.50). This is the result of putting into practice the livelihood strategy proposed by the communities based on their prioritizing the problems they wish to address and on their making use of their local resources.

The knowledge of 280 Yanesha families on rearing egg-laying hens has been enhanced. The main aim was to use local knowledge and resources, thereby avoiding damage to the forest and to the medicinal-plant-growing nurseries, located close to the dwellings. The sheds measure 5.0 meters long and 3.5 meters wide. The birds enjoy drinking and feeding facilities, a nesting area, and generous space in which to move about. These are basic requirements for improving the rearing of small animals in forest areas.



I support my family with rearing chickens. I now have more than 30 hens; from the unit I received I was able to breed them. Every day I collect at least 10 eggs, which I can use in different dishes and there are also plenty left over for sale. The chickens, too, I can sell for 35 to 40 soles each, (approximately $11.50) *so I now have an income at home without the need to abandon my Yanesha village.*

Ana Mateo Miguel
of the Shiringamazú Community

Raising guinea pigs

Breeding guinea pigs in Amazonia is an experiment that is being carried out to increase the available variety of protein-rich foodstuffs. The rearing of guinea pigs originated in the Andean zone, but as a part of interculturality, the technique is being adapted to accommodate local techniques. For

this reason it has been necessary to complement the activity with the production of pasture as food for the guinea pigs, and with the use of local native grasses.

Furthermore, the sheds have been prepared, taking into account the reality that the area is in a very warm zone. The population now understands the importance of rearing guinea pigs, with plans to produce and sell manure for the production of cacao and cassava, which are crops that demand well-fertilized soil.

For guinea pig rearing, reproduction units plus basic materials were delivered to set up the sheds. Alongside these was the provision of consultancy and technical training services on breeding and handling guinea pigs. Altogether, 95 sheds were inaugurated in the Yanesha communities in Buenos Aires, Shiringamazú, Santo Domingo, Nueva Aldea and Santa Rosa de Chuchurras.

At present, many families raise guinea pigs for their own consumption and for sale. Furthermore, their manure is collected for use as fertilizer in the vegetable gardens. A characteristic advantage of guinea pigs is their high reproductive rate.

The flesh of the guinea pig is prized not only for its high protein content, but also for its high-quality fat; besides, the meat contains iron. Some families have already increased their production of guinea pigs, destined for both domestic consumption and sale. Some breeders have come to own as many as 200 guinea pigs at one time, generating important incomes for their families.

Raising guinea pigs is an Andean custom, and so the cultivation of appropriate pasture on which to feed them has been a necessary complementary activity. The Yanesha population that rears guinea pigs is beginning to understand that the absence of game animals in the forest can be compensated with meat from domesticated animals. Furthermore, this trend enables products from the wild to be managed rationally.



I used to go into the forest and would find different animals for food, such as birds, monkeys, or wild boar. When I went down to the river, there were plenty of fish there. In some seasons I could obtain some extra fish to eat with my children. We used to live on that. Yet little by little, our game animals and fish disappeared. At times I thought of moving away, but didn't know where to go. As I can't read and write, it's worse still. Where could I go? Then I began to raise guinea pigs; I now have more than 80, and at one point had 180. I ate them or sold them, but I now have a food supply and what's more, I can sell some and earn some money. That makes me feel contented.

Pascuala Mateo Miguel of the Shiringamazú Community



At the moment I have 30 large guinea pigs to sell, not counting the little ones and those I have for breeding. I sell each one for 30 soles (approximately $8.50) *I've managed to master the art, and the animals no longer die on me. I keep them clean and orderly in their pits so they don't catch diseases.*

Adelia Machari of the Nueva Aldea Community

Production of native and adapted vegetables

The production of vegetables was suggested as an alternative to diversify the family food basket. During the mapping, the Yanesha people identified their edible products and the ways of preparing them, many of them using ancient traditional techniques to conserve and prepare new dishes. At the same time they realized they had native vegetables that they wanted to produce and that they therefore needed to sow. These would complement the food of the Yanesha families

The vegetables and herbs, whose sowing and consumption were promoted, were tomato, cucumber, coriander, lettuce, basil, radishes, onions, spring onions and cabbages, along with such native vegetables as long coriander, native tomato, native cucumber, pumpkin, and native slipper gourd (*kaywa*). These food products, currently being consumed by families, provide them with vitamins and minerals and help to enrich family food baskets.

The sale of vegetables at the market is not economically viable because the selling rices are very low and their transport costs high. Instead, the vegetables are sold in the sectors in which they are grown. Sometimes cash sales are transacted, while at other times the vegetables are exchanged for sugar, salt, soap or fuel necessary for various work or consumption.

I grow vegetables. My community knows me; I sow cucumbers, chilies, tomatoes. I make tortillas and salads. The community knows me well. They come and we exchange vegetables for eggs, or I sell them the vegetables for cash; I can't complain as I have extra income and that helps my family.

Alicia Colina of the Pampa Hermosa Community

Recovery of seeds of native cotton

The recovery of native cotton seeds was carried out with craftswomen who have mastered the arts of weaving with back-strap looms and of dyeing their fabrics. The native cotton production had been in danger of becoming extinct. And so, the CBMIS programme managed to get 20 families (mainly the women) in three sectors (Loma Linda, Santo Domingo and Azulís) to devote their time to the production, management, recovery and conservation of native cotton and adapted seeds. Among the native cotton varieties, those with white, brown and pink hues are being recovered, while the adapted seeds produce red-brown, mauve and green fibers.



Yanesha women selecting cotton seeds.

Recovery of traditional knowledge of dyestuff-yielding plants

At the moment, the women use dyestuff plants for handcrafts. This is a traditional practice and the garments worn by the Yanesha people feature colors and designs with symbols. The symbols applied are based on the knowledge of their use. Currently, the dyestuff-yielding plants are in danger of being lost, owing to indiscriminate timber-felling.

Subsequent to the mapping, the craftswomen have been those who have initiated the care of the dyestuff plants. The plants more commonly used have been registered with INDECOPI to protect the intellectual property rights regarding the use of the biodiversity.



Selecting barks of dye plants.

Promotion and reappraisal of traditional Yanesha medicine

The mapping also revealed that the medicinal plants are frequently no longer found in their accustomed places. Some have already disappeared. Sometimes, many days' traveling are required to find them in the forest, and the knowledge of their whereabouts is therefore carefully guarded. This is why the sowing and propagation of these plants is being promoted in farm fields and places where they will not be damaged by animals or burned by slash-and-burn farming practices.



Recovering medicinal plants.

Recovery of Yanesha knowledge and art

Yanesha women belonging to the associations of craftswomen from the communities of Loma Linda, Santa Rosa de Chuchurras, Villa América, Shiringamazú, Tsachopen, Azulís, Santo Domingo and Conaz are engaged in handcrafting useful items with dyed and natural cotton fabrics, and using traditional Yanesha techniques. The women have developed their skills of analysis, synthesis, creativity and interpretation of the Yanesha iconography. Furthermore, the craftswomen with outstanding skills have been identified so as to mobilize them as teachers of the Yanesha textile handcrafts based on traditional knowledge.

Those trained have also made replicable the skills they learned at the workshops in the communities by in turn honing the skills and abilities of still other craftswomen.

At present, the craftswomen are still at work making bags and handbags, while many others are engaged in the crafting of various other items, such as necklaces, earrings, bracelets and dolls.

The Yanesha women are working to save their heritage art of weaving cotton fabric. There are many young women who are learning to weave while mothers who are teaching their daughters the technique of backstrap weaving, a tradition now being recovered and that had almost been lost.



I am a woman who has taken on responsibilities, such as being the leader of my community. I came to occupy the highest post as a representative of the women, the ACHPALLA representing three regions: Junín, Huánuco and Pasco. Together with my associates, we started with eight craftswomen, and then we increased to 15. Now, there are 70 of us who have grouped together with other communities. We want to create a germplasm bank of dyestuff-yielding plants, because we realized that if we devote ourselves to handcrafts, then we shall need the raw materials, which little by little are being lost in the forest.

Mariluidis Chapeta Chávez
of the Santa Rosa de Chuchurras Community

Recovery of local organizational culture

One of the aspects that has had an immediate impact on the lives of the Yanesha people is the affirmation of their culture. Now they are giving it some consideration as they feel it is being lost.

This aspect has always been treated as a transversal concept in all the activities that CHIRAPAQ carries out within its programme for strengthening leadership capacities among indigenous young people and women, as well as in handcraft projects and indigenous cinema.



Yanesha children selecting seeds for craft-making.

The mapping made it possible to display a good deal of information about their traditions which helped the communities to work out their life plans with support from the Directorate of Indigenous Peoples of the District Municipality of Palcazú. There is currently a consensus on the recovery and affirmation of the Yanesha culture and language, gradually being lost. Nowadays, only older people are able to speak the Yanesha language. Almost all the young people are unable to

speak it, because they migrate to the cities and adopt a different manner of communication.

III. Analysis of Achievements, Challenges and Opportunities

3.1 Main Achievements

The achievements of the CBMIS Programme in the Yanesha communities are as follows:

With regard to the community mapping

1. Community mapping has achieved the mobilization of the communities towards a massive realization of the level of degradation of the natural resources, which has made the communities opt for and project a future based on the recovery of ancestral knowledge to guarantee survival.
2. Yanesha indigenous communities have been encouraged to continue promoting the appreciation and recovery of traditional practices that are in harmony with sustainable development and that uphold approaches of equality and indigenous peoples' rights to land and territory.
3. Collective reflection has been achieved on the state of the natural resources as well as the cultural heritage. The concern of the population with the resources has led to its valuing and becoming aware of the deterioration and loss of the biodiversity, of ancestral knowledge and of the cultural identity.
4. One of the most valuable achievements in the experience of CBMIS has been the recuperation of knowledge about the Yanesha culture, such as stories, songs, legends and myths, together with the rescue of handed-down knowledge about traditional med-

icine, native cotton seeds, dyestuff-yielding plants, and the recovery of ancestral handcraft designs and iconography.

5. It has been possible for the communities to produce and gain systematized information that is needed to manage their resources, and is very useful for continuous monitoring of the state of their natural resources.
6. It has been possible for communities to assume a leading role, with the organized participation of children, women and the elderly, and to reflect on their forests and their livelihood systems based on their needs and priorities.
7. This participatory monitoring is a pilot experience that has generated learning, adaptation and improvements in their livelihoods, resulting in better management of their resources and in the strengthening of their culture.

With regard to sustainable livelihoods

1. Knowledge about the handling of small animals was recovered, while techniques for building the sheds, and for using guinea pig manure as fertilizer in small-scale agriculture were learned and propagated. A similar achievement was that families were enabled to master the techniques for breeding and producing chickens, and for egg production. This has contributed to a reordering of the habits related to living with animals.
2. Family bio-gardens were planted, promoting the growing of local vegetables such as the slipper gourd, cucumber and local tomato. In addition, seeds of vegetables that can adapt to the local climate were also sown, increasing the availability of vegetables and thus improving the diversity of family food sources.
3. Families now have more forest species available. A reforestation process has been started in degraded zones, thus contributing to sequestering carbon and avoiding

the felling of the carbon sinks of the Yanesha reserve. There are 1,200 native forest trees in their definitive areas with conditions suitable for their development.

4. Fifteen Yanesha women now have more native cotton plants and native cotton with a greater diversity of natural colors. In this way, the production of these varieties was increased. In 2014 they had already been in danger of extinction. A positive evolution was noted in the growth of plants yielding mauve, brown and green fiber (native colors). An achievement with regard to this line of handcrafts is that 20 Yanesha craftswomen continue to recover cotton-dyeing techniques and Yanesha iconographic designs to maintain the local handcrafts.
5. Yanesha communities currently have a women's representative called *ach palla,* which means the mother of women, who represents women in assemblies, negotiations and decision-making. She is a part of the women leaders who participate in the strengthening of capacities and the development of economic initiatives based on dyeing plants and Yanesha crafts—spaces that have improved their participation and their representativeness.

3.2 Lessons Learned

During the implementation of the activities of the CBMIS Programme, we have learned important lessons about contributing to the sustainable improvement of the natural environment and to the development of the indigenous peoples:

1. Before the community mapping, it was crucial to raise awareness to involve the population. In this way, it was possible to achieve a greater level of mobilization. However, we should have exerted effort in a major way to engage the primary and secondary schools,

Unfortunately, we could only do so in the community of Santo Domingo.

2. The work of alliance and coordination with the authorities before the mapping helped us clarify doubts and concerns during the mapping and, above all, helped us build confidence.
3. The validation of the tools before the mapping was useful and necessary since it allowed us to make adjustments according to the context and to the dimensions that we had wanted to address through the mapping.
4. Participation in the local consensus-building spaces allowed us to socialize the proposal and establish inter-institutional synergies. We consider that this is very important in order to create conditions for future CBMIS work and to strengthen and generalize the CBMIS methodology.
5. The involvement of the authorities in the mapping has been very important as an organizational support, since it ensured the participation of the communities and generated commitment on the part of FECONAYA.
6. The combination of theoretical training with visits of practical experiences in the field for the collection of information has been very successful since it helped the participants take ownership of the mapping methodology.
7. Reflective work with communities is important to build awareness and response to meet the challenges of recovering natural resources and affirming culture.
8. The recovery, conservation and protection of the forest, as well as the recovery and revaluation of traditional knowledge, require the effort of many actors and strategies of knowledge transfer between generations. For this reason, it is important to continue to create commitment before, during and after the implementation of CBMIS and livelihoods.
9. The use of the mother tongue has led to greater participation, especially among women, since they have been able to express themselves freely and more firmly,

improving their self-esteem and their knowledge.

10. Working with elderly Yanesha women has allowed the recovery of varieties of seeds of native cotton in different colors. This is because they know the varieties that have been used for generations. It has also been possible to recover the iconography that was used in the craftsmanship.

3.3 Challenges

Although we have achieved many things and learned many lessons during the implementation of the activities of the CBMIS Programme, there still remain the following challenges:

1. To ensure that the Yanesha communities possess the ability to manage their natural resources, propose sustainable alternatives for the management of soils and woodland, protect the potential of their territory and look after the natural environment.
2. To encourage the Yanesha families to sow native crops and maintain a ready supply of local, healthy, nutritious food cultivated using traditional techniques and local resources, in addition to learning to conserve the seeds for the following sowing seasons.
3. To promote the recovery of species in danger of extinction, especially the dyestuff-yielding plants, medicinal plants and native cotton varieties. With the recovery of these species it will be possible to improve the textile products. Additionally, there will be greater availability of medicinal plants to cure any ailment.
4. To promote spaces for reflection with the population and to identify the effects of climate change and the exhaustion of natural resources, and their impact on family food supplies.
5. To promote inclusion in the school syllabus of the topics of gender equality, climate change, food security, cultural identity, and the prevention of violence.

6. To promote alternatives of work and education that encourage innovation and enterprise among young Yanesha people, and to avoid their emigration.
7. To contribute to the reduction of family violence; that there be greater degree of communication between husbands and wives, and to promote the appreciation and participation of women in decision-making within the family and at community level.
8. For CHIRAPAQ, the major challenge is to incorporate the methodology of the CBMIS process, since it is an opportune and appropriate methodology. We are currently in an evaluation process for its possible incorporation in the intervention areas, for which we will establish a methodology.

3.4 Opportunities

Despite the presence of challenges, the following opportunities have been identified:

1. The abundant information resulting from the community mapping will help the communities promote development alternatives at the community level. Likewise, they can update the communities' life plans, which are being promoted by the District Municipality of Palcazú with this systematized information.
2. The development of the participants' skills during the mapping operation has enabled them to become empowered, and to handle instruments and techniques for gathering information such as the GPS.
3. The mapping has also provided an opportunity for the Yanesha people to reflect, become aware, and value its culture, language, history and myths. All this has emerged through the recovery of their traditional knowledge and cultural practices.
4. The participation of the children and schoolteachers in the mapping has enabled them to learn from the elderly and wise folk of the communities about the

richness of the Yanesha culture. They have begun a process of recovery and conservation of the ancestral knowledge of the indigenous Yanesha peoples.

5. Currently there exists the opportunity to strengthen the CBMIS methodology in the local area of the Palcazú Valley with the support of the Department of Indigenous Peoples of the municipality of Iscozacin.

3.5 Recommendations

Based on the achievements and the lessons learned during the implementation of the activities of the CBMIS Programme, the following recommendations are proposed:

1. To continue with the actions of the CBMIS Programme so that the new generations may assimilate the richness of the Yanesha culture in its different aspects, especially their sustainable management of their forests, their biodiversity, their communal control of their livelihoods, and their strengthening of their systems of governance.
2. To the process starting with community mapping, the implementation of livelihoods and the drawing up of life plans, it is important to add a simple monitoring system that can be managed by the people themselves, in consideration of the cultural codes of the Yanesha people.
3. To continue with the training and technical accompaniment in programmes of business undertakings for women and youth for the generation of incomes and protection of traditional knowledge and ancestral practices.
4. To establish alliances with state institutions that are involved with the management of natural resources in the territory of the Yanesha communities.
5. To establish inter-institutional-cooperation agreements with the Directorates of Aboriginal Peoples of the District Municipality of Palcazú and the Provincial

Municipality of Oxapampa to work on the organizational strengthening and identity of the Yanesha peoples of the Palcazú Valley.

6. It is of key importance to work with the education institutions that exist within the territory of the Yanesha communities in order to transmit ancestral knowledge to the new generations on the sustainable management of the forests, the natural resources, the biodiversity and the ecosystems.

Annex

Table 1. Land titling and areas corresponding to the native Yanesha communities.

N°	NATIVE COMMUNITY	YEAR WHEN TITLE WAS GRANTED	AREA (hectares)	Population
1	Santa Rosa de Chuchurras	1976	2250	316
2	Buenos Aires	1976	3424	320
3	Shiringamazú	1975	3629	631
4	Nueva Aldea (Loma Linda)	1983	5298	790
5	Santa Rosa de Pichanaz	1982	1460	140
6	San Pedro de Pichanaz	1975	7140	355
7	Nueva Esperanza	1981	5570	229

Source: IBC. XI Census of Population and VI Census of Dwellings 2007

Table 2. Communities that participated in community mapping.

Communities	Children	Youth	Women	Men	Total
San Pedro de Pichanaz			10	15	25
San Francisco	8	8	9	9	34
Santo Domingo	25	1	15	20	61
Shiringamazú	5	6	12	10	33
Santa Rosa de Chuchurras	6	1	15	14	36
Nueva Aldea	8	2	22	16	48
Buenos Aires		5	15	25	45
Total	52	23	98	109	282

Table 3. Diagnosis of natural resources and cultural heritage.

COMPONENTS	VARIABLES	INDICATORS
NATURAL RESOURCES	Water	Water sources Availability of water Diversity of fish
	Forest	Forested area Diversity of species Area under reforestation Diversity of wild animals
	Farming activities	Diversity of crops Pests and diseases Yields
	Possession of large and small animals	Large animals Small animals
	Capacity to improve standards of living	Presence of alternative activities that help improve incomes of the community

CULTURAL HERITAGE	Language	Language
	Costume	Traditional
	Customs	Gastronomy Fiestas Rituals
	Use of medicinal plants	Traditional medicine Ancestral knowledge
	Capacity to improve standards of living	Presence of alternative activities that help improve incomes of the community

KENYA

Implementing CBMIS and IPSSDD: Experiences and Lessons from Elangata-Enterit/Enkutoto Group Ranch in Southern Kenya

By Indigenous Livelihoods Enhancement Partners (ILEPA)

I. Background

Indigenous Livelihoods Enhancement Partners (ILEPA) is one of the active members of the Indigenous Peoples' Global Partnership on Climate Change, Forests and Sustainable Development[1] under the leadership of Tebtebba foundation. ILEPA continues to contribute to this partnership in the areas of research on indigenous knowledge systems and in implementing a range of climate change-related interventions at the community level, including Community-Based Monitoring Information systems (CBMIS).

The activities under the partnership fall within ILEPA's Environment and Climate Change programme implemented in the context of indigenous peoples' rights in Kenya. The programme aims to promote and enhance climate change adaptation strategies, so as to improve indigenous peoples' appropriation, management and sustainable use of their natural resources and ultimately contribute to the security of their local livelihoods. These strategies include diversified sources of livelihoods through integrated ecosystems and human-rights-based development approaches.

In addition, it aims to help enhance indigenous peoples' participation in governance processes related to natural resource management, promote accountability and transparency through creating awareness and experimenting with the safeguards related to Reducing Emissions from Deforestation and Forest Degradation (REDD+)[2] and with community-based monitoring information systems in the context of climate change.

The lessons generated in this interventions are fed into county, national and international processes related to land rights, climate change and REDD+ with the broader goal of strengthening recognition, respect and protection of indigenous peoples' rights across levels.

At the local level, CBMIS brings the community together and provides a basis for local self-determined development planning and decision-making. At the national level, the contributions of CBMIS to natural resources-related national information systems can make indigenous peoples and local communities and their issues more visible to policymakers. This is in tandem with Article 32 of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) which states "Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources."

This vision establishes a significant framework for applying the Integrated Holistic Approach to Indigenous Peoples' Sustainable, Self-Determined Development (IHA-IPSSDD) to guide the development and implementation of CBMIS among indigenous peoples within the project site.

The CBMIS activities were geared towards exploring whether local communities and indigenous peoples do monitor changes and trends in their ecosystems, (and if so), how, what and who undertakes the monitoring; and finally how results are communicated and integrated into decision-making and livelihoods strategies by the various actors. The overall goal of the intervention was therefore to make CBMIS an effective tool for reflecting realities on the ground and inform-

ing national reports of States to the Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), and other mechanisms including the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and the Sustainable Development Goals (SDGs).

The objective of the current study is to review all CBMIS-related activities and outcomes undertaken by ILEPA, in order to identify lessons learned, good practices and challenges on how CBMIS is being used to strengthen control and management by indigenous peoples of their lands and territories; and as basis to further develop and upscale CBMIS and IPSSDD implementation.

The study draws immensely from the experiences of ILEPA in implementing and reporting CBMIS activities undertaken at one of the group ranches (GR) in Southern Kenya. The study is also informed by a number of research papers and publications related to indigenous knowledge systems and practices in the context of climate change, and undertaken by ILEPA.

II. Description of the Pilot Community for CBMIS

Indigenous Livelihoods Enhancement Partners (ILEPA) has been undertaking CBMIS-related activities at the Elangata-Enterit/Enkutoto Group Ranch. The group ranch is located within Narok South Sub-county, Narok County in Southern Kenya, along the Kenya-Tanzania border (see Annex 1, map of Enkutoto). The ranch consists of two administrative sub-units—Elangata-Enterit and Enkutoto—having a total population of roughly 8,000 to 10,000. A majority of the residents belong to the Maasai pastoralists Indigenous community.

The main livelihood production system practiced by the local community is nomadic pastoralism. However, there is a

notable increase in diversification of livelihoods, which now include subsistence farming, local kiosks, transport services incorporating use of motorbikes, tour-guiding and formal employment especially teaching at local primary schools.

The group ranch hosts a significant section of the larger *Entim e Naiminie Enkiyio* (Forest of the Lost Child, elsewhere referred to as the Loita forest). The forest constitutes the main water-catchment point in the region, draining its waters into the Ewuaso Ngiro river and supporting a wide range and variety of flora and fauna. The GR boasts of very rich bio-diversity and an abundance of indigenous medicinal plants. Other reported and observable natural resources include a sand quarry, chalk-stones, sacred sites, and waterfalls.

The area is one of the least developed and most marginalized parts of contemporary Kenya. Public investment in the area has been low and is unlikely to improve in the foreseeable future, in large part because most public sectors in Kenya are already over-stretched and the remote locality of the group ranch and its perceived relative insignificance with regards to contributing to the country's national economy, renders it of low national priority.

As a result, the area has very few roads and those that do exist are in a state of serious disrepair, making the transport of goods for sale and human mobility prohibitive and costly. There is no access to electricity and the telecommunications infrastructure is very weak with no landlines and only intermittent access to cellphone networks. The GR has high illiteracy levels with only five government-registered primary schools and one unregistered one found in the locality. Schools that exist are severely over-subscribed and under-funded with teacher-pupil ratios reaching 1:80 and teacher attendance often as low as 50 percent. Clinics and health workers are similarly affected by the limited resources available, negatively impacting on their capacity to provide quality and reliable healthcare services.

With no large-scale public investment on the group ranch, the need to provide security services, such as a police post, has

also not been viewed as a priority. World-renowned telephone banking systems (Mpesa) have been developed by private cellular network providers in Kenya, exponentially increasing accessibility to banking services, including opening bank accounts, among sectors of the population who previously had no access to such services. This has enabled easier and cheaper transfer of funds and allowed people to access loan facilities. However, such services are not currently accessible in the Elangata-Enterit/Enkutoto group ranch area, largely because of the lack of public security facilities.

Without reliable and sustainable sources of income, the community faces a number of inter-related and mutually reinforcing challenges, including poor health and nutrition; inadequate education facilities, and poor employment opportunities, ultimately resulting in a highly impoverished and vulnerable community exposed to intermittent food insecurity and constrained livelihoods diversification options.

Current global environmental changes and the associated rainfall fluctuations and drought further intensify vulnerability, highlighting the urgent need to create an enabling environment that facilitates enhanced resiliency of local livelihoods and also ensures that ecological assets are maintained for future generations.

In 2009, the land for the group ranch was adjudicated, and the process towards individuation and privatization of land ownership commenced in earnest. A group ranch committee was elected by members to oversee the management and ultimate individuation of land ownership within the GR, as per the laws of Kenya under The Land (Group Representative) Act CAP 287.

In summary a number of challenges were reported and observed at the CBMIS project site:

Human-Wildlife conflict: Incidents of human-wildlife conflict were reported to be on the increase due to increase in population and climate change-related pressures leading to intensified competition over natural resources. Cases of baboons killing goats and more aggressive behavior among wild

dogs and hyenas forcing their way into home enclosures to attack livestock have been observed.

Water shortage and drought: The community experienced drying-up of seasonal water sources, diminished water volumes/discharge from water catchment sites due to more frequent and elongated drought situations and abstractions of water for irrigation of agricultural plots. These resulted in frequent loss of livestock and crop failure, contributing to the entrenchment of poverty and hunger, and overall food insecurity. Increasingly, erratic rainfall patterns have thrown into confusion indigenous knowledge-based, weather forecasting-related skills, ultimately complicating the indigenous adaptation and coping strategies.

Imminent transition from collective to individual land tenure arrangements: Most of the land within the GR is still communally owned and managed by locally elected group ranch officials. But the group ranch is in the process of land subdivision and external boundary verification. Fears abound among GR members on the potential negative impacts of subdivision and privatization of their lands, based on experiences of neighboring ranches. Evidence on trends from other group ranches within the county that have privatized their landholdings indicate a disturbing rush to sell individual parcels to non-pastoral communities. At the time of undertaking the CBMIS baseline study, the community was engaged in the politically contested process of whether or not, and how to move from collective/customary tenure arrangements to individual and private.

III. ILEPA's Role in Piloting CBMIS

Since 2014, ILEPA, in partnership with Tebtebba and with the support of Tamalpais Trust Fund, has been implementing an array of interventions related to Community-Based Monitoring Information Systems (CBMIS) and Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD). Overall, the project(s) were aimed at influencing the relevant national and local government units to ensure full and effec-

tive participation of indigenous peoples in climate change-related processes. The projects also envisioned contributing to the recognition of their rights to their lands, forests and resources, to their free, prior and informed consent, to their traditional knowledge and sustainable traditional livelihoods, and to their sustainable, self-determined development.

The said project had three main objectives:

- Enhance the knowledge and practice of integrated holistic and sustainable landscapes approaches by strengthening, recognizing and utilizing indigenous ecological knowledge systems for IPSSDD;
- Contribute to enhanced local livelihoods diversification options in Osupuko division, Narok County, focusing on indigenous women's traditional bead-making skills;
- Help strengthen environmental conservation and sustainable utilization by indigenous peoples, focusing on REDD+ related safeguards.

Some of the activities implemented during the period 2014-2016 include:

Strengthening of indigenous peoples' capacities: The aim is to enable indigenous peoples within the project site, the county and the nation to effectively engage in climate change-related and REDD+ decision-making-related processes. To achieve this, a number of workshops were held, including one orienting participants to IPSSDD. Another workshop dealt with Community Participatory Mapping, and another one tackled the topics of indigenous peoples' rights, climate change, REDD+ and associated safeguards, among others.

In addition, a number of trainings were undertaken, concerning indigenous peoples' rights at the national, regional and international levels in the context of climate change and REDD+. These highlighted, for one, the global/UN human rights instruments with respect to indigenous peoples' rights, such as the ILO 169, UNDRIP, UNFCCC REDD+ related safeguards. In addition, these trainings dwelt on the topic of regional instruments, such as African Commission on Human

and Peoples Rights (ACHPRs), and of national policies and legislation, such as gains in national Constitutions and emerging jurisprudence on indigenous peoples' rights in Kenya.

The activities also involved learning-exchange visits within East Africa, and globally within the framework of the Tebtebba-hosted global partnership of indigenous peoples and forests. Maasai women groups from Maji moto group ranch, for instance, visited their counterparts in Tanzania Oloonkiito Village and Maasai Market in Arusha to explore and study their experiences on beadwork production, fair trade markets, and product-range dynamics and its impact on local livelihoods.

Research, Documentation and Publication: ILEPA, with the support of Tebtebba, has undertaken a number of baseline studies related to indigenous knowledge systems and practices. These studies have ultimately laid down a solid foundation for the enhanced understanding and documentation of the CBMIS dynamics. Some of the studies are: i) "Indigenous peoples and the Naimina Enkiyio Forest in Southern Kenya: a case study";[3] ii) "Indigenous Women, Climate Change and Forests";[4] iii) Enkutoto Group ranch Natural Resource Inventory Map; iv) Maasai Pastoral Seasonal Biocultural calendar; iv) "Climate Change and Biodiversity Monitoring: Experiences and Perspectives from Indigenous Pastoral Community In Southern Kenya"; and v) Report on Land Tenure Fragmentation and associated impacts on CBMIS.

These research outputs have generated a rich body of knowledge and tools that provide a compelling case for integrating and facilitating the application of CBMIS in natural resource management for the local and global good. In line with the Community Participatory Mapping and Resource Inventory approach, for example, ILEPA, in collaboration with ERMIS Africa, pursued the process of developing the Community Participatory 3D and Natural Resource inventory within the CBMIS Project site. The process entailed the following components:

- Elangata-Enterit/Enkutoto Group Ranch leaders' training in 3D maps;
- Community Free, Prior and Informed Consent (FPIC) process;
- Community self-identification process of data collectors based on pre-agreed criteria;
- Data collection by the trained community representatives under the guidance of a consultant from ERMIS;
- Uploading and coding of data by the community and the consultant;
- Verification and validation of maps based on the data collected;
- Adoption, launch, and hand-over of the map to the community.



Figure 1. Capacity Building Workshop on CBMIS activities - Enkutoto.



IV. Outcomes, Lessons and Gains from ILEPA's CBMIS Work

ILEPA CBMIS work is a success story on many fronts. Overall, all the planned CBMIS programme activities were undertaken, and a number of tools or instruments critical both to understanding and communicating CBMIS dynamics within and outside the pilot area were generated. In addition, the lessons learned and key outcomes were shared and disseminated with a wide array of stakeholders at the community, county, national and global levels. Summarized below is a description of some of the key outcomes from CBMIS.

a. Generation of Key Tools/Instruments on CBMIS

CBMIS Baseline Matrix on Key Domains and Indicators:

The Tebtebba-coordinated Indigenous Peoples' Global Partnership on Climate Change, Forests and Sustainable Development jointly developed a common template matrix for capturing and describing the key themes/domains and associated indicators locally monitored by indigenous peoples within the respective CBMIS pilot sites. While the partnership's matrix is comprised of five common key domains, the corresponding status, trends and indicators of each across the partner's pilot project sites reflects context-specific diversities. The key domains reflected in the matrix are briefly described in the next page.

Table 1. Summary table on Key CBMIS Domains and their Status within the Project Site.

Domain	Description	Pilot Areas Status
Land Territories and Resources	To reflect indigenous peoples' control over their customary land territories and resources, recognition of indigenous peoples' land tenure rights by the state, business sector and others, also reflecting the historical context, and prevailing conflicts between customary and statutory control and ownership	Land within the Group Ranch is still communally held recognized under land (Group Representative) Act cap 287 of the laws of Kenya, now transiting into the Community Land Act 2016 in line with the 2010 national Constitution. 924.65 hectares of land are on a 25-year leasehold by an external investor running a Wildlife Conservancy at Olkeri paying Leasehold fees to the community through the elected group ranch officials. A section of land within Kamorora ranch is contested between the Elangata-Enterit group ranch and Oldonyio-onyokie group ranch in Kajiado County. This portion of land is a subject of protracted court cases pitting three Maasai territorial sections. Sections of this land are located within Enkutoto group ranch but members own none of it. Land use within the GR is predominantly under pastoralism with increasing trends to incorporate irrigation-fed subsistence agriculture practices on lands along the river banks, mostly cultivating tomatoes, corn, onions and beans. This has strained the balance of access to water between pastoralists and agro-pastoralists

Domain	Description	Pilot Areas Status
Traditional Knowledge	To reflect status and trends on the value and innovations of traditional knowledge, and the extent to which it is being utilized, recognized, respected and promoted	Traditional knowledge on natural resource management is still very vibrant and central in the daily livelihood strategies and land-use practices of the local community, including in its reliance on traditional medicine and healers and on traditional occupations such as pastoralism, agro-pastoralism, hunting and gathering of wild fruits and honey, Indigenous cultural and spiritual identity is strong, with most of the resident speaking the Maa indigenous language. The Maasai traditional rites of passage enacted within the age-system are still being practiced in the project site. Traditional forms of expressions, such as age-set-specific songs, poetry and its links with the landscape/ecosystem, livestock and age-mates, remain an integral part of this society, with increasing strain from formal education and Christianity. Transfer of indigenous knowledge is facilitated through storytelling and folklore undertaken by elderly women and through collective ceremonies, such as sacrificial (*Olasarr*) rituals during moments of extreme drought and learning through herding out in the wild The value of traditional knowledge and its associated support of livelihoods production in natural resource management is increasingly being recognized in the country's laws and policies, that is, the constitution of Kenya 2010, the National Land Policy 2009, National Policy for the Sustainable Development of Northern Kenya and other Arid Lands ... the Legal Framework for the Protection of Traditional Knowledge and Traditional Cultural Expression Act 2016, and Kenya's R-PP on REDD+ strategy, among others.

Domain	Description	Pilot Areas Status
Full and Effective Participation:	To reflect status and trends in indigenous peoples' level of representation and participation in decision-making processes, especially in major decision-making bodies	The highest organ of decision-making within the GR is the Annual General Meeting (AGM) comprising 60% of registered members of the GR. The group ranch management structure is comprised of 10 officials elected by the registered members who are recognized under the Group (Land Representatives) Act cap 287. Women are NOT registered (except widows) as members, NOT elected into GR leadership positions and have no voting rights. Other structures related to representations and decision-making include political representation through competitive elective politics, both within the county and national governments. Local community participation in electioneering processes during national general elections is hampered by the high level of illiteracy, the low level of awareness and voter registration and the less than optimal acquisition of National Identity Cards (ID)—a prerequisite for voting. In addition, the National Government Administration Office (NGAO) is represented by 2 local Chiefs, each of whom is nominated by the Office of the president. At the Village Level—The Village Committee is established, with strong representation of women with a mandate for promotion of peace and settlement of conflicts within the village. Overall, decision-making related to natural resource management and environmental conservation within the community is mostly collective and based on consensus regulated through customary law, indigenous values systems, and taboos. Increasingly recognizing and promoting full and effective participation of indigenous peoples are a number of national laws and policies, including the Wildlife Conservation and Management Act, 2013; Kenya has ratified the Nagoya Protocol and the National Guidelines for Stakeholders Engagement and Free, Prior Informed Consent (FPIC) for indigenous peoples.

Domain	Description	Pilot Areas Status
Traditional Governance	To reflect status and trends in the practice of adherence to traditional governance systems by indigenous peoples and its relation to contemporary institutions and governance practices	The most vibrant indigenous political structure is the age-set system. The leadership system is founded on very strong values of solidarity, reciprocity and community cohesion regulated by socially shared norms, sanctions and taboos. A new age-set system is inaugurated approximately after every 5 – 7 years, with three office bearers selected and anointed by elders and peers. This traditional leadership system is reflected within the local community. The age-set leaders deal with issues related to age-set members, security, preservation and sustenance of cultural values and practices. Age-set leaders are leaders for life, unless candidates breach pre-established leadership code of conduct. The council of elders provides overall oversight of key political decisions touching on community's common good, social relations and management of natural resources, especially pasture and water for livestock. Women participation in public spaces for decision-making is weak and needs to be strengthened. Women are indirectly represented within the age-set system, and the system is parallel to the state bureaucracy. The church/Christianity is an increasingly growing social actor, influencing community development initiatives within the locality, with an emerging strong voice for women.

Domain	Description	Pilot Areas Status
Human Rights	To reflect status and trends in the recognition, respect and promotion of indigenous peoples' rights as citizens and as a special category of right-holders provided by a number of international human rights instruments, laws, protocols and conventions including the UNDRIP and ILO#169	While the Country's constitution and a number of enabling laws recognize the rights of the marginalized communities, full implementation of the provision remains a challenge. Respect and promotion of indigenous peoples' rights is constrained by the low level of awareness of existing human rights-related laws, instruments, convention both those at the national, and international levels, such as the ILO Convention No. 169 and UNDRIP; by the illiteracy of the community and the corruption among the local leaders and government agencies on land management. One area of frequent incidence of human rights violations is in land grabbing and resource extraction by external investors without the community's free, prior and informed consent. There is reduced freedom for traditional communal assemblies (*Ilkiushin*) as compared to the past because the local administration chiefs have to be notified before such gatherings are held. Similarly, the right to basic services such as access to health, safe and clean water, education and security is constrained at the CBMIS pilot site.

As indicators for the respective key domains, their status and trends in changes over time were reviewed and documented. Some of the indicators highlighted in our CBMIS work include rainfall periodicity, intensity and extent; trends in abundance or scarcity of flora fauna; trends in land use changes; trends in water abundance and quality; trends in abundance or scarcity of wild honey and plants of medicinal/herbal value; trends in incidence and intensity of pests and disease; trends in abundance or scarcity of pasture and Invasive species.

The CBMIS system entails the exchange of *Ilomon* (the daily continuous sharing of news by all actors), the *Ilkiushin* (official traditional meetings), written or verbal reports to relevant government agencies/departments such as the local Chief, Kenya Wildlife Service (KWS), Kenya Forest Service (KFS), and sometimes the office of *Oloiboni* (spiritual leader and seer), all of which are regulated through customary law and indigenous value systems.

Maasai Pastoral Seasonal Bio-Cultural Calendar:

The calendar was generated based on the knowledge, views and experiences shared by Pastoralists Maasai members of the community—male and female, young and old—within the CBMIS pilot project site. The calendar reflects the indigenous knowledge systems and practices of Maasai pastoralists within and across seasons.

The calendar presents a fascinating account of seasonal trends with respect to rainfall incidences and associated traditional occupations and cultural practices among the Maasai based on centuries of observing and adjusting to changes in climate. It's evident from the calendar that rainfall patterns dictate the rhythm of life—both economic and socio-cultural undertakings—of the local community.

The pastoral bio-cultural calendar is both an outcome of, and ultimately a foundation, for community-based monitoring information (CBMIS). The calendar has provided a

baseline on areas such as customary land tenure systems, land use, traditional knowledge systems and practices, language, traditional governance systems, sacred sites and traditional livelihoods and production systems, among others.

In addition, indigenous peoples' families that have moved to urban centers to access education opportunities for their children have also found the pastoral bio-cultural calendars useful learning instruments for their children to connect to their cultural heritage and identity and the associated environment-related cosmovisions (see Annex 2).

Community Training Manual on Participatory 3D Mapping and Natural Resource Inventory Map

ILEPA, in partnership with ERMIS Africa, carried out a community participatory 3D mapping and natural resource inventory activity at Elangata-Enterit/Enkutoto Group Ranch. The exercise involved creating awareness on the history and value of mapping, the risks of externally-driven mapping, training on the Community Participatory 3D Mapping process and technologies, data collection, and production of a natural resource inventory map for the project site.

At the heart of community 3D mapping in natural resource inventory is genuine participation, high ethical consideration and genuine community ownership of process and outcomes. The process was community-driven and geared towards solving specific problems and integrating different types of technologies into indigenous knowledge systems and innovations.

The rationale for community participatory mapping and natural resource inventory is to provide grounds for self-determination by local indigenous communities in the management of natural resources and amelioration of conflicts, and to establish foundations for collaborative research and resource-use planning and management, preservation of intangible cultural heritage and building identity.

The map, developed and adopted by the local community, builds on indigenous spatial knowledge related to natural

resource distribution, resource use, control and access. It also documents key sites of historical, cultural and religious significance, all captured and reflected in the map in indigenous languages and descriptions (See Annex 2).

The natural resource inventory map developed for the project site forms another baseline information data set for the continuation of the CBMIS activities, both within the community and in collaboration with external actors.

Figure 2. From left: Training session of community data collectors on 3D mapping methodologies and technologies, and actual data collection.



b. Knowledge Generation and Publication

In addition to the CBMIS outputs highlighted earlier—the training manual, the natural resource inventory maps and the Bio-cultural calendar (which were all published)—a full report entitled "Climate Change and Biodiversity Monitoring: Experiences and Perspectives from Indigenous Pastoral Community in Southern Kenya" was published by ILEPA in partnership with Tebtebba in November 2016.

The paper, while noting the increasing recognition of the value of indigenous knowledge systems in natural resource management across levels, points out the minimal change in practice on the ground, both in terms both of documenting and of enabling the actual integration of indigenous knowledge in development planning, decision-making and implementing intervention measures.

Table 2. Key actors in the natural resource monitoring at Enkutoto Group Ranch.

Who monitors?	
Women	Especially as wood-fuel and water for domestic consumption collectors - monitor watering points and trends in dry woodfuel availability. Also monitor indigenous medicinal plant species
Herders	Gather information to monitor the ecosystems daily as they take cattle out for grazing. This includes edible wild fruits and root tubers and wild honey
Honey gatherers	No particular place to gather honey, therefore they travel throughout the forest and observe changes on their way
Traditional medicine men	Specifically monitor tree and plant species of medicinal value
Ilapuayak (travelers)	Since most traveling at the local level is by foot, significant observation happens and is reported through Ilomon – in the subsequent stop of the traveler
Council of elders	Overall trends in climate variability and changes in the ecosystem based on community's collective memory
Ilaleenok (assessors)	Monitor the trends and abundance in pasture, saltlicks, water and disease incidence to inform livestock mobility
Hunter-gatherers	Distinct knowledge of forest plants and animals, they are increasingly assimilated to pastoral community but knowledge and memory of flora and fauna still remain

By looking at a specific indigenous pastoral community in Southern Kenya, where local monitoring of the ecosystem has been taking place for centuries, we argue that benefits of CBMIS in natural resource inventory, promotion of ecosystem integrity and sustainable use and respect for traditional occupations, are innumerable.

The report highlights what is monitored, by whom, what kind of reporting systems are operating (its key institutions and their roles) and how CBMIS informs decision-making. The place and value of CBMIS in the context of climate change and REDD+ monitoring is equally considered and discussed.

c. Brief Study on Land Tenure Fragmentation and Associated impacts on CBMIS

Despite the evidently critical contribution of CBMIS in promotion of sustainable livelihoods and environmental conservation, a number of threats were noted. The foremost noted challenge involves the building pressure towards privatization and individuation of the pastoral collective land ownership system. The domain on land tenure endeavored to reflect indigenous peoples' control over their customary land territories and resources, and the recognition of indigenous peoples' land tenure rights by the state, the private sector and other parties. In this way, it also reflected the historical context and prevailing conflicts between customary and statutory control and ownership.

It turns out that the collective land tenure arrangement, managed through customary law, is central to optimal functioning of the CBMIS. As it informs innovations of traditional knowledge, and the extent to which this knowledge is being utilized, recognized, respected and promoted, it provides avenues for knowledge sharing and transfer. As such it also influences access to natural resources across the rangelands through pastoral mobility.

To illustrate this challenge, ILEPA, with the support of Tebtebba, undertook a brief study on one of the Enkutoto GR neighboring group ranches (Maji moto) to explore the impact of land fragmentation and privatization on the CBMIS in the pastoral Maasai community. The overall negative impact of land fragmentation is the eventual weakening of social sanctions based on customary law that have been instrumental in natural resource conservation, utilization and monitoring.

Figure 3. From open collective land tenure arrangement to individual/ private enclosures.



d. Capacity Building

Capacity building of indigenous peoples' representatives and communities on themes related to CBMIS was central in all interventions undertaken by ILEPA. Capacity building activities contributed to enhanced understanding, recognition and promotion of indigenous peoples' rights and climate change-related safeguards, increased knowledge of Community Participatory 3D Mapping methodologies and technologies, and, greater awareness of opportunities for creating linkages in CBMIS activities and other natural resources and human rights monitoring avenues at the county, national, regional and international levels. Capacities of other development actors, such as county governments, to appreciate the nature and value of CBMIS were also strengthened.

V. Lessons Learned from ILEPA's CBMIS-Related Activities

At the heart of CBMIS lie the right to indigenous peoples' identity (social and cultural rights); their right to self-determination (including indigenous peoples' worldview of development); their rights to full and effective participation and to Free, Prior and Informed Consent (FPIC) in development practice; their demand for respect and promotion of Indigenous Knowledge Systems and practices; and indigenous peoples' people-nature positive relations, and their link with biodiversity conservation and sustainable development.

Community-Based Monitoring and Information Systems (CBMIS) at the project site is still robust, elaborate and vibrant, informing local community's daily livelihoods decisions and actions despite the numerous external pressures. Women, elders, herders, traditional healers, travelers, and wild honey-harvesters all participate in this complex and fluid system regulated through customary law, norms and taboos.

The local indigenous peoples' livelihood system is still deeply embedded in the natural ecosystem as reflected in their cultural, spiritual and economic practices. Indigenous peoples' positive people-nature relations, and its link with biodiversity conservation and sustainable use are thus still being practiced and promoted by community members at the project site.

While traditional institutions of governance are central in the management of ecosystems, the emergence of hybrid institutions (indigenous peoples + state + non-state actors) is a growing trend and opportunity in the context of CBMIS and REDD+.

Clear documentation of CBMIS-related practices from indigenous peoples' perspective is critical for meaningful lobbying and advocacy for an integrated approach in natural resource management at all levels (local, national, international), especially in the context of climate change.

CBMIS practices are increasingly being subjected to enormous pressures, including those from intensifying climate

change trends and other forces of globalization, the state bureaucracy and its parallel institutional and policy arrangements, land tenure transformation and new religious belief systems and practices.

Application of CBMIS is imperative if the aspirations of the local, regional and international process and mechanism related to natural resource conservation, social inclusion and human rights are to be realized Among the outcomes that CBMIS can help bring about include Sustainable Development Goals (SGG), safeguards and non-carbon benefits related to climate change interventions and respect for indigenous peoples' rights, as spelled out in the Outcome Document of the World Conference of Indigenous Peoples (WCIP).

VI. Communicating CBMIS Outputs

Developing and documenting CBMIS practices within the project site was one side of the story; effectively communicating the outputs and outcomes of the exercise to relevant development actors and policy-makers was another. A number of knowledge products, including reports, manual and maps, powerpoint conference presentations, petitions and direct talks were developed and shared to ensure learning and action across the board. In addition to direct engagement/dissemination platforms of the project outputs, online-based platforms, such as ILEPA's website, WhatsApp and listserves have been employed to disseminate the outputs.[5]

Community Level: Firstly, communities within the project site were key drivers of all CBMIS-related activities and ultimate owners of the project outputs and outcomes. Participants to all CBMIS activities undertaken by ILEPA were directly self-nominated by indigenous communities themselves based on local customary institutions of representations and value systems so as to ensure that communities are fully engaged and informed on all outputs. All outputs of CBMIS, including training manuals and maps, biocultural calendar and other publications, are owned by the community. Communicating

outputs to local communities was done through open community meetings facilitated in the local maa language and through local vernacular radio.

County and national levels: Specific relevant departments of the government across the two levels (county and national) including those in land, natural resources, environment, and tourism are charged with the responsibility to implement or apply policies and legislation with respect to natural resource management and monitoring, They were targeted as recipients of all CBMIS-related outputs. CBMIS outputs dissemination workshops and roundtables were conducted to communicate the outputs to these critical stakeholders, and hard copies of reports, publications, and other tools developed on CBMIS were shared. CBMIS workshops on best practices, lessons learned and knowledge dissemination indigenous peoples' leaders, organizations and civil society organizations were also conducted.

Internationally, ILEPA took advantage of the global gatherings of the Indigenous Peoples' Global Partnership on Climate Change, Forests and Sustainable Development to disseminate ILEPA's CBMIS-related outputs. In addition, global CBMIS partnership-dedicated meetings/workshops, UNFCCC inter-sessionals, Conference of Parties (COPs) meetings, United Nations Permanent Forum on Indigenous Issues (UNPFII) sessions, Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and Sustainable Development Goals (SDGs) related meetings were utilized as excellent avenues and platforms from and through which to disseminate CBMIS outputs and conference presentations.

ILEPA has also partnered with a number of international actors[6] developing and operationalizing the Indigenous Navigator tool. The indigenous Navigator provides a framework and a set of tools for indigenous peoples to systematically monitor the level of recognition and implementation of their rights. The Indigenous Navigator appears to be one of the greatest efforts to establish a framework and tool to translate textual gains in indigenous peoples rights into practical recognition, respect and protection of human rights.

VII. The Place of Women, Youth and the Elderly in ILEPA's CBMIS Work

All CBMIS-related activities undertaken by ILEPA incorporated gender and intergenerational equity principles in the entire project cycle. The CBMIS work demonstrated the 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 and domestic use; sacred sites and trees for spiritual activities; sites for enactment of various cultural practices, including rites of passage; to firewood and honey harvesting, among others.

The connection between the people and nature/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 natural environment in unique ways in their daily livelihoods activities. Nature and all its provisioning services is at the center of the Maasai social and cultural identity evidenced by the fact that all rites of passage from birth to death utilize some aspects of the forests/plants.

Women are not passive players in environmental and natural resource management and utilization. Women are right in the center 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.

Women's role as day-to-day caretakers of households (as in preparing food, as traditional birth attendants and medicine healers—*Enkaiyukoni*), brings them to closer interaction with the forests and other natural resources more than their male counterparts. As they fetch water, firewood, medicinal plants, and plants for ceremonial uses, women come to develop deep understanding and better appreciation of the critical value of forests and natural resources in the local community's indigenous livelihoods.

However, despite women being critical knowledge-bearers and the immediate victims of negative environmental changes, the concerns of the women in the community are rarely recognized, much more so addressed. Influenced by cultural practices, values and belief systems, the pastoral Maasai socialization processes has perpetrated gender-related inequalities; expressed in a number of ways. 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.

Specifically, women have no right to own land or acquire title deeds, unless through their husbands, sons or as widows. Women have no access to land-related information; because the group ranch laws recognize only male members.

Women's participation in public spaces for decision-making is weak and needs to be strengthened. They, for example, have no direct spaces of engagement within the traditional leadership and governance system, such as the Maasai age-sets and Council of Elders. Women therefore only participate indirectly in both contemporary state/government and traditional systems of decision-making and leadership arrangement.

The challenges of women's full and effective participation in decision-making arrangements, including those in CBMIS-related activities, is compounded by high levels of illiteracy and low levels of awareness of provisions related to women and indigenous peoples' rights within the policy and legislative environment at the county, national and international levels. ILEPA in all its intervention activities deliberately ensures that affirmative action measures are undertaken to facilitate strong and proportionate representation of women.

Elders are custodians of indigenous knowledge, representing the collective memory of society accumulated over time. They help put CBMIS-related data in perspective, interpreting long-term observed trends. Despite their critical position, they are often disregarded in modern development practice.

Youth, on the other hand, though still learning the ways of society, are increasingly getting disconnected from their indigenous identity and cosmovisions. Western forms of education and associated value systems, though beneficial, have weakened the youth's deep engagement with Community-Based Information Systems. Intergenerational transfer of knowledge related to CBMIS is certainly constrained.

VIII. Achievement Emerging from ILEPA's Implementation of CBMIS and IPSSDD

Building of a Pool of Indigenous Resource Persons: An achievement emanating from ILEPA's implementation of CBMIS and IPSSDD was the establishment of a pool of indigenous peoples' community advocacy teams and indigenous community mappers knowledgeable in REDD+ (especially safeguards), the UNDRIP and in IPSSDD, with a deliberate effort to ensure women and youth participation. These resident capacities are essential in linking up CBMIS with emerging national forest and human rights monitoring systems.

Increased recognition of the value of community-based monitoring: National governments and international bodies have begun to recognize the importance of both indigenous peoples' traditional knowledge and of the information generated through CBMIS. International agreements, whose implementation could benefit from community-based monitoring, include the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC) and implementation of the Paris Agreement, and the Sustainable Development Goals (SDGs) framework, along with the associated Voluntary National Reviews (VNRs).

Improved policy, legislative environment and level awareness: Increasingly, new policies and laws have been promulgated across levels to ensure the recognition, respect, protection and fulfillment of indigenous peoples' rights**.** Part

of these gains is attributable to the project's efforts of engaging with relevant county and national government departments through round tables and publications. Some of the relevant new policies and legislations, to which we have contributed, are as follows:

- The Community Land Act 2016 now vests community land on communities, giving them the power to enter into contracts/leases with investors, in consultation with the county governments. Full and effective consultation mechanisms with community landowners are a requirement of this Act;
- The impacts of climate change within Arid and Semi-Arid Areas (ASALs) and the need for targeted affirmative interventions are clearly elaborated in the country's National Climate Change Action Plan (NCCAP) 2013-2017;
- Indigenous knowledge is recognized, and indigenous peoples have been granted direct representation under the country's Climate Change Act 2016.
- The country has developed National Free, Prior Informed Consent (FPIC) Guidelines, applicable whenever interventions are undertaken within indigenous peoples' territories;
- An act on Protection of Traditional Knowledge and Cultural Expressions Act, 2016, has been adopted in the country to guide government and other development actors in engaging with indigenous knowledge and associated cultural expressions.

Forging of new Partnerships for Sustainable Development

National Level: ILEPA is a member of the National REDD+ Working Group on Participation and Consultation under the National REDD+ Coordination Office and the National Task Force on Anti-Corruption in REDD+ in Kenya. ILEPA was honored to provide leadership to the national team facilitating the development of Kenya's National Stakeholder

Engagement Guidelines on Free, Prior and Informed Consent supported by the UNDP under the UN-REDD programme, to be applied in the context of climate change and REDD+. Integration of CBMIS in National Forest Monitoring Systems and Safeguards Information Systems is critical.

Regional Platforms: ILEPA presently serves as the Regional Secretariat for the Pan-African CSOs and Indigenous Peoples Observers Platform on REDD+ and Climate Change. This is a platform for knowledge sharing and strategy development for African CSOs and indigenous peoples observers working in the area of climate change and REDD+. CBMIS outputs have been shared with actors on this platform.

County Level: Increasingly ILEPA is positively engaging with relevant county departments on a number of fronts/ initiatives. ILEPA is, for example, a member of the County Spatial Development and County Environmental policy development processes. These two processes are very relevant to the CBMIS-related activities of ILEPA. The women's beadwork, having received capacity training, have been absorbed into the County Indigenous Beadwork enterprise leading to increased livelihood opportunities for local women in the project site.

Community Level: ILEPA remains a key strategic partner of the local community within the CBMIS project site. While the community has recently changed the group ranch leadership, ILEPA has already established positive working relations with the new team to facilitate continuation of its CBMIS activities. ILEPA is currently implementing livelihoods diversification activities, including beekeeping at the community level.

Elangata-Enterit/Enkutoto Group Ranch was one of the remotest areas of Narok County. Arising from ILEPA's CBMIS work at/with the Enkutoto Group Ranch, the community has equally managed to establish other connections with the government and other non-state actors working in the areas of natural resource management. The county had, for example, taken up the community-developed Natural Resource Inventory maps to explore how to integrate them

into the County Spatial Plan. In addition, Egerton University, in partnership with Leicester University, UK is undertaking research work on pastoral resilience and remote sensing, also utilizing the community map as one of the baselines**.**

IX. Opportunities, Challenges and Recommendations

a. Challenges

Firstly, the main threat to CBMIS is the mounting pressure to dissolve collective ownership of land and associated decision-making arrangements through privatization and subsequent land sales. As the process introduces individual competition it literally dissolves, *"elatia" (pastoral neighborhoods),* which essentially pools CBMIS-related knowledge through collective social memory.

Secondly, intensified climate-related variability associated with climate change phenomena has disrupted indigenous knowledge systems and practices related to CBMIS and weather forecasting, seriously complicating livelihoods adaptation strategies.

Third, the CBMIS outputs are historically geared towards identifying local threats and developing local strategies to deal with them. Where CBMIS activities are constrained the community becomes exposed and/or vulnerable to changes within the ecosystems, especially those that are externally driven. Sustaining and strengthening CBMIS activities require joint collaborative action with other stakeholders across levels.

Fourth, forces of globalization, such as the Western mode of education, individual and private rights, non-indigenous forms of religion and "free markets," are increasingly putting pressure on this Indigenous Knowledge Systems and practices by pulling youth out of indigenous forms of education, introducing foreign value systems and beliefs, and ultimately weakening intergenerational transfer of indigenous values systems, and knowledge that supports CBMIS.

Fifth, county, national and global human rights and environment-related monitoring bodies and mechanism are spatially and conceptually/perceptually distant from local-level realties; hence, communities often choose to ignore them. In addition, the cyclical/scheduled reporting timelines of such monitoring bodies across levels, e.g., State departments/devolved units are often out of sync with local realities and the dynamics of continuous human rights violations.

Sixth, lack of resources, poor knowledge of contemporary state and global systems functioning, and weak infrastructural and institutional arrangements, have constrained the communities' capacities to document and communicate CBMIS outputs across levels.

b. Opportunities

County Level: County governments, being the creation of the CoK 2010, are in the formative stages of establishing both institutional arrangements and relevant policies to facilitate delivery of the devolved functions. The Narok County Minister of Lands and Natural Resource, who participated in the launch of the Enkutoto natural resource inventory map, greatly appreciated ILEPA for the commendable job done in the mapping process. He further indicated willingness for the county government to integrate the community map in their development of the County Spatial Plan. The development of the spatial plan needed to begin at the community level and the work done by ILEPA and the Enkutoto Group Ranch members would be a stepping-stone to the plan's development.

Improved policy environment: The Community Land Act, Protection of Traditional knowledge, National Climate Change Action Plan, National Climate Change Act, FPIC all provide a friendly policy environment in which to advance the respect and integration of CBMIS in development planning and practice.

Indigenous Peoples Targeted Programmes: In Kenya, a number

of national programmes are currently underway to promote the recognition and respect for indigenous peoples' rights in the country. One of these processes is that being led by the Kenya National Human Rights Commission (KNHRC) and the National Gender and Equality Commission (NGEC) in collaboration with the UN office in Kenya with the broader goal of establishing a national framework for inclusive development informed by the United Nations Declaration on Rights of Indigenous Peoples (UNDRIP). The Second national program is related to the UN Guiding Principles on Business and Human Rights. The country is in the advanced stages of developing a National Action Plan on Business and Human Rights. The state-initiated-and-led process is steered by the Department of Justice (DOJ), the Office of the Attorney General and the Kenya National Commission on Human Rights (KNCHR).

The Indigenous Navigator and SDGs: The Indigenous Navigator appears to be one of the greatest efforts to establish a framework and tool to translate textual gains in human rights into practical recognition, respect and protection of human rights. The tool envisions a process and mechanism through which indigenous peoples could generate relevant data and communicate it to relevant national, regional and global processes. ILEPA is one of the partnering organizations in Kenya, and the African region.

c. Recommendations

i. Establish strong linkages with, and anchor the CBMIS work on, national and subnational safeguards and indigenous peoples' rights-related programs, policies and legislation.
ii. Link and integrate CBMIS reporting with safeguards information systems and indigenous peoples' rights monitoring-related mechanisms, conventions and national governments as well as international obligations to ensure effective transition from reporting monitoring outputs to reporting change informed by

CBMIS for synergistic gains across levels. These would include:

Regional, National and Subnational Anchors:

- Spatial and land-use planning programmes at the county level
- National Forest Monitoring Systems and National Safeguards Information Systems (SIS) in the context of REDD+
- National stakeholder engagement guidelines frameworks, including guidelines on Free, Prior, Informed Consent (FPIC)
- National policies related to indigenous peoples' rights, land and territories, including the proposed National Action Plans to operationalize decisions under the WCIP, the National Voluntary Reporting on SDGs and National Climate Change Action Plans (NCCAP)
- National Periodic Review on human rights and regional human rights mechanisms and courts, such as the African Commission on Human and Peoples Rights, and the African Court of Justice
- Establish linkages with the national Department of Resource Survey and Remote Sensing

International Anchors within the United Nations Human Rights System

- Plugging our concerns arising from CBMIS into the Universal Periodic Review on respect for human rights by signatory state parties
- International business and human rights monitoring and reporting protocols
- The UN Special Rapporteur on the rights of indigenous peoples
- Specific conventions and instruments on indigenous peoples' rights, including the UNDRIP,

ILO Convention No. 169, and the Outcome Document on the WCIP

Anchors related to the International Environment, Climate Change, Biodiversity and Development Agenda:

- REDD+ Safeguards of the Cancun decisions, under the UNFCCC
- Warsaw decision on forest monitoring, including community-based monitoring, under UNFCCC
- Nagoya Protocol on Access and Benefit-Sharing, and respect for traditional knowledge, under the CBD and the newly-established approach of Indigenous Communities Conserved Areas (ICCAs)
- Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and its link to indigenous/traditional knowledge systems
- Decision document on Sustainable Development. Goals and their periodic reporting by state parties, national voluntary reporting

iii. Build capacities and ensure cost-effective, accessible and simple infrastructure to enable communities' periodic, consistent and robust documentation, updating of the CBMIS baseline data base(s) and timely reporting. This may entail making available simple GPS-enabled technologies and software and hardware to store and communicate the generated data.

iv. Establish community-based protocols founded on indigenous peoples' defined principles of engagement to guide communities' exchanges with external actors in the context of CBMIS. This would entail application of Free, Prior and Informed Consent principles.

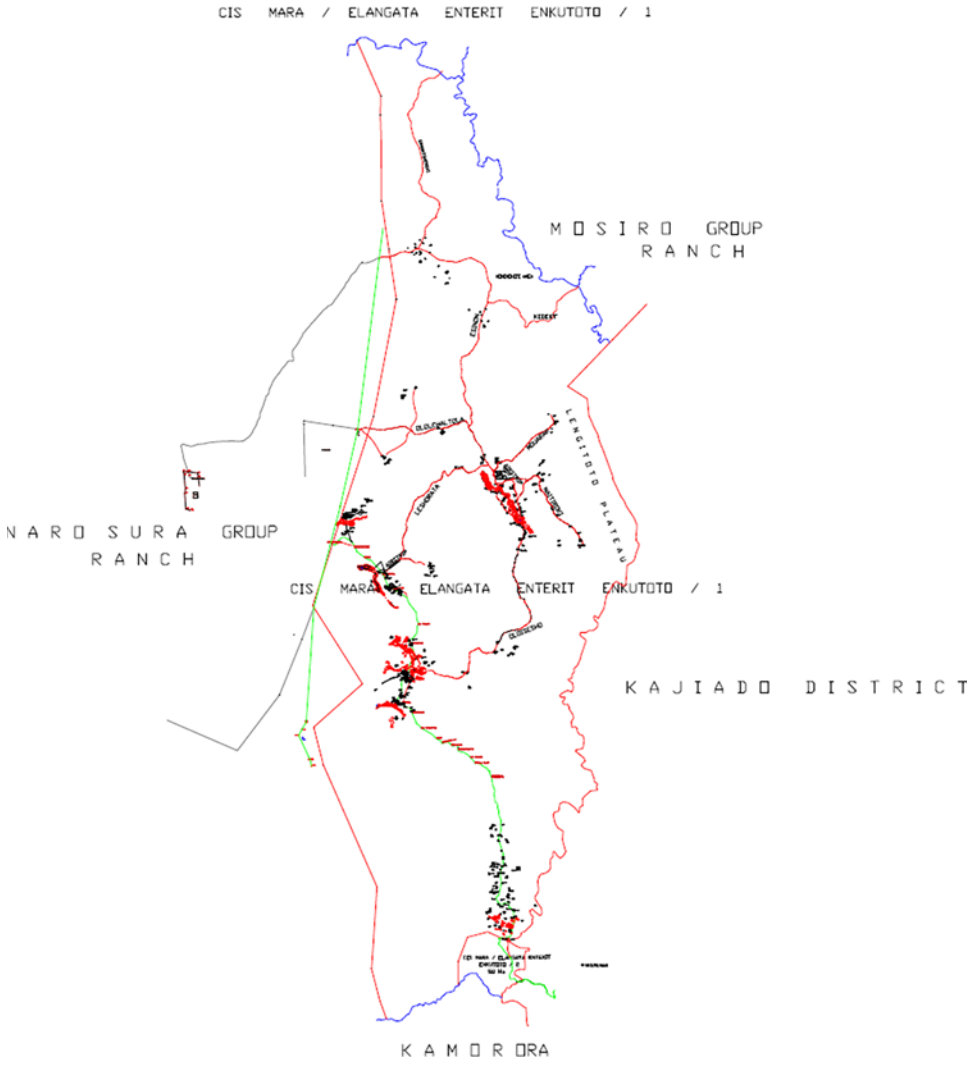
v. Support customary institutions at the community level and support regional indigenous peoples' organizations' focal points to help in the institutionalization

of the CBMIS approach across levels—from pilot to routine practice/culture.

vi. Pursue specific affirmative action efforts to ensure that women, youth and the elderly contribute their perspectives in CBMIS inasmuch as indigenous knowledge systems are gendered, while also having an inter-generational dynamic.

vii. Enhance indigenous peoples' capacity-building activities in technical aspects around climate change and REDD+ in the areas of safeguards, monitoring, reporting and verification (MRVs), monitoring of non-carbon benefits and recourse mechanism/conflict resolution, all of which could be supported through CBMIS.

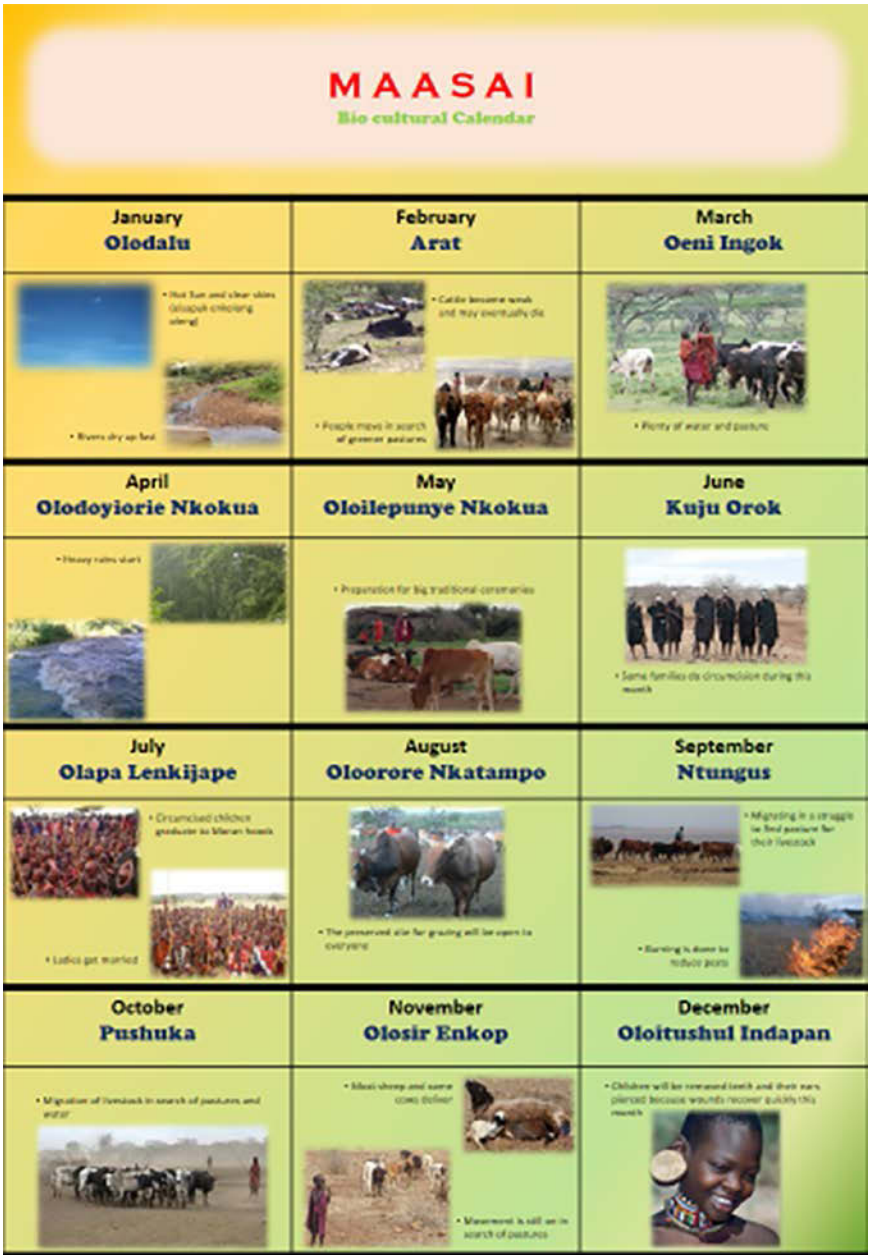
Annex 1. Map of Enkutoto Group Ranch.



Annex 2. Natural Resource Inventory Map of Elangata-Enterit/Enkutoto Group Ranch.



Annex 3. Maasai Pastoral Seasonal Bio-cultural calendar.



Endnotes

[1] Reducing Emissions from Deforestation and Forest Degradation (REDD), including sustainable management of forests, forest conservation and the enhancement of forest carbon stocks.

[2] This is a partnership of 18 indigenous peoples organizations and non-government organizations, which are based in 13 countries and which are implementing CBMIS. This includes Tebtebba, Aliansi Masyarakat Adat Nusantara (AMAN), Centro para la Autonomia y Desarollo de los Pueblos Indigenas (CADPI), Centre of Research and Development in Upland Areas (CERDA), Centro de Culturas Indigenas el Peru (CHIRAPAQ), Conselho Indigena de Roraima (CIR), Dignite Pygmee (DIPY), UEFA, Federacion por la Autodeterminacion de los Pueblos Indigenas (FAPI), Institut Dayakologi (ID), Indigenous Farmers Association of Guinaang Pasil Inc. (IFAGPI), Indigenous Livelihoods Enhance Partners (ILEPA), Maleya Foundation, Mainyoito Pastoralists Integrated Development Organization (MPIDO), CIPRED, Naundep ni Napahnuhan ni Kalanguya (NNK), Pidlisan Tribe Organization (PITO), Servicios del Pueblo Mixe-Asamblea Mixe para el Desarollo Sostenible (SER-Mixe-ASAMDES), Silingang Dapit sa Sidlakang Mindanao (SILDAP-SE).

[3] Kimaren Riamit, S. (Mainyoito Pastoralists Integrated Development - MPIDO) (2010). Indigenous peoples and the Naimina Enkiyio Forest in Southern Kenya: a case study. In Tebtebba (Ed.), Indigenous peoples, forests & REDD Plus. Sustaining & enhancing forests through traditional resource management. Available from: http://unfccc.int/files/methods_science/redd/application/pdf/sustaining-and-enhancing-forests.pdf.

[4] Kimaren Riamit, S. Tebtebba Foundation (2011). Indigenous Women, Climate Change and Forests. Available from: http://tebtebba.org/index.php/all-resources/category/8-books?download=826:indigenous-women.

[5] http://www.ilepa-kenya.org/.

[6] http://indigenousnavigator.org/index.php/en/ - the Partners include: International Work Group for Indigenous Affairs (IWGIA); Forest Peoples Programme; International Labour Organization (ILO); Asia Indigenous Peoples Pact (AIPP); Tebtebba Foundation and the Danish Institute for Human Rights.

CAMEROON

"Kulbimis Opened Our Eyes"

By Bouba Njobdi Amadou & Mkong David Ngum, Lelewal Foundation

Country Presentation

The Republic of Cameroon covers a surface area of some 475.000 square kilometers made up of the northern plains, the central and western highlands, and the southern and coastal tropical forest. The imposing Mount Cameroon, the highest peak in West Africa and the sixth in the entire Africa, is located in the southwest region of the country. Cameroon has a climatic discrepancy that spreads in the different regions, as it is divided into three climatic zones. The 2nd and 6th degree of the north latitude and equatorial zone is characterized by

abundant precipitation, with 2,000 mm of average rainfall per year, and an average temperature of 25 degrees centigrade. On the 7th and 10th degree of the northern latitude is the Sudanese zone (zone soudanienne) where the dry season lasts from five to six months. It has an average temperature of 22 degree centigrade and 1,000 mm of rainfall within the year. After latitude 10 degree north, the Sudan-Sahelian vegetation is found characterized by a dry season which lasts for seven months with precipitation a little abundant. The vegetation is as varied as the climate.

A demonstration project on the mechanisms of proper development following the Kyoto Protocol on climate change in Cameroon gives a brief description on the energy and industrial sectors of the country. It notes that Cameroon has diversified its energy resources which are unequally distributed in the national territory. Wood energy is abundant in the south (forest zone) but is lacking in the northern part (the savannah zone). Hydrocarbon resources and natural gas are average. The western highlands are among the most fertile regions and are densely populated with the practice of intensive agriculture. Commerce is also high in this region, which is characterized by consistent communities.

Introduction

There have been many questions and suggestions referring to indigenous peoples' participation and monitoring of their environment in connection with their socio-economic and political development. Dynamics tools have been a crucial issue in the past two decades. Among the other tools adapted for communal and social participatory use is the Community-Based Monitoring and Information Systems (CBMIS). This is so, because CBMIS is a process to generate information for analysis, monitoring and use by the community. The CBMIS has been linked to the wider monitoring processes of the civil society, termed as "citizen science," and what has UN Secretary General Ban Ki Moon called the "data revolution."

The participatory CBMIS has the huge potential to contribute much to the monitoring of the Sustainable Development Goals. The Baka forest indigenous people have referred to CBMIS in the Baka language as ***KULBIMIS,*** which means "open our eyes," that is, to know what is in our environment and what causes its dynamics and degradation. CBMIS is a concept as well as an instrument and process that does not work in isolation from the Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD). IPSSDD is a concept and paradigm complementary to CBMIS and oriented to the advancement of indigenous peoples' self-determination and sustainable development. In particular, some indigenous women have made great leadership contributions as well as undergone enormous sacrifices for biodiversity preservation, indigenous knowledge, governance systems and human rights despite their being continuously deprived of their fundamental rights. This is because the IPSSDD framework offers a knowledge-based and holistic approach that responds to the multiple issues that indigenous people are experiencing and integrates their socio-cultural and gender perspectives with their economic and environmental goals and objectives.

The demand for more inclusive societies and for bottom-up sources of information disaggregated at the community level has led to wider and stronger CBMIS systems and approaches for closing substantial data gaps not captured by official sources. The project facilitators have been mindful of the fact that local peoples and communities are not only sources of data and information, but must also be involved in its interpretation and use, thus generating an empowering dynamic as well.

The question being raised today of whether or not CBMIS produces gains that can be scaled up may crop up among those who have not used its methods and tools effectively, or else, who have limited its use by the indigenous peoples. The inclusiveness of any community in its self-determination is based on the knowledge they have acquired about themselves and their environment.

As such, CBMIS is an essential part of the Indigenous Peoples' Sustainable, Self-Determined Development, which is aimed at laying down a foundation for community planning, decision-making and advocacy. Since 2013, it has been evident that CBMIS is a process for indigenous persons, including women and youth, who are not merely subjects but actors and managers of the whole process of producing baseline information within their ecosystem and deciding what to make of the data they have generated. It is this ownership that we shall be able to see, if the tools and methods provide evidence of how research and information inputs help drive sustainability. Though it is still too early to determine its impacts, it is possible to rely both on qualitative and on quantitative output proxies of some components that are already visible. Despite external threats and amid these challenges of CBMIS faced in providing a means to communicate information and knowledge generated within their land, territory and resources by themselves, there exist opportunities for CBMIS.

General Objective

The general objective is to identify lessons learned, good practices and challenges on how CBMIS is being used to enhance control and management by indigenous peoples of their lands and forests, territories and as basis for further developing and upscaling their Community-Based Monitoring and Information Systems (CBMIS) and IPSSDD implementation.

Specific Objectives

1. To revisit the various components and outputs of CBMIS implemented by the partner organizations;
2. To appreciate the contributions of CBMIS towards IPSSDD implementation, particularly on the core domains of land, territories and resources, traditional knowledge, full and effective participation, traditional governance and human rights.

3. To gather lessons from the various CBMIS activities/ initiatives that have contributed to the outcomes of CBMIS, specifically the participation of women, children, youth and the elderly.
4. To identify opportunities, challenges and recommendations that can further strengthen the implementation of CBMIS and IPSSDD.

Survey Research Methodology

This study, carried out from April to June 2017, targeted as its anthropological survey setting the local population, groups, persons, communities, associations and legal entities. The assessment methodology is a combination of collection techniques of quantitative and qualitative information, including document desk review, project reports and review exercises; community and household surveys, focus discussion group and interviews with key stakeholders and informants in the project areas and in Yaoundé, and an evaluation debriefing meeting with the project team and administrators. Field visits and systematic observation in the project hub areas facilitated the collection of factual information and statistical data.

Document review: This included an examination of project proposals and agreements; the progress projects reports, baseline study, annual reports and mid-term review; project outputs, such as rangeland management plans and draft country legislation; annual reports and plans relating to the Project No: GLO-4248 QZA-12/850; and annual work plans for the project "Strengthening the Agency of Indigenous Peoples' as Vital Actors and Decision Makers in Proper Implementation of REDD Plus" project component. Key documents referred to during this assessment research are included in bibliography/ footnotes.

Project review: Following the document desk review, a project review meeting was held at Lelewal office in Yaoundé to confirm the project's key outputs and outcomes, and to identify key factors and indicators required to achieve the

project impacts. The review provided important inputs for the assessment/evaluation, in particular, for understanding the specific objectives of the project: "Strengthening the Agency of Indigenous Peoples as Vital Actors and Decision Makers in Proper Implementation of REDD Plus."

Field visit and systematic observation: A field visits itinerary was elaborated and field visits conducted in the project areas, with stakeholder meetings held in both Djoum and Ngorin, indigenous communities where the project hubs are found.

Project feedback to the team: The local stakeholders shared their assessments and their views on the ongoing field activities with the project team and donors, thus permitting better and swift understanding of the community's responses, and reorientation needs of the project.

Focus group discussion: The FGD is a very simple, prompt and low-cost method and deep tool of communication that can observe, interpret and describe a reality seen from various angles. It offers a form of discursive interaction between community members and among the women, youth and the elderly, in which they provide their narrations of personal experience and expression of their ideas, some even from a gender perspective. This method is vital because it brings together men and women to discuss gender relations. It also enables an understanding of the social interactions and phenomena at a greater depth than what can be obtained from quantitative methods, such as use of questionnaires (Gill et al., 2009). FGDs were organized for both interviewer and interviewee so that they could increase their knowledge and understanding in the course of the interchanging of views and ideas in the local language between group members

Stakeholders' interviews/key informant interviews: During the field visits, a series of stakeholders' interviews were conducted with key project stakeholders in the two project hub at Djoum and Ngorin. These were designed to collect facts and feedback from eyewitnesses and testimonies as part of the field visits' output.

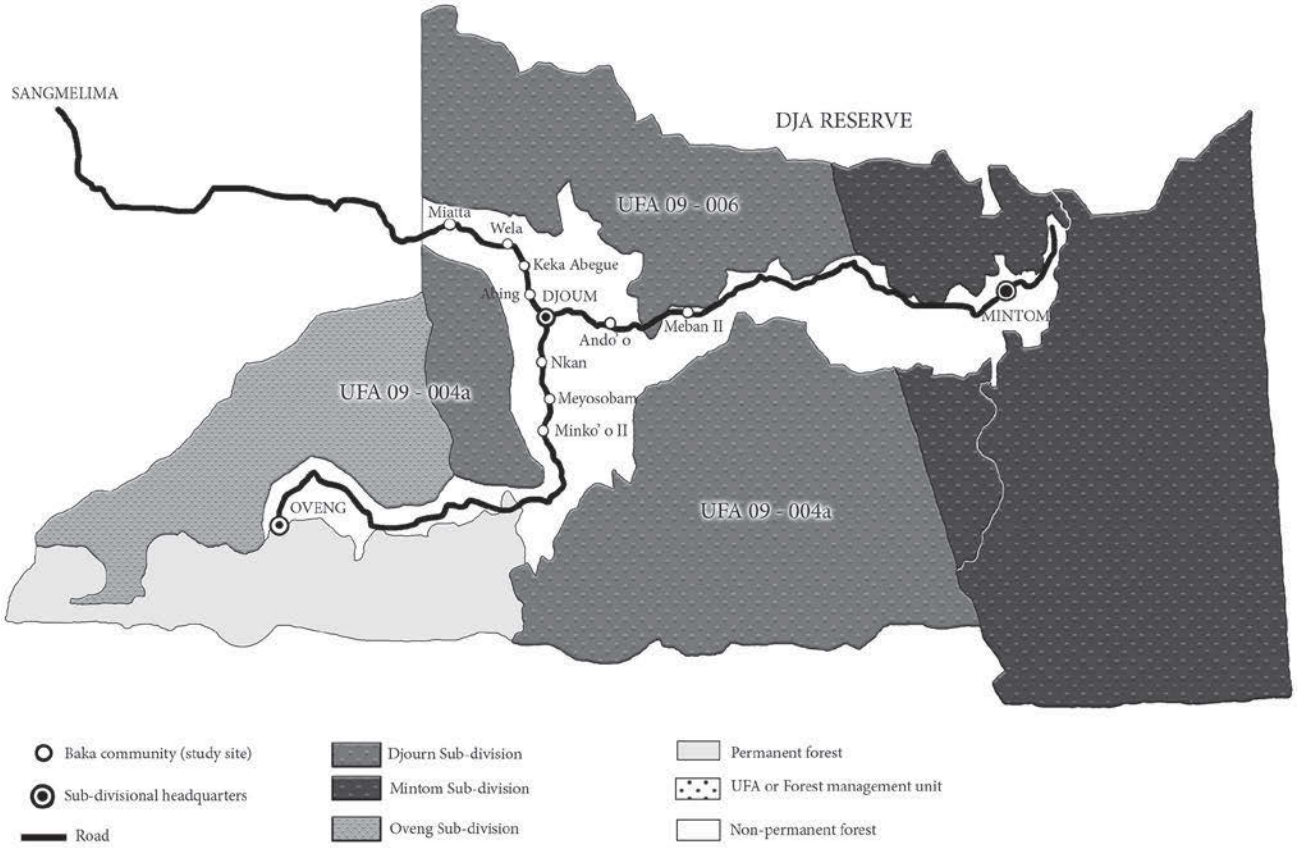
Evaluation debriefings: Following the preparation of the draft report, the key evaluation findings on the gains, challenges, opportunities and recommendations were presented to the project team at a meeting held at Yaoundé to provide a reality check as well as supply further information on the realization of outputs and the issues regarding outcomes. The conclusions of the debriefing meetings were then incorporated into a revised version of the evaluation/assessment report.

Pilot Communities of the CBMIS and IPSSDD Implementation

a. Project Area Hub I: Djoum.

Djoum is found in the Dja and Lobo Division, South Region of Cameroon. This is home for the majority of the forest indigenous Baka pygmies in Cameroon. They have been deported or evicted from their ancestral homes into resettlement camps along the highways and secondary roads by the government and the logging companies or conservation organizations. Most of these camps are located approximately between the longitude 12° and 2°25 E and between latitude 2° and 2°25 N. Djoum is bordered in the south by the Republic of Gabon, in the northwest by the UNESCO World Heritage, Dja Faunal Reserve, in the east by Mintom sub division, in the west by Meyomessalla and Meyomessi, and in the north by the Lomie and Bengbis sub-divisions. The Baka pygmies in Djoum live in three new resettlement areas located on three axes: Djoum-Mintom, Djoum-Oveng and Djoum-Sangmelima. The northern resettlement areas lie on the Djoum-Sangmelima axis (Bulu axis), with communities, such as Mellen Bulu. Nyabibete, Mveng, Miatta, Djuize, Abing Nkonte, and Meban,

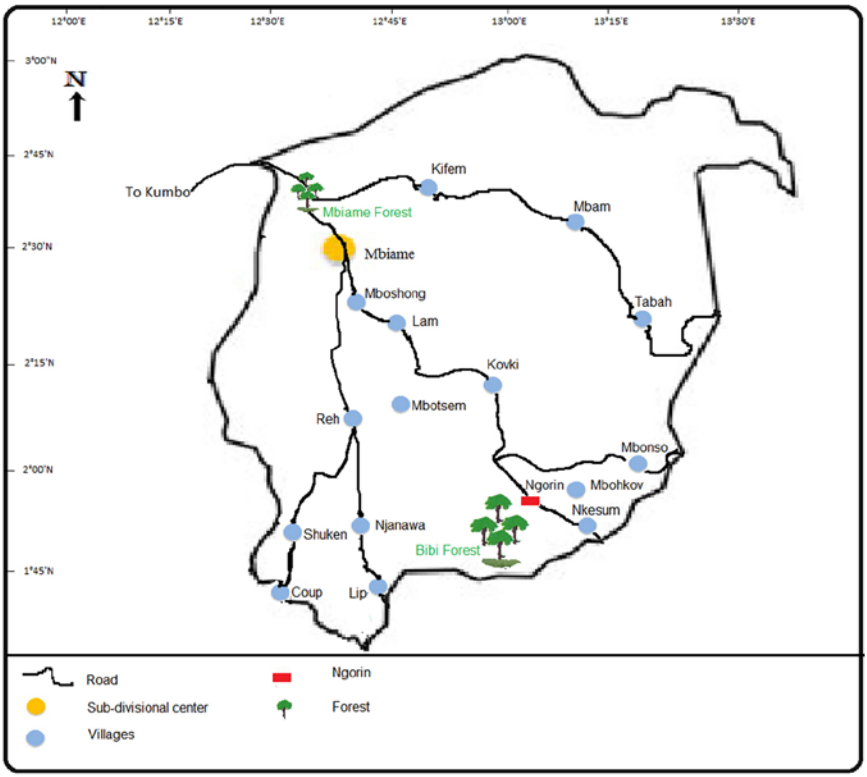
The southern resettlement areas are situated on the Djoum-Mintom axis (Zamane axis)) with communities, such as


SANGMELIMA
DJA RESERVE
UFA 09 - 006
Miatta
Wela
Keka Abegue
Abing
DJOUM
Meban II
Ando' o
Nkan
Meyosoban
Minko' o II
MINTOM
UFA 09 - 004a
OVENG
UFA 09 - 004a
Baka community (study site)
Sub-divisional headquarters
Road
Djourn Sub-division
Mintom Sub-division
Oveng Sub-division
Permanent forest
UFA or Forest management unit
Non-permanent forest

Meyosobam, Adjap, Andoo, Minkoo Messeng and Akonetye. The western resettlement areas are found on the Djoum-Oveng axis (Fang axis), with communities, such as Minkoo, Nkan, Mferm, Binoloumba, Alat, Nbongete, Meban I, Meban II, Oding, Opkweng, Nkolenyeng.

The Baka camps are bounded on the eastern end by the Dja reserve (UNESCO World Heritage Dja Faunal Reserve) and on the northwestern end by Sud-Cameroun Hevea, a major rubber consortium. They have been hemmed in the southern end by three other reserves and parks (the Nki, the Boumba-Bek and the Lobeke). They are also bounded on the west by Meyomessalla, Meyomessi and Oveng. This council area is about 5423.9 km^2 The relief of the area is predominately part of the southern Cameroon plateau, with an altitude varying between 0 and 1,000 m and stretching from Ebolowa and Ambam in a succession of converging hills, also varying between 650 m and 1,000 m above sea level. These undulating hills and plains are being interrupted by more or less flat terrains, many wetlands and swamps, streams and rivers that easily dry up in the long dry season between the months of December and January. During this time period, there is a general shortage of water in the whole area. The subdivision is made up of three Bantu community groups (Fang, Bulu and the Zamane) and the Baka pygmy community with a population of about 20,000. The climate in Djoum and its environs is the sub-equatorial climate, with two dry seasons (mid-November to the end of March, and mid-July to end-August) alternating with two wet seasons from March to June and from September to November. Mean annual rainfall ranges between 1,500 and 1,700 mm, with a mean temperature almost at 23-25°C throughout the year. The area is characterized by a subsistence-oriented economy based on extensive agricultural practices for the Bantu community and hunting and gathering of forest products for the indigenous Baka peoples.

b. Project Area, Hub II: Ngorin



Ngorin village was created in the early 1950 by the migrating cattle herdsmen in search of pasture. They decided to settle here because there was enough land, good pasture and less cattle diseases. Ngorin is found in the Mbven subdivision in the Bui division of the north-west region of Cameroon, which is one of the 10 regions of Cameroon. Made up of savannah and woodland vegetation, the area serves as the environment for cattle-rearing, an important activity as it is the main source of livelihoods for the pastoralists. The Mbororo Fulani number about one million in Cameroon, which has a total population of about 25 million, as per head count. The pastoralists here

number about 1,000, belonging to 25 families. They live in isolated settlements of about five to 10 kilometers between settlements to allow enough space for cattle to roam and graze freely. Among the major challenges to the communities are the effects and impacts of climate change, which impose on them adaptation that enable them to barely survive. Rainfall is dwindling, more cattle die of famine and thirst, and some families were left without livestock. Chronic poverty is burdening a larger number of families without cattle. This number continues to increase every day. The average heads of cattle in 1980 at 3,000 has dropped to about 200 in 2012. The basic and fundamental needs are in short supply or have ceased to exist. This is true in the case of water insecurity and all its associated consequences. Due to the decreasing water points, obtaining water now requires trekking longer distances and longer hours. The former eight (8) points of water in 1960 have been reduced by half to four (4) water points in 2016 in the midst of the rising population. Another effect of climate change has been the degradation of grazing land and the loss of biodiversity.

- More land is degraded, and less grazing land is available. Almost 200 hectares have been affected in this way.
- Deadly species of strange invasive plants have intruded into the ecosystem. Whereas, no invasive plant species were present in 1980, there have been six (6) such plant species since 2012.
- There is greater population exodus, leading to the creation of the three new villages of Mbohkov, Lip and Nkesumg. In the nearby valleys, many of the inhabitants are climate refugees from Ngorin. Many youths have migrated to the urban cities of Bamenda, Bafousam and Douala where they engage themselves in income-generating activities with the aim of going back to Ngorin to replace the lost cattle.
- More strange human and cattle diseases have appeared. The main livelihood, cattle raising, is disappearing, and the graziers are turning into small-scale farmers.

Gender and Women Leadership

The two indigenous women groups in the two project hubs are the Fulani Mbororo Pastoralist in Ngorin and the indigenous Baka women in Djoum. The Baka women are an integral part of the Pygmy community among the forest dwellers and forest-dependent households in the forest region of the east and southern Cameroon. Both community groups pursue a socio-cultural and economic life that is being continuously threatened by environmental hazards, climate change, misgovernance, and the abuse of land and of fundamental human rights. On the other hand, conflicts and abuses have been more pronounced in areas where timber-cutting and logging activities are near the resettlement camps. Here, cases exist of misappropriation of benefits from forest royalties and of lack of community participation in decision-making.

The marginalized situation of the indigenous women is highlighted by the reality that (Tauli-Corpuz 2011, Enchaw 2013) whereas climate change has created huge impacts on indigenous peoples as a whole, the indigenous women in particular suffer the worst consequences. Since the various actions taken to check the drivers and effects of climate change do not consider the potential impact on the lives of indigenous peoples and women, their welfare and the important role they could play in the climate change mitigation is not being given due consideration.

In this evaluation, the CBMIS working session on social participation served as a window to observe the indigenous women's contributions and as a vivid base in which they define themselves. The impact of climate change on the cultures of indigenous Baka women in South Cameroon seems to be a fundamental motive force behind their adoption of climate change mitigation and adaptation activities. The indigenous women have participated in the analysis of biodiversity in their communities.

As for governance, the indigenous women suffer from relatively low or almost non-existent levels of realization of their

rights and of their effective participation in decision-making, due to their high illiteracy rate. As pointed out in the same analysis, the indigenous pastoralist women and the girl child were advancing faster in literacy than the Baka indigenous women. Nonetheless, the participation of these indigenous women in decision-making has not been visible and effective in local governance, benefit-sharing and elections. The concept of benefit-sharing here is in directly associated with full and effective participation and also with the customary free, prior and informed consent (FPIC) processes, whereby the local women and the community are supposed to be effectively represented in the administration and distribution of the percentage of the natural resources kept aside for the local population. Despite the existing roles, the people are ignorant of its applications or are often not involved in the distribution.

In spite of the high rate of illiteracy that could hamper the indigenous women from understanding the concept of climate change in terms of scientific or higher levels of analysis, their local practices, such as tree-planting, that they have adopted to ensure their socio-cultural and economic sustenance are ecologically appropriate.

The appraisal from the group discussion indicated that, the high level of indigenous women illiteracy made it impossible for them to access, determine or distinguish between what were basic rights and customs. Moreover, most of the girl children are single mothers who are also school dropouts.

Remarkable Changes and Improvement

It has been established that the indigenous women who were practicing a nomadic hunter-gatherer lifestyle have adopted crop cultivation and a semi-sedentary lifestyle, together with an income-generating culture. This trend forms part of social change that draws the Baka women toward a consumer lifestyle shaped by a market economy despite the poverty that goes with it. The Baka women own five community farms and

many other individual farms, ensuring food sustainability all year round and income to pay school needs for their children.

Indigenous Baka and Mbororo women have actively participated in performing most of the CBMIS and IPSSDD realizations by the organization both at the national and local levels. Eight women were part of the administration of Lelewal during the execution of the project and actively-oriented project activities at the local and national levels. They also actively represented the organization in international seminars and conferences. Indigenous Baka communities of Djoum were represented by Madame Janine Bito in the local council, where decisions are taken on the political, economic and social development of the council's area and its population, of which the Baka community is one of the components. It is here where decisions on land and forest resource management were made with regards to benefits arising from its exploitation. There were two Baka women associations created in Djoum and legalized with the government to strategize on gender-responsive measures by ensuring effective involvement of women in decision-making and helping them address their situation adequately. Through these associations, indigenous women were able to improve their participation in decision-making at the community level, and ensure the education of their children. Eleven indigenous Baka girls were engaged in the dress-making business and are regularly generating income from this profession to support their families.

Meanwhile, the Mbororo women are occupied in income-generating activities, likewise owning a community farm. Thirty-five Mbororo girls are attending schools with the assistance of their mothers, 25 of them at the primary level and 10 at the secondary.

CBMIS and IPSSDD Activities/Programs

The CBMIS is a tool that the organization has used to identify problems within the respective communities in a simple and participative manner**.** Using the five core domains of CBMIS collectively with the communities, many of the problems were investigated and addressed. These problems concerned land ownership, land degradation and deforestation, rate of extinction of forest and biodiversity resources, participation of indigenous peoples' leaders in decision-making, the use of traditional knowledge and governance systems and the respect of indigenous peoples' fundamental rights.

The identification of issues affecting these communities through the appropriate application of the CBMIS introduced to these communities the paradigm of Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD) so as to enable them to address these issues.

Before proceeding to the selection of activities, there was undertaken a pre-identification process with the local stakeholders in the two project hubs. Upholding certain fundamental principles was crucial in understanding the anthropological setting of the people and the real needs of the indigenous communities. It was important to b guided by the insight that CBMIS is complementary to IPSSDD and to these basic principles and rights, including:

1. Respect for, and protection and fulfillment of indigenous peoples' rights to their lands, territories and resources;
2. Free, prior and informed consent;
3. Respect for, and preservation and maintenance of traditional knowledge, innovations and practices;
4. Security of traditional occupations and livelihoods;
5. Customary governance;
6. Benefit-sharing;
7. Gender and inter-generational dimension: full and effective participation of women, youth and elders in all phases.

Table 1. Matrix of CBMIS and IPSSDD Activities, Outputs and Impacts.

CBMIS Activity	Implementation Period	Community/ies and categories of persons involved	Output	Impacts
Training of community leaders on the core domains of CBMIS and tools use in data collection.	June 2013-December 2015	Miatta, Minkoo, Nveng, Nyabibete, Andoo, Nkan, Abing, Nkoleyeng, Meban, Meyos Obam, Mellen Bulu of Djoum and Ngorin for Mbororo Pastoralists	60 community leaders trained	They can collect and appreciate data.
Training on social community mapping	October 2014-December 2015	11 Baka communities of Djoum	4 communities successfully produced their community maps	Community boundaries are known and collectively shared; natural resources, e.g., water and hunting zones also known.
Training on community integration of CBMIS and traditional knowledge of forest, biodiversity management and surveillance systems	January 2015-December 2015	11 Baka communities of Djoum	44 Baka community leaders trained	Baka leaders are able to collect and appreciate data from their environment.
Training of leaders of Baka and Mbororo on rights and access to land and resources	2012-2015	11 Baka communities of Djoum and Mbororo Pastoralists of Ngorin	65 community leaders trained	They can defend their rights to their land and natural resources.

Training on full and effective participation of Baka and Mbororo community leaders in decision-making	2012-2015	11 Baka communities of Djoum and Mbororo Pastoralists of Ngorin	• 60 participated in the trainings and meetings • 30 people protest for the restoration of their leader in Ngorin	• Indigenous peoples have one representative in National REDD steering committee. • Indigenous peoples included in the Cameroon delegation to the UNFCCC meetings and COP. • Indigenous peoples represented in the local councils. • Legitimate leader reinstalled and peace reigns.
Public sensitization through radio communication and TV intervention on REDD+ programs and climate change	2010-2015	• Local communities • Project Team • Consultants • General public		• Plastic paper bags banned in Cameroon since 2014. • Adaption and mitigation measures to climate change intensified. • A parliamentary group (REPAR) created to follow up on climate change.

Publishing of Lelewal news letter	2012-2013	• Project Team • Consultants • Editorialists	5,000 copies were produced and distributed to newspaper sale points	• A department of climate change surveillance at the national level created under the Ministry of Environment. • Nature protection and sustainable development.
Leadership training for women	2014	• IP pastoralist women • Baka women	25 women (5 per region) participated	Women empowered in leadership.
Biodiversity survey established for Djoum, to know movement and extinction of animals and birds	September 2015-December 2016	Miatta, Minkoo, Nyabibete, Nkan, Abing, Andoo and Meyosobam	• 7 communities • 16 leaders trained • 16 leaders and hunters involved	• Data appreciation. • Data collection is done after every one year.
Sensitization on the promotion of traditional knowledge/ traditional Governance for indigenous peoples	October 2014-December 2015	• Baka communities of Djoum • Pastoralist communities • Traditional Herbalists	• 11 Baka traditional rulers (kobo) • 5 Pastoralists rulers (Ardors) participated	• Communities empowered to protect their customs and traditions. • Promotion of indigenous peoples' traditional rulers. • Respect for indigenous peoples' traditional rule reinforced. • Concept of transformation and preservation of traditional medicine. • Notion of intellectual property initiated.

IPSSDD Activity	Implementation Period	Community/ies Involved	Output	Impact
Creation and support of alternative livelihoods (community farms)	2014-2016	Miatta, Nyabibete, Andoo, Minkoo and Ngorin	6 community farms created	• Food security improved. • Reduced pressure on the remaining forest resources. • Improved family health and well-being.
Skill development through the creation of a tailoring workshop	2015-2017	Women and girls	11 Baka girls engaged in training in dress making	• Community model created. • 4 successfully completed the training. • 4 Baka single mothers acquired skills in dress making. • Poverty alleviation • Self-determination
Assistance in higher education and vocational trainings	2010-2014	• Youths. • Vulnerable families	• 2 foresters. • 2 secondary school teachers. • 2master degree students • 1 bachelor degree holder	• Human capital improved. • Models created within the indigenous youth community. • Foundation of future leaders.

Water supply systems through borehole water taps	2013-2015	• Communities • Women and children • Project team and sponsors	Two borehole water supply sources created in Minkoo and Ngorin	• Reduced water crisis and conflicts. • Reduced water-borne diseases. • Improved water availability all year round. • Reduced child labor and long distances to fetch water. • Improved livelihood activities for women during the dry season, e.g., gardening.
Support for Mbororo girl child to get basic education in Ngorin	2012-2016	• Girl child • Women	32 Mbororo girls supported	• Improved girl child rights to education and literacy. • Reduced illiteracy for Mbororo girl child. • Reduced discrimination and stigma of Mbororo girl child. • Reduced girl child labor within Mbororo community.

Support for income-generating activities	2014	Women, youths and elderly	Initiating the notion of social enterprise	• Reduced cost of basic needs for the community. • Reduced distance to get basic needs.
Creation of two women organizations	2015	Women	• 55 Baka women involved • 2 organizations created and legalized: » Mani Bella Ass. Miatta » Aferm Ass. Nveng	• Leadership and gender commitment. • Economic empowerment. • Community mobilization. • Participation in decision-making.
Agro-forestry in planting cocoa, fruit trees, medicinal plants, maobi trees, bush mango and zangsang tree for carbon stock	June 2015-July 2016	Youths, women and elderly	• 3 communities involved: Miatta, Minkoo and Nyabibete • 54 men involved • 38 women involved • 5.5 hectares planted	• Increased carbon stocks. • Economic empowerment for the community. • Increased forest canopy. • Poverty alleviation. • Initiation of climate-smart agriculture through agro-forestry.

Figure 1. Nkan community map.

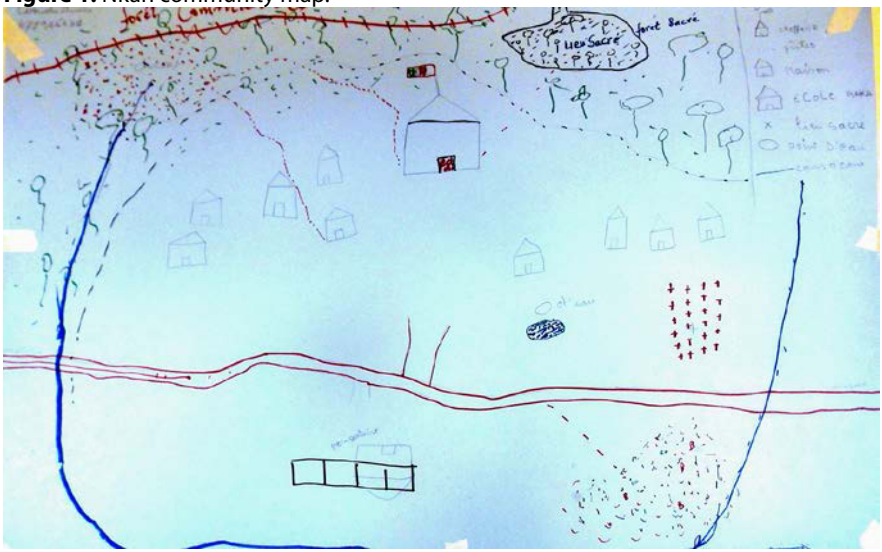


Figure 2. Andoo community map.



Outputs of CBMIS

Following the implementation of the CBMIS concepts, significant realizations were attained within the different core domains at national and local levels.

National level:

a. Indigenous peoples have been represented in the national REDD steering committee since 2011. The first mandate was occupied by Lelewal director from 2011 to 2013. It is now held by Dahirou Maki from the Mbororo ethnic group. He serves as the representative at the national level on issues concerning indigenous peoples' participation in REDD+ processes, programs and pilot projects.
b. The radio and television programs dwelling on the five core domains of CBMIS, particularly on the impacts of climate change, has galvanized the national community to fight against the impacts of climate change through mitigation and adaptation measures. The Government of Cameroon through the Ministry of Environment has banned the use of non biodegradable plastics in Cameroon since 2014.
c. Indigenous peoples are, to a certain extent, recognized and included in decision-making. However, they occupy only around 10 percent of the posts in decision-making bodies. As such, they generally cannot influence decisions, since majority rule counts in decision-making. In principle, indigenous peoples enjoy recognition. But, their actual empowerment in the daily running of government and business leaves much to be desired. In practice and application of the law, they seem not to be represented or recognized at all, inasmuch as they still hardly influence decision-making.

Local level:

a. The baseline information on the core domains of CBMIS for the Baka pygmies of Djoum has been documented.
b. Recognized community maps prepared for the 11 Baka resettlement camps of Djoum and Mbororo Pastoralists of Ngorin have made it difficult for land usurpers to succeed in grabbing indigenous peoples' land.
c. A biodiversity survey conducted by community leaders in Djoum has documented the movement and extinction of animal and bird species.
d. To increase carbon stocks, the community is engaged in agro-forestry, specifically in the planting of cocoa, fruit trees, and medicinal plants and in the protection of non-timber forest products and plants. This has increased the canopy of the forest, sequestered more carbon and reduced logging, the major driver of deforestation and degradation of the forest.
e. The communities have enough food to eat and sell from community farming, thus reducing pressure on the remaining forest. Non-timber forest products, such as *maobi* seeds and *zangsang*, have been valorized, encouraging the Baka pygmies to plant more maobi and zangsang trees in their forest.
f. Leaders of the Baka communities are able to collect, analyze and document data from their environment, using the CBMIS concept and tools.

How Lelewal Used the Outputs of CBMIS

First, the target output of CBMIS has still been the building of a new body of knowledge within and outside the community for both the local and other stakeholders. Secondly, the project and the output of the CBMIS activities have been able to generate understanding of a set of indicators that have been used to influence and orient the course of decision-making.

Thirdly, as a result of local and international decision-making, our livelihood component has been reoriented, paving the way for the success story of two water boreholes for the benefit for women and children. Fourthly, the data collected on the conflict over water security enabled the community to produce evidence and facts for advocating for solutions which were obtained. Last but not the least, concerning the project governance and the plan implementation or theory of change, it has been possible to assess the project's effectiveness and efficiency:

i. The knowledge derived from CBMIS workshops and trainings have helped the organization strengthen its capacity to engage with the government on issues affecting the rights of indigenous peoples**.**
ii. The Mbororo Pastoralists have been active in protecting their rights over their land, while the government has been taking radical and judicial measures in favor of the pastoralists.
iii. Livelihood projects and programs were developed to respond to the food crisis and poverty within the community, and to enhance community resilience amid the impacts of climate change on traditional livelihoods.
iv. The management of forest and natural resources has been enhanced by indigenous peoples, particularly the Baka people, protecting their forest from illegal and abusive logging.
v. Recognition of rights has resulted from the trainings and information-sharing in which indigenous Baka and Mbororo acquire knowledge about their rights. Thus, they can now identify abuses and defend their rights in every circumstance they are involved. Sensitization programs were held in media houses to inform the general public and decision-makers regarding the rights of indigenous peoples as stipulated in the United Nation Declaration on the Rights of Indigenous Peoples (UNDRIP) and other human rights instruments.

Box 1. Land Tenure Disputes (Ngorin)

Disputes on land tenure rights are being brought to court for judgment. Fortunately, indigenous peoples have, in most cases, emerged victorious in recent times. The Mbororo Pastoralists of Ngorin have been under pressure in recent times, due to recurrent disputes on land provoked by a rancher supported by the local mainstream community. This started as far back as 2014, when the rancher came in search of land for his ranching business and proposed compensation to the pastoralists in exchange for half of their remaining territory. The pastoralists refused the offer. In response, he went on to galvanize the mainstream community to support his drive to grab their land. The pastoralists then chose to enter into a peaceful settlement of this dispute with the mediation of Lelewal and the local stakeholders, Ngorin Development Association (NGODA) and local government representatives. Finally, the rancher was ordered to stop the aggression.

Despite the order, another group of farmers later encroached into the pastoralists' land, felling trees and clearing and fencing the land in preparing for the establishment of a plantation. The pastoralists resisted, demanding that the landgrabbing stop. But the farmers continued with their takeover, even going as far as spraying poisonous chemicals on the pasture and killing thirty heads of cattle. The case was then reported to the Kumbo court of first instance, which ordered the immediate halt to these activities and the payment of compensations to the pastoralists who lost cattle and suffered damage to their property. The encroachers were ordered by the court to leave the disputed land.

How CBMIS Outputs were Communicated to the General Public

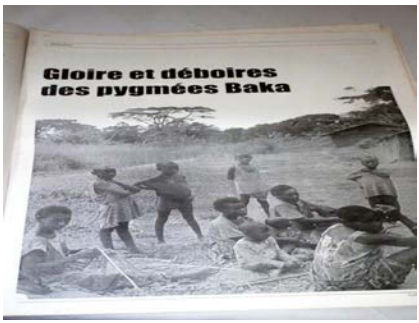
We communicate the outputs of CBMIS through our newsletter which is published thrice a year and is widely distributed to the general public. We also have a weekly radio program called "Lelewal News," in which we elaborate on the five core domains of the CBMIS with assistance from experts in each domain who are also the program's invited guests. In the program, we seek to explain to the general public the situation of indigenous peoples with regards to land tenure,

forest resources, traditional knowledge, traditional governance, full and effective participation and human rights. We also join discussions in other television talk programs on issues affecting indigenous peoples in Cameroon, especially the round table programs during celebrations and events, such as he International Day of the World's Indigenous Peoples. Moreover, we use the social media Facebook to disseminate information worldwide on our work with indigenous peoples, our participation on the international scene and our successes. Finally, we avail of our web page to inform our page visitors and well-wishers on our work.

Figure 3.a. Lelewal Newspaper.



Figure 3.b. Lelewal Newspaper.



Women, Children, Youths and the Elderly Participation in the Use of CBMIS Outputs

The implementation of CBMIS programs and activities upheld gender balance. This was true with everyone involved in the trainings, workshops and field activities implemented in all the five core domains. The principle of gender balance was implemented both in the CBMIS activities and programs and the campaigns on climate change respecting gender because it has been proven that women are the first victims of climate change and even suffers most. In the implementation of the

CBMIS activities and programs, women had almost 45 percent effective participation in the capacity-building and awareness activities. Women were at the forefront of community mobilization and in the domain of livelihood activities were geared towards making women economically independent and free from all abuses imposed on them by culture and the society. This was illustrated in the vocation skills development offered to women. Around 75 percent of the participants in the CBMIS activities and programs were youths. The elderly were effectively involved in all the activities and programs based on the positions they held in their community. Most of them are traditional knowledge custodians with a great role to play, particularly in the management of the forest and natural resources. Not as well-involved in CBMIS activities were the children whose participation was effected only through the transfer of information by way of storytelling and drama to help them understand the state of their environment and forest ecosystems. CBMIS trainings and workshops have always been participative and inclusive, respecting the free, prior and informed consent of all categories of persons within the community.

Picture 1. Women, youths and elders on; CBMIS data gathering, appreciation and presentation. *(Photo credit: Lelewal, 2015)*



Achievements from CBMIS and IPSSDD Implementation

A. CBMIS and IPSSDD Implementation

The implementation of CBMIS has yielded the following impacts both at the national and local levels.

National and local level:

- Indigenous peoples have been included in the REDD programs and processes and in the execution of pilot projects. They have been represented in the REDD national steering committee since 2010. Indigenous peoples have also been involved in meetings and seminars, both at the national and local levels, organized by the World Bank, GIZ and IUCN, to build the capacities of civil society and indigenous peoples on REDD processes and programs.

Picture 2. Indigenous participants for the processes workshop in Ebolow. *(Photo credit: Lelewal, 2017)*



Picture 3. Level of REDD+ in Cameroon. *(Photo credit: Lelewal, 2017)*



- The indigenous communities, particularly the Pygmies, are involved in the execution of REDD+ processes and programs. Very few indigenous peoples have been involved in the programs destined for REDD+ mechanisms in urban areas. Mostly, representation takes the form of seminar attendance by the

few, while the mass population is still very ignorant.

- The State recognized the human rights of indigenous peoples by creating in the Ministry of Social Affairs (MINAS) a department working on all issues affecting indigenous peoples. Decree No. 2004/320 of 8 December 2004 assigns additional tasks to the MINAS. In its article 5, it states that MINAS among other missions, "facilitate the reintegration of indigenous people and marginalized communities and the fight against exclusion and the promotion of national solidarity," a strategy to unite the technical efforts, managerial, social and economic partners, public and private entities.
- Indigenous peoples are aware that they possess their rights to their lands, forests and natural resources and can defend their rights. An indigenous person knows the importance of owning land and has also discovered the diminishing quantity of available land for their livelihood and well-being.

Box 2. Land Tenure Dispute (Djoum)

The CBMIS training has inculcated the importance of applying traditional knowledge in the protection of rights. Indigenous Baka pygmies and Mbororo pastoralists lacked adequate knowledge of their ownership of their land and forest ownership until 2014. This was when Lelewal introduced the CBMIS core domains and their concepts of land tenure and resources, traditional knowledge and governance, effective participation and human rights. One of the core domains that aroused the interest of the communities was the right to land tenure and forest resource control and protection. The knowledge they acquired from trainings and activities of CBMIS enlightened and motivated the communities towards gaining and asserting their rights to land and forest resources.

They started opposing land grabbing since it became known to them that these territories belonged to them. This was what happened in Miatta in December 2014, when the family of Mr. Akoumba Martin Paul fought against a Bantu group that wanted to grab their



community farmland. Mr Akoumba had their farming land restored to their community. Communities have been engaged in social mapping of their territories to mark natural and artificial boundaries of their community land.

Figure 4. Abing Camp.

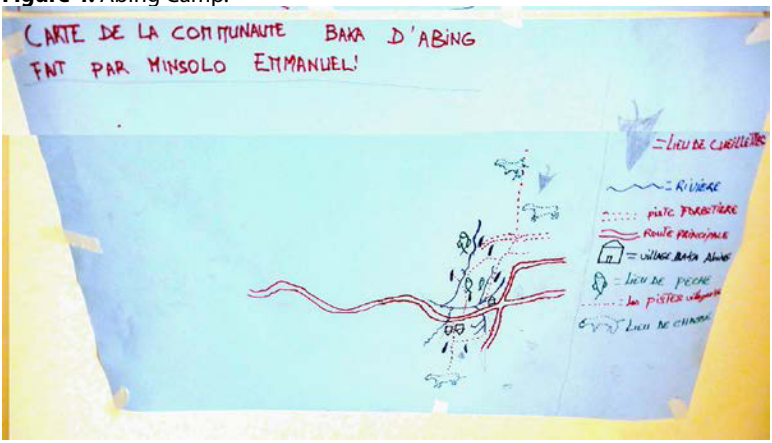


Figure 5. Minkoo Camp.



Another example is that of the Mbororo community of Ngorin, which radically opposed and succeeded in stopping the grabbing of their land by a rancher supported by the local farmers.

Box 3: Land Tenure Security (Pastoralists)

Picture 4. From left to right Musa Njobdi and Mohammadou Bari of Ngorin. *(Photo credit: Lelewal, 2017)*



Picture 5. Livelihood of Mbororo pastoralists. *(Photo credit: Lelewal, 2017)*



I am very happy to have participated in the CBMIS workshop, especially on the first domain on land, territories and resources. In this domain, which concerns us the Mbororo pastoralists depend on cattle, while cattle depend on land availability. Nowadays the clamor and demand for land is on the rise and our land is under pressure; thus, the importance of knowing their rights to the land in which they were born and raised. CBMIS has helped us understand our environment, identify our problems and find solutions on a scale of preferences. As our problems have different dimensions, we attend to the pressing ones first, which in our community is land. We are presently engaged with government representatives and local stakeholders, with assistance from Lelewal, to see if we can obtain collective land tittles. In the meantime, we will continue resisting the grabbers. We will make them understand that this land belongs to us. It was our ancestors and forefathers who discovered Ngorin, and we have the full rights as indigenous peoples to defend our land from aggression.

Indigenous peoples' capacity and knowledge improved, enabling them to monitor their environment, using the CBMIS tools. They can collect data and monitor the movement and extinction of biodiversity and forest resources.

Table 2. Rate of extinction of wild animals and reptiles (Minkoo community).

Baka Name	French Name	English Name	Rate of Extinction (%)
Kema	Singe	Singe	20
Ngbwom	Antiloppe	Antelope	30
Mboke	Porc-epic	Porcupine	75
Mboli	Serf	Serf	50
Kounda	Torture	Tortelle	60
Mbouma	Vipere	Viper	80
Meke	Boa	Boa	20
Gbwe	Rat palmiste	Squirrel	40
Kokolo	panolin	Pangolin	30
Ya	Elephant	Elephant	80

Soua	Panthere	Panther	60
Ebobo	Gorille	Gorilla	40
Seko	Chimpanze	Chimpanzee	40
Tamba	Sinocephale		50

Table 3. Rate of extinction of non-timber forest products (NTFP), Miatta community.

Baka Name	French Name	English Name	Rate of Extinction (%)
Ndo-o	Mangues sauvages	Bush mango	60
Maobi	Caritee		70
Njansang			50
koutu	Champignion	Mushroom	80

This assessment was made, using the CBMIS tools (focus discussion group, biodiversity survey and NTFP survey) to investigate and determine the rate of extinction as indicated in Table 3.

- Eleven Baka communities and 5 pastoralist communities have been empowered in their capability to use the CBMIS tools. The involvement of traditional rulers in the CBMIS training has galvanized the communities in support of the protection, respect and promotion of traditional knowledge and the strengthening of their respect for traditional governance.

Box 4. Indigenous Peoples' Full and Effective Participation

Picture 6. Melo Samson, chief of Minkoo. *(Photo credit: Lelewal, 2017)*



I, the Baka chief of Minkoo, have never participated in a program like this one in which each one of us can identify themselves and the problem or difficulties facing his community. The appellation CBMIS rhymes with another word in our local Baka language, *kulbimis,* which means **"**Open our eyes**."** This means that CBMIS is an eye opener for the Baka people, allowing them to see the abuse of their rights and also the poverty plaguing our communities. In this program there are five thematic domains, which are all important for us. For me, in particular, I have two domains that are specific to my context as a traditional ruler. Traditional knowledge and traditional governance are the areas that we have to emphasize as needed to be recognized, because these will bring out our identity as Baka people. As a Baka chief, I am not happy in my continuing to serve as sub-chief under the Bantu ruler. I think it is time for us to ask the Government to recognize our traditional rulers, so that whatever the state would want to do in our locality, they would pass through us, not through the Bantu leaders who are refusing to allow Baka people to emerge and occupy positions in decision-making. There is a saying: "Liberty is not given but taken." So, let the Baka people take their liberty from the Bantu people and exist as an independent community with its own customs and traditions. We should also respect our leaders and give them enough authority to speak for us.

Hunger and malnutrition have been reduced, as sustainable sources of food have been provided to five communities by means of support to community and individual farming. The communities plant a variety of crops for local and household consumption as well as for commerce in case of surpluses of harvests. But the communities have reiterated that their Bantu neighbors always steal their crops, thus making it difficult to farm around the camp. So, for security reasons, they are now forced to go deeper into the forest to create their

farms. Through the introduction of community farming, many indigenous families now depend on farming, and the agricultural activity has drastically reduced indigenous peoples' dependence and pressure on the remaining forest resources. We can boast of healthy communities living in a healthy environment and enjoying continual protection and sustainability of their forest, biodiversity and natural resources.

Table 4. Community farms.

Community Name	Number of farms	Types of crops cultivated
Miatta	3	Cassava, groundnuts, plantains, coco yams, pineapple, bananas
Minkoo	1	Cassava, groundnuts
Nyabibete	1	Cassava, groundnuts, plantains
Andoo	1	Cassava, groundnuts, plantains
Ngorin	1	Maize, beans, bananas, coco yams, vegetables

Box 5. Alternative Livelihoods

I am very happy to have participated in the CBMIS training. During this training we have understood that we need to protect our environment. Nowadays, we have lost our potential to gather forest products as they are diminishing year after year. Products like *zangsang*, Bush mango and *maobi* seeds are becoming very rare in the forest. The seeds get dry before maturity or else, in most cases, the plants do not bear fruits. I am sure that the community and individual farms and complementary livelihoods will reduce dependency and exploitation of forest products by the community, which will now concentrate their efforts on farming. The slogan "the

Picture 7. Nadoui Veronique on community farms. *(Photo credit: Lelewal, 2017)*



ground will never fail you" means that we are sure of getting food from our farms, but we are not sure of getting food from gathering. So, my advice is that we, Baka women of Miata, have changed from gatherers to farmers. As the climate is changing, we must also change to adapt to the impacts.

- Baseline information made available to the Baka communities of Djoum and local Baka organizations empowered them and improved their knowledge on the CBMIS core domains. The gathering, analyzing and documenting of the baseline data on the five core domains for Djoum have made it possible for the Baka communities to be oriented towards changing their habit of exploiting forest and biodiversity resources found on their land. The baseline information has also helped orient communities toward putting in place adaptation and mitigation measures for effectively fighting against the impacts of climate change. Communities are empowered through the alternative livelihoods systems set up for their resilience and development.

Picture 8. CBMIS baseline data presentation workshop in February 2016.

(Photo credit: Lelewal, 2016)



Two communities have gained a borehole water supply system, thus ending their water crisis and conflicts. There has existed a standing conflict concerning water availability for indigenous communities in Cameroon in general and particularly for the 11 Baka pygmy communities of Djoum and the Mbororo pastoralists of Ngorin. The drying up of water points is rampant, due to climate change, as the prolonged droughts make the water table sink to an extent that all surface water gets dried up. This reduces water availability for both human and animal consumption. Conflicts arise between communities, particularly between the Baka and Bantu communities over boreholes constructed in Bantu communities. Baka women and children suffer from injuries as they are responsible for accessing family water supply.

Box 6. Borehole Water

I am personally grateful for having experienced this event. It all started as a joke during the CBMIS workshop in Djoum, where Lelewal asked us to enumerate some of the pressing issues in our respective communities. For Minkoo, which is my community, water was the most pressing issue. We have now gotten water and so, we will do our gardening around our camp and prepare our food on time. Our children will never be abused by the Bantu. I hope this program will continue for some years to involve everybody. Our community farm is doing well, although not all women have participated. We are in a learning process, and I hope Lelewal will be patient enough to continue to work for the emancipation of the Baka community, particularly us women who are always abused. My thanks goes to Madame Grace Balawag of Tebtebba. She is the friend of the Baka people, as she visited us twice, that is, in 2012 and 2015. We wish her God's protection, and hope that our ancestors will continue to bless her for her good heart and also for her sister Joann Guillao. This borehole will reduce the water crisis in my community and also the water conflict.

Picture 9.a. Regine Ntolo on Borehole water. *(Photo credit: Lelewal, 2017)*





Picture 9.b. Ngorin borehole.

(Photo credit: Lelewal, 2014)



Picture 9.c. Minkoo borehole.

(Photo credit: Lelewal, 2017)

- Alternative skill development has come in the form of a tailoring workshop in Djoum to train Baka women and girls in dress-making. Eleven Baka communities have been covered by this activity in which two girls per community have been engaged in the training. All the trainees are single mothers between 15 to 22 years of age. This has helped the Baka communities to sew and mend their clothes at affordable prices and sometimes for free. It has improved the living standards of families by raising incomes from the activity to support family life. Being an arm of the indigenous peoples' sustainable self-determined development, alternative skill development has resulted for some of the Baka women in life-changing activities that have given rise to healthy and vibrant family setups with stable economies.

Box 7. Skill Development and Single-Mother Training

Pictures 10 a and b. Akamba Gael (trainer) orienting trainees. *(Photo credit: Lelewal, 2016)*





I am happy to benefit from this training; I will help my community as I can now sew all models of clothes for women and children. In the past we had to admire the Bantu girls dressed in beautiful attire, while we wore old clothes, leaves of trees and our children went around naked. We have suffered a lot, and it is our time to use these multiple opportunities to change our lifestyle and live as human beings, not as animals. We still ask ourselves why Lelewal choose to work with Djoum, which is so far and without any good roads. I hope there are Mbororo people who also need and get help, but Lelewal is not helping them and has chosen to work with us. We should be wise to embrace such an opportunity. I advise all Baka girls and women to stand up and provide the human resources needed to improve our standards of living. We should learn to use our hands to feed our mouths and families, not to continue depending on natural conditions, which have become very unpredictable due to climate change phenomena.

Forest Ownership and Management

Owning and controlling the forest has become an uphill task for the indigenous Baka pygmies of Djoum in the midst of the forest exploitation for timber-cutting and logging, the creation of reserves by conservation organizations, and the establishment of rubber and palm plantations by corporate institutions. Through the years, the pygmies has seen their forest diminishing due to lack of effective control over forest management and protection, habitats of biodiversity, and their sacred sites. The entire forest ecosystems have been giving way for installation of plantations.

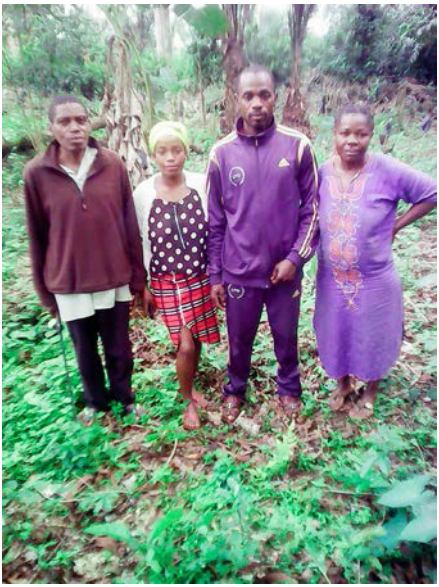
One of the Baka elders by the name of Akoumba Martin articulated to the research team his assessment of the plight of the Baku people:

> *When I was young, the whole area was covered by forest, animals were everywhere and non-timber forest products were abundant for our gathering and hunting activities. We had enough food and medicine, and we used to carry out our traditional and cultural activities smoothly. But, the forest no longer belongs to us, as in the past. The forest is being divided by the government as logging concessions for loggers. The Baka people have been conducting certain activities to protect the remaining forest, but it is not easy to do this without having some trees planted in the forest to ensure ownership.*
>
> *Through the trainings we attended on CBMIS and IPSSDD, we understood that forest really belongs to us and that we need to protect and manage it through agro-forestry by way of planting cocoa and fruit trees to really block the destructive activities of loggers. This will also help us economically ensure our livelihoods systems and also our constant presence in the forest. We have gained the control of hectares of forest, where we have planted our cocoa and other fruit trees. We are doing systematic surveillance as the plants are growing.*

Picture 11. Miatta community cocoa farm.



Picture 12. Miatta community leaders.



Box 8. Cocoa Farming

The initiative of introducing a cocoa nursery and tree planting has helped us, the men, improve our standards of living, and our community. It has also helped us own our forest and reduce the rate of forest obliteration by loggers who do not respect exploitation norms. The cocoa tree planting will be a fruitful business in the next five to seven years and will occupy us and our youths. This has also reduced the free labor which the Bantu person gets from our communities. You know, a kilogram of cocoa seeds costs 1,000 Frs. (US$2.00) here in Djoum and 1,600 Frs. ($3.00) in Sangmelima and Yaoundé. We have devoted ourselves to cocoa and

Picture 9.a. Ngwa Paul, chief of Miata.



fruits tree planting in our forest to secure our territories and ensure more carbon stocks to globally contribute to reduction of the impacts of climate change. This will improve our communities economically by alleviating poverty and decreasing dependency on the remaining forest, so that the future generations can still live the world we are living today. I am optimistic that we will own our forest in the near future, controlling it and its biodiversity resources. Most of our difficulties will be solved by selling cocoa alongside our non timber forest products which will be valorized.

- The quest for change in the lives of the indigenous Baka peoples and the need for a strong community setup remain a constant challenge that needs to be confronted from numerous angles. One of the gains from the implementation of CBMIS and IPSSDD was the creation and the government-supported legalization of the two women associations in Miatta and Nveng Baka resettlement camps. This organizing was aimed at helping the women face the same direction as CBMIS and IPSSDD in solving issues affecting them in terms of gender and in ensuring the well-being of their communities. The creation of these associations was driven by a common vision of work and a direction to follow in terms of community livelihoods development and empowerment of the community traditional administration and cultural festivals. These two associations of women were also tasked to follow up on the education of the children, who have dropped out of school due to parents' neglect and ignorance about the importance of going to school. Many of these children instead embraced the old Baka habits of hunting and gathering even at their early age and accompanying their parents in the forest for traditional rites, from which children from other tribes, such as the Mbororo, are exempted. The Baka children are also initiated early on into these secret societies. For their part, the women do not support

such practices. But, since they have little influence in family management, only through such avenues can they express their will with regards to the education and development of their children.

Figure 6.a. Mani Bela women association of Miatta Constitution.

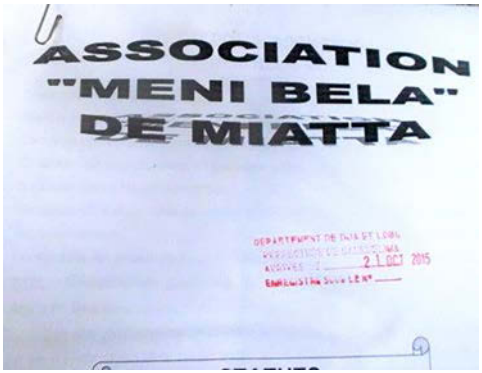


Figure 6.b. Registration/Declaration Number.



- There exists an improved government policy on the management and preservation of the environment, with indigenous peoples' traditional forest management partially recognized by the state. Although the policy still mostly exists only on paper form, it still

provides the indigenous peoples greater strength and opportunity to advocate the respect for their rights by using the available avenues, such as the media and seminars, to make their voices heard both at the national and local levels.

- There are now better laws on human rights, particularly the rights of indigenous peoples. The present Cameroon penal code is inclusive, making all Cameroons equal before the law.
- Another valuable achievement derived from CBMIS and IPSSDD programs are the leadership positions gained by women within their respective communities and at the national level. Women have been in the forefront of many of these activities. They are actively reclaiming their position in decision-making, both at the national and local levels, by creating associations that have made them visible in the local and national scene and also helped develop their livelihood systems and education of their children.

Challenges and Opportunities: Enhancing the Implementation of CBMIS and IPSSDD

a. Challenges

The implementation of CBMIS and IPSSDD has been marked by the following challenges:

Challenges to replication and up-scaling

Despite the benefits afforded by the use of CBMIS within the indigenous communities and territories, there have been noticeable challenges in its application, methodologies, as well as in its process of operation, its inclusiveness, and the diversity of its target populations and languages.

One of our challenges has been that although the CBMIS has already become widely used, there has seemed to be no general and acceptable definition of CBMIS as yet. This stems from the fact the different stakeholders have different meanings, purposes and given interpretations of CBMIS. We can understand the divergence of viewpoints because CBMIS has in the first place been designed to serve heterogeneous communities, opinions and needs.

Secondly, the level of illiteracy of the indigenous peoples, which is about 80 percent, remains a hindrance for them to effectively understand the concepts of CBMIS and effectively engage in IPSSDD activities, especially insofar as they are averse to abandoning their traditional ways of life and embracing the proposed alternative by way of the CBMIS programs and IPSSDD activities. This challenge therefore has also led us to the issue of the high cost of translations of the concept into the local languages. The CBMIS and IPSSDD materials have to be translated from English or French into the local languages and vice-versa and sometimes with the use of interpreters.

Thirdly, the CBMIS has different and diverse tools that are modern and may require complicated technologies. At the same time, being modern, these technologies are changing very fast, endangering the empowerment of data collection by the different age groups, that is, the youth, women and elders.

The challenges faced by CBMIS lies more in the constraints to its addressing and ensuring the application at all levels. The production and exploitation of the tools in the different communities need the exchange of results and data in the field and the sharing of information, feedback and criticisms from major stakeholders, as gathered and analyzed by local data collectors and specialists at national and international levels.

According to Tui Shortland (2016), CBMIS is dynamic and flexible, but it can also be a highly technical and costly exercise. Technical and methodological challenges include the high cost of mapping software and hardware and the substantial length of time needed for training in 3D modeling.

The collection and monitoring of data in certain enclaves and areas are hampered by the long travel time involved and the lack of good roads and bridges required in reaching indigenous peoples' areas, where fauna and flora are commonly threatened by poachers and loggers.

b. Opportunities

- The methodologies and tools of CBMIS render it as one of the community-driven and bottom-up local knowledge-building processes that ensure the involvement and buy-in of the local people. This therefore upholds the value of creating partnerships and opportunities that are often crucial in assisting communities in setting up CBMIS and in sharing information with external actors.
- The local council's role in the sustainability of the IPSSDD projects is assured as we have representatives in the councils and conduct our continuous lobby work with the council administration to provide assistance to the communities, particularly the women and youth.
- Another opportunity that can sustain these projects is the initiation and launching of social enterprises, which will generate funds to keep on funding some of the activities and human resources.
- The capacities developed and expertise gained from the project activities are sustainable opportunities for the implementing organization and the project communities with a high illiteracy rate.
- There is a constant quest for improvement and involvement of women and youth in project activities. The effective participation of the indigenous women and youth, their skills development, and their ability to pass on the knowledge and skills learned to other youths ensures the continuity and sustainability of the project's long-run goal.

c. Lessons Learned

CBMIS has been instrumental in creating visible opportunities and evidence within communities through social participatory mapping and generating spatial information. It has been able to convert people's imaginations and memories into usable and transferable knowledge.

Recommendations

a. CBMIS

1. Stakeholders should be able to forge a common definition of CBMIS and orient their activities to the different domains of applying CBMIS. The application should be inclusive, thus "leaving no one behind" and ensuring that the participatory nature of the CBMIS is essential to all members of the community so that their local needs and aspirations are taken into consideration.
2. Investing in inclusive and lifelong education with the support of social protection can go a long way in breach the literacy gap among the girls and the rest of the indigenous peoples. Education, whether in their mother tongue or not, has been observed to be the best method to change humankind. The reality is that the indigenous peoples and communities are unable to collect data and also benefit from the advancing technology without being educated.
3. Create a network of CBMIS stakeholders, actors and practitioners by bringing in women and youth at the local, national and international levels.
4. Policy-makers at all levels should consider CBMIS as a means to primarily generate sustainable data by en-

couraging and enabling the youth and women to use information and communication technologies through specific programmes of their groups and guarantee the transmittal and transfer of knowledge to the next generation. Such intergenerational exchange and education in the community strengthens social cohesion. The project should let the women and youth collect specific data on their specific situations.

5. Introduce the monitoring of poachers with the use of drones. The use of drones is a more precise and accurate method of capturing images on deforestation and degradation of the forest ecosystems and of measuring the rate of poaching in areas that cannot be accessible on the ground. This will facilitate getting truthful and reliable data of a given area at a given period of time.
6. 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.
7. Effective sensitizations can be conducted better through community radio rather than through organizing meetings or workshops. This is because radio can reach so many people, who otherwise cannot be brought together and reached in a meeting. Native languages of indigenous peoples should be used instead of English or French, which they do not understand.

b. IPSSDD

1. To succeed in the implementation of IPSSDD and to effectively benefit the Baka pygmies of Djoum and Mbororo pastoralists of Ngorin, the project has to have a long-term life-span, as from five to 10 years, in order for indigenous communities, particularly the youth, to build their capacity in a progressive manner for a long time.

2. Scale up the project, such as alternative livelihoods for indigenous peoples, to obtain greater outcomes and project impacts, including their improved capacity to successfully respond to their numerous problems brought by the advent of climate change.
3. Invest in basic and secondary education for the Baka and Mbororo girls and children to help reduce illiteracy and also create adult literacy centers for women and men in the respective communities.
4. Initiate social enterprises for the organization and the communities to ensure sustainability of CBMIS and IPSSDD activities. These enterprises, such as cocoa production and transformation, should be expanded to a reasonable extent.
5. Improve project logistics and transportation by acquiring a solid 4x4 Hilux pick-up to reduce the costliness of transportation for field activities, now incurred by renting a vehicle.

Interviews

Mohammadou Bari (leader of Mbororo Pastoralists) interview by research team, May, Ngorin village.

Melo Samson (Chief of Minkoo Baka resettlement camp) interviewed by research team, July, Minkoo camp.

Nadoui Veronique (women leader of Miatta) interviewed by research team June, Miatta camp.

Ntolo Regine (women leader of Minkoo) interviewed by research team, July, Minkoo camp.

Akamba Gael (trainer Djoum tailoring workshop) interviewed by research team, June, Djoum town.

Akoumba Martin (community trainer Djoum) interviewed by research team, June, Djoum town.

Ngwa Paul (chief of Miatta Baka resettlement camp) interviewed by research team, June, Miatta camp.

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Endnote

[1] Research Supervisor: Bouba Njobdi Amadou; Research Coordinator: Mkong David Ngum, with assistance from the leaders of Baka Pygmies and Mbororo Pastoralists.

NEPAL

CBMIS and IPSSDD Implementation

A Case Study of Nepal

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Introduction

This study was carried out in Community Based Monitoring and Information Systems (CBMIS) pilot areas in Lamjung with the objectives of identifying lessons learned, good practices and challenges on how CBMIS is being used to enhance, control and management by indigenous peoples of their lands and forest, territories. This study was thus aimed at serving as basis for further enhancing and upscaling CBMIS and the implementation of Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD).

The CBMIS pilot program has been implemented in Dura community, Lamjung district of Nepal from 2013 in coordination with Dura Service Society (DSS) and in partnership with Tebtebba. The program's goal was to empower the indigenous communities for generating information and monitoring their natural resources through their traditional customary institutions and sustainable, self-determined community development.

Lamjung district in the Western Development Region of Nepal is known to be the place of origin of the Gurung

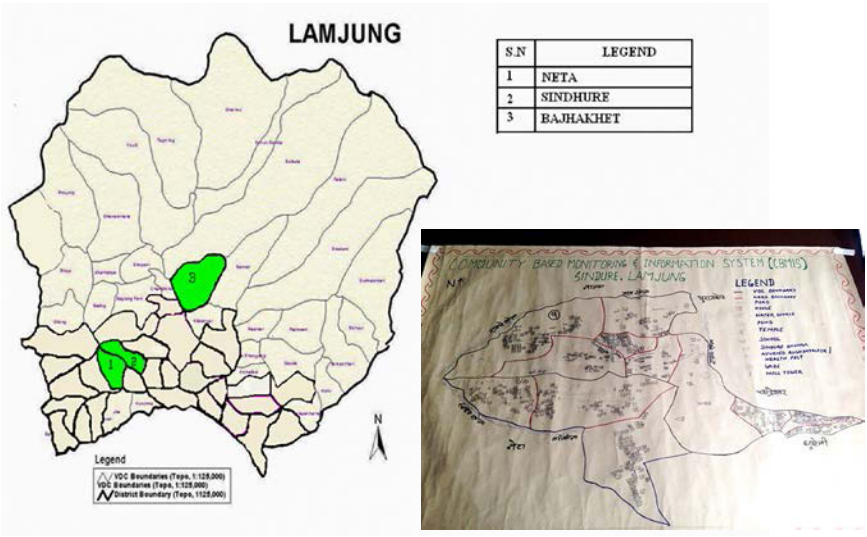
community. However, the district has also remained the main settlement area of the Duras, one of the marginalized indigenous nationalities in Nepal. Numerically, the Gurungs hold the dominant position, but other indigenous communities, such as the Bhujels, Tamangs, Magars, Yholmos along with the Duras also maintain a significant presence in the district. Besides, other non-indigenous communities, such as the Brahmins/Chhetris and the Dalits, reside in the district. The total population of the Duras in Nepal is 5,394, of which 3,185 live in Lamjung district alone (CBS, 2011). The district is spread over 1,692 square kilometers and has a total of 61 Village Development Committees (VDCs) including two election constituencies.

The Dura settlement is mainly concentrated in Sindure and Neta VDCs at Dura Danda. The Dura population is the largest in every ward of Sindure VDC and a significant number of Dura families live in some of the wards of Neta VDC. The Duras have their own distinct language, religion, culture, traditions and identity in the community. They have a close affinity with other ethnic groups, such as the Gurungs, Magars, Tamangs and Brahmins/Chhetris. Many aspects of their religious and cultural life are influenced by the cultures of those communities. It can be understood that there have been some direct impacts of the Hinduization process on the Duras' religious and cultural life. As a result, they have adopted certain Hindu culture, traditions, practices, and norms and values in the process of acculturation and assimilation.

The Duras have been lending continuity to their traditional culture and traditions. At the same time they have also contributed in maintaining ecological balance through the preservation and sustainable management of forests and biodiversity in their territories. The customary laws and practices have long guided their conservation approach and resource consumption patterns.

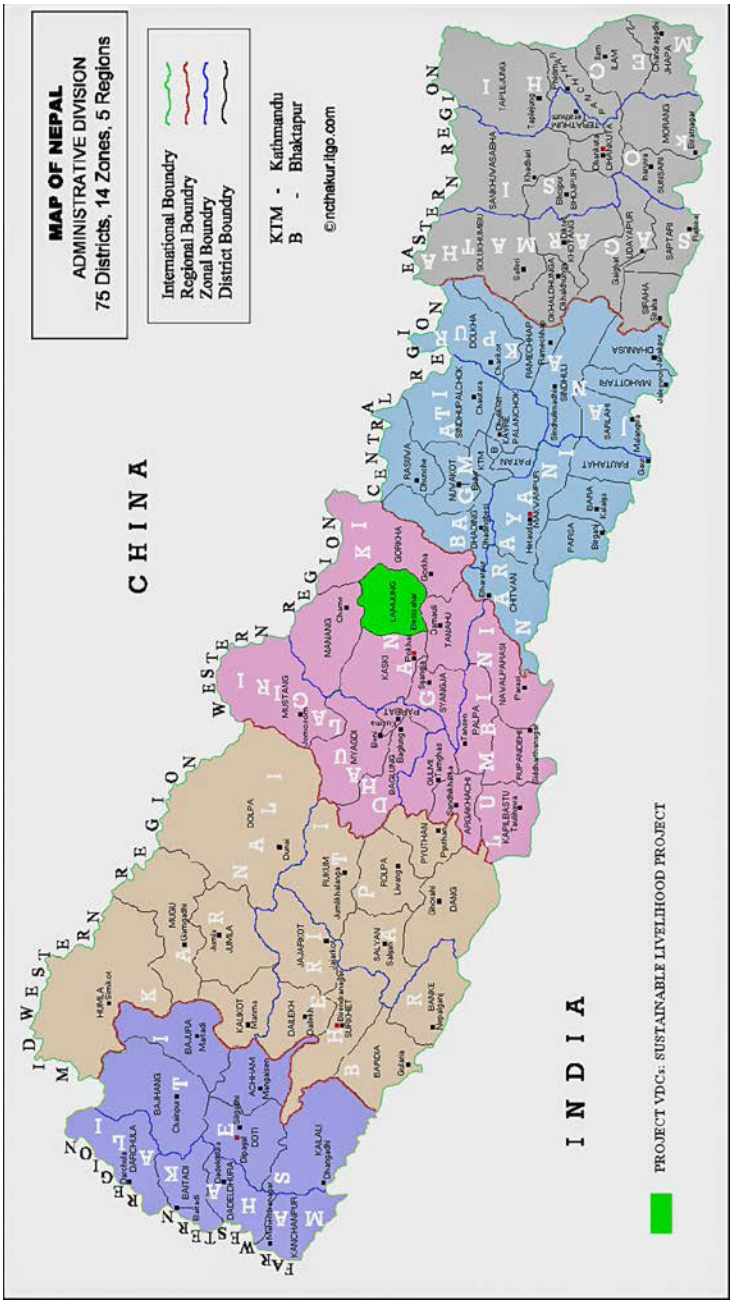
Geographic Location of CBMIS Pilot Area

Sindure and Neta VDCs, is at an average altitude of 1,500 meters from sea level. It is bordered by Purankot and Chandreshwor VDC to the east, Jitaga VDC to the south, Bangre and Karapu VDCs to the west and Nalma VDC to the north.



Socio-Political Situation of Duras

Duras are one of the marginalized and excluded minority indigenous peoples in Nepal with distinct social and cultural identities. On the other hand, they have been an example of the important role played by indigenous peoples in the sustainable management of the forest, land, biodiversity and other natural resources with their own customary law and practices for generations. Economically Duras are well-off in comparison to other caste and ethnic groups in the communities. However, apart from their presence at the local level, their



CBMIS Pilot Area.

representation in the politics and other decision-making levels in the district and center levels is negligible. Similarly, Dura women representation in the politics and decision-making in all levels is almost nil. The trend of Duras sending their children to the school is there but continuation of the higher-level education is very low. Historically, the main occupation and source of income among the Duras has been agriculture. At the same time, Duras also have started joining Nepali, Indian and British Military Services, which is now becoming one of their main sources of income. The trend of migrating to the cities and foreign countries for employment and education has been increasing among the young Duras, this has resulted in the low presence of youth in the community development initiatives. Since the CBMIS and IPSSDD project aims for empowering the communities for generating information collection of their resources, the youth and women play an important role in their self-determined, sustainable development of their community.

Caste/Ethnic Composition in the Program Area

The research area is a mixed community, with the Dura, Gurung, Dalit and Brahmin/Chhetri ethnicities inhabiting the area. However, the Dura population is the largest in this area. Of the total 474 households, the 370 are Dura families, 43 are Brahmins/Chhetris, 41 are Dalits, and 20 are Gurungs (See Annex I).

Research Methods and Data Collection Tools

This study was conducted in CBMIS pilot areas of Sindure and Neta VDCs of Lumjung, It covered all the Wards of Sindure VDC and Ward No 1, 2, and 3 of Neta VDC. Using the participatory approach, both qualitative and quantitative information were collected from the field. Key interview, group discussion, case studies and observation methods were

employed to gather the data. Interview and observation guidelines were drafted and applied during the fieldwork from March to July 2017.

Implemented Programs and Activities

The following programs and activities have been implemented successfully under the CBMIS program.

Community Level

- Trainings (awareness-raising and capacity-building, advocacy and lobbying, social and technical research methods and tools, and carbon inventory training)
- Livelihood programs (vegetable farming, bee keeping, cardamom plantation, nursery establishment trainings, vegetable seeds distribution and traditional skill trainings on bamboo weaving)
- Research (baseline study of CBMIS, carbon inventory, inventory of medicinal plants)
- CBMIS baseline information sharing and validation program
- Localization and translation in Nepali for Community Trainers and Organizers (CBMIS and IPSSDD manual)

Regional/District Level

- CBMIS and IPSSDD training
- CBMIS baseline information sharing and validation program

National Level

- Advocacy and lobby training for Dura leaders
- CBMIS National level Sharing Workshop
- Documentary Production on Dura Culture on Forest Management

- IPSSDD Manual Translation and localization
- CBMIS and Indigenous Peoples' Sustainable, Self-Determined Development (IPSSDD) training
- Publication of the findings of CBMIS report

Activities and Output from the CBMIS Program Initiatives

The following activities were carried out during the implementation of the CBMIS program, as shown in the following table:

SN	Activities	Participants/ Beneficiaries			Venue and Year
		F	M	T	
1	CBMIS training at the local level	17	20	37	Thuloswara, 2017
2	Advocacy and lobby training	14	20	34	Turlungkot sindure, 2016
3	CBMIS and IPSSDD training for Duras	16	18	34	Kathmandu, 2016
4	CBMIS National level Sharing Workshop	10	36	46	Kathmandu, 2015
5	Carbon Inventory Training	21	50	71	Neta, 2105
6	National level training on IPSSDD	11	17	28	Pokhara, 2015
7	Local Level training on IPSSDD	21	19	40	*Turlungkot, 2015*
8	CBMIS training	24	55	79	Sindhure, 2014
9	Research training: Social and technical data collection methods and tools	6	14	20	Sindure, 2014
10	CBMIS: Community validation workshop	33	42	75	Makaiswara, 2014
11	CBMIS: District level validation workshop/ interaction program	6	52	58	Besisahar, 2014

12	Inventory of herbal medicinal plants				Sindure and Neta 2017
13	Carbon inventory	10	23	33	Sindure and Neta 2014
14	Localization and translation of CBMIS manual				Kathmandu, 2015
15	Traditional Skill Development Training (Bamboo Weaving)	-	20	20	Bhangu, Turlungkot, 2017
17	Exposure visit	15	13	28	Pokhara, Bandipur, Lamjung, 2016
18	Bee Keeping Training and beehive distribution	54	22	76	*Sindure and NetaVDCs, 2015*
19	Vegetable Farming Training	22	32	54	*Turlungkot, Sindure, 2015*
20	Beehive distribution and cardamom seedling distribution program	42	58	100	Sindure, 2015
21	Monitoring of livelihood program	17	38	55	Sindure, 2015

CBMIS and IPSSDD Trainings

Both community and national level trainings on CBMIS and IPSSDD and advocacy and lobbying were conducted from 2014 to 2017. These have been aimed at raising the awareness level and building the capacity of Duras for ensuring their rights and protection, enhancing their effective participation and securing their fair benefits in policies and programs in Nepal. At various levels of trainings, 298 Duras, including 147 women, participated and thus directly benefitted from these trainings. Among the participants were Dura youths, women, community leaders, elders and schoolteachers.



CBMIS data collection training, 2014.

(Photo credit: CIPRED))



During Forest Carbon Inventory Training, 2014.

(Photo credit: CIPRED)

CBMIS & IPSSDD Training, 2015.

(Photo credit: CIPRED)



The trainings were helpful in updating the concepts of CBMIS and IPSSDD from the indigenous perspectives for community development, for monitoring the resources and for policy advocacy.

Inasmuch as the training had been designed in the first place to support the communities for building their capacity for generating information on their natural resources, forest and biodiversity and monitoring their status, the information generated as a result of this training has been helpful in their self-determined, sustainable development. The community-level advocacy, and lobbying training, for one, has helped the community leaders effectively engage in the community-level decision-making process and influence government authorities toward respecting their traditional knowledge and cultural practices in the course of policy making.

Inviting community leaders and local government authorities during the inauguration of the trainings has contributed to the dissemination of the information of the program among the concerned stakeholders. Especially the government representatives have been encouraged to collaborate and provide mutual support for the CBMIS and IPSSDD pilot program.

Apart from the general trainings on CBMIS and IPSSDD in 2014, a technical trainings on baseline information collection, natural resources, biodiversity and carbon inventory for selected youth, community leaders and women were also conducted. Of a total of 20 participants, 12 of them were local researchers and eight were resource persons. The participants learned about research methods and ethics, case studies, social mapping, and resource mapping. They were familiarized in the techniques of mapping and delineation, in the preparation of Venn diagrams, seasonal calendars, mobility maps and trend lines. They underwent training in the taking of digital photos to calculate the density of the forest and in the use of instruments such as GPS, Clinometer, D-tape, densitometer, linear tap, and compass.

Later, these trainees would be mobilized in the data collection.

Livelihood Program

The livelihood program consisted of a wide variety of activities: vegetable farming training, vegetable seeds distribution, beekeeping training, cardamom farming, beehive distribution, plastic tunnel distribution for greenhouse, cardamom seedling distribution, traditional skill development training, and exposure visit training. These training activities were conducted among the participants, both from Bhajakhet, Sindure and Netal VDCs in 2015. Later, the training was mainly focused only among the Dura communities from Sindure and Neta VDCs in 2016 and 2017. The various livelihood programs involved more than 300 participants and direct beneficiaries, including 148 women. They have been acquiring technical and practical knowledge of different kinds of vegetable farming with low carbon emission. The villagers have learned how to produce vegetables, using organic manure even in the off-season.



Vegetable Farming Promotion, 2015.



Promotion of traditional skills of bamboo weaving, 2015 *(Photo credit: CIPRED)*

The villagers have started to harvest vegetables for their family consumption as well as for sale in the local market as a regular source of family income. Ms. Sumitra Dura, Ms. Chandra Dura, Mr. Santosh Dura, Mr. Man Bdr Dura, Ms. Umaya Dura and Ms. Indra Gurung have already begun to sell their organically grown vegetables in the local market. They now share their stories of both excitement and disbelief at their ability to already earn regular incomes from vegetable farming and marketing. These farmers now stand out as the village model families in growing organic tomato, cauliflower, cabbage, onion, chilly, carrot, beans and garlic.

Stories of Sumitra Dura: Inspiration of Regular Income from Vegetable Farming

Sumitra Dura began organic vegetable farming after the training she received from the CBMIS and IPSSDD program. She now serves as one of the role models for growing organic vegetable in the village both for her family consumption as well as for the local market. Last year, she underwent a three-day vegetable farming training and NRs.40,000 (US$400) in vegetable farming grant, from the Agriculture Office of the government of Nepal. She is thankful to the CBMIS livelihood program for the money and training she received from the government. Last year, she earned NRs.15,000, selling vegetable seedlings, and 20,000, selling vegetables. Now, she is planning to eventually extend her vegetable farming on an even bigger scale.



Sumitra Dura in her vegetable garden, 2015. *(Photo credit: CIPRED)*

The beekeeping program is one of the successful and very attractive programs in Dura communities. After the beekeeping training in 2015, a total 48 beehives were distributed in

Bajhakhet, Sindure and Neta VDCs of Lamjung. During the group discussion, Duras said that beekeeping is a much easier way of earning and an appropriate occupation for the elderly because it does not require hard physical work. The Duras have two sayings: "beekeeping is profit without investment" *(Been laganiko kheti)* and "the bee is the guardian of people" *(Manchhele palne hoina manchhelai palne)*.

This program has empowered and attracted young communities with self-employment opportunities at home. The beekeeping program is very successful because there is both enough forest for honey production and high demand for honey in the market and in the village as well. The value of honey remains very high in the market. The beekeepers have been collecting honey two times in a year and earning a minimum of NRs.3,000 and up to 30,000 from producing and selling honey and beehives.



Bee Keeping, 2015. *(Photo credit: CIPRED)*

Exciting Stories of Beekeepers

In 2015, Ratna Bahadur Dura underwent beekeeping training in a CBMIS program, interested as he was in developing beekeeping as his family's source of regular income. Later in the year, Ratna received 5 beehives as grants from the Office of Agriculture. Now, he has 14 beehives. Similarly, Mr. Dhruba Dura of Thuloswara has 46 beehives. Moreover, he is a member of Beekeepers Association, Lamjung, while serving as a trainer in the district. He has been selling beehives for the last three years, earning enough for his family. For his part, Mr. Kalu Dura of Handikhola has 25 beehives. Each village has formed a 7-member beekeepers committee tasked with overall management, monitoring and support of the local beekeeping. The beekeepers enjoy the benefits of a compulsory saving and credit system, collecting NRs100 rupees every month in the regular meeting. The Thuloswara beekeepers committee has collected and saved NRs48,000, whereas the Handikhola beekeepers committee has collected NRs24,000. These committees provide loans among the group members at reasonable interest rates.

The Lamjung district has recently become famous for cardamom, so much so that Dura villagers have become eager, too, to plant cardamom in their barren lands. They have received 15,000 cardamom seedlings so far under the CBMIS program. Some ward villagers collectively plant cardamom in common land and others do so in their individual farmlots.

Research, Documentation and Publication

A detailed CBMIS baseline survey, conducted in the Dura community, delved into, among others, the status of their forests, their culture and traditions, socio-economic conditions, and agriculture patterns, while carrying out a forest carbon inventory and an inventory of forest, natural resources and herbal medicinal plants in Net and Sindure VDCs in 2014. The information on herbal medicinal plants was gathered, utilizing the participatory approach, with the collaboration of the community healers still using the medicine in the



CBMIS Data Collection training, 2014. *(Photo credit: CIPRED)*



Herbal medicine inventory, 2016. *(Photo credit: CIPRED)*

communities. The CBMIS program with the Duras marked a milestone with its success in documenting and presenting the state of natural resource management through indigenous ways. The process of documenting the traditional knowledge, culture and practices could and would now be passed on from generation to generation.

In highlighting the importance of CBMIS, what is most instructive and therefore should be showcased to the local, national regional and international communities is how the Duras were able to combine their willingness to accept new knowledge and techniques with their adherence to their traditional knowledge and techniques. Furthermore the CBMIS program enhances the capacities of the Duras themselves to sustain their program of community-based monitoring so that their knowledge can not only be retained but also updated and renewed and ultimately shared both nationally and internationally.

In support of data collection, a 5-day social and technical research training on CBMIS and 2-day carbon inventory training were held. All in all, 49 participants were trained and mobilized in the field research for the data collection. The training imparted knowledge on research methods, PRA tools, forest carbon stock measurement, forest conservation and the carbon pool in their forest. Of the 49 participants, 29 were technically empowered in the forest carbon inventory process. The total forest area of 815 hectares, traditionally managed by the Dura community, is estimated to contain about 98.2 tons of carbon per hectare and a total of 83,666.4 tons of carbon. The forest carbon inventory at Lamjung remains the first and, as such, very significant step towards the establishment of CBMIS and IPSSDD implementation.

The research findings were widely shared among Duras and other stakeholders in the Community and District-Level Validation Workshop, aimed at confirming the information gathered. Altogether, 133 participants, including 39 females, actively participated in the program.

Documentary, Media and Communication

The findings of the research and activities of the CBMIS program have been broadcasted through the community radio program of national radio and television. Especially captured by the media coverage were the views of the Dura leaders on how the program transformed their lives and communities n a major way.

A documentary entitled "Dura Culture on Forest Conservation" was produced to audiovisually record and feature the concrete activities of CBMIS and disseminate the views of the community leaders, youth and women who were directly involved in the programs for generating the information and monitoring the natural resources, especially the forest in the community. A total of 500 DVD copies of the documentary were produced and distributed in the community, in trainings and workshops, and in Conference of Parties 21 (COP21) of the UNFCCC in Paris. The DVD included a five-minute short video with an English-language translation and a 20-minute video providing full information on Dura culture and forest management. The video was also uploaded by *A*ankhijhyal national TV program on 28 Oct 2015 in YouTube (https://www.youtube.com/watch?v=PW6EK23d1o8) as well as in the social media for the wider circulation and information (www.cipred.org.np).

Not only did the documentary serve as an awareness-raising and advocacy tool to further promote CBMIS, it also communicated the indigenous peoples' comprehensive aspirations of realizing their rights to their land, territories, natural resources, traditional knowledge, cultural practices and customary institutions for sustainable forest, biodiversity, ecosystem and land management.

Uses of CBMIS Output/Outcome

The outputs of CBMIS program activities have been useful for the communities in their continuing advocacy and

lobbying with national and community-level government authorities, their awareness-raising and capacity-building of the young generations and women, and their promotion of indigenous knowledge and education in schools.

Advocacy and Lobbying

We began our lobbying work by inviting the concerned government authorities and other stakeholders, especially in the course of validating the CBMIS baseline information, at the national, districts and community levels. We then shared with these officials the objectives of the CBMIS programs and requested that the government and other stakeholders support the recognition of the important role of indigenous peoples and their traditional customary institutions in sustainable forest and natural resources management. From the district forest officer and local development officer, we received positive responses as well as requests to provide them the final report for their use in the community development activities. Later, after the completion of the report, we shared it with these officials for their use and records.

During the national-level validation of the CBMIS information, the REDD implementation chief was invited to share in the findings of the study, including on how Duras have been monitoring the natural resources, using their traditional knowledge and cultural practices. Since the CBMIS baseline survey report has already been completed, we have been propagating the findings of the study among the concerned government agencies and other stakeholders, drawing their attention to the indigenous peoples' issues and concerns.

The lobbying work under the CBMIS also increased access of the community to government resources. As mentioned earlier, Sumitra Dura was invited to participate in the three-day vegetable farming training, after which she was provided a large amount in government grants. Another recipient of direct benefits from the government, Ratan Bahadur Dura, started to engage in beekeeping and received five beehives

after participating in the local government's beekeeping training.

This lobbying has led to indirect benefits to the community as well. It, perhaps, accounts in part for the fact that now the community leaders are invited to participate in the community-level government programs. More than that, community leaders are now invited to join whatever decision-making processes are taking place in community development activities.

In this way, they have gained the platform for continued lobbying and advocacy on behalf of indigenous peoples. Due largely to such advocacy and lobbing, the appreciation of indigenous knowledge as essential to sustainable forest management is incorporated in the National REDD Strategy, Forest Policy and Strategy.

Awareness-Raising and Capacity-Building

Aside from supporting advocacy and lobbying, the findings of the CBMIS study serve the awareness-raising and capacity-building needs of the indigenous peoples and communities. Both CIPRED members and Dura community leaders have been learning lessons from the data and conclusions of the study, on how Duras have been managing and monitoring their natural resources and forest biodiversity by way of their traditional knowledge and cultural practices in the various levels of their programs. Dura Social Service (DSS) has conducted different trainings, such as those on the Dura language, *Sorathi Nach* (traditional dance), and institutional capacity-building, especially among the young generations. to sustain their enthusiasm and motivation to protect their indigenous knowledge and cultural practices.

Education and Schools

During the community-level training on CBMIS and the validation of the CBMIS report both at community and district levels, the community school teachers as well were encouraged

to participate. Here, they were oriented on the importance of the objectives of the CBMIS program. Especially relevant to the teachers was the CBMIS objective of encouraging and motivating the young generations and women to promote and protect the indigenous traditional knowledge and cultural practices contributing to the monitoring and sustainable management of their forest and natural resources, and to the biodiversity and ecosystem of the community.

Dev Bahadur Gurung, the head master of Saraswiti Secondary School in Makaiswara, Lamjung tells his own story of lessons learned:

> "I really felt that the objective of the CBMIS program complements our local curriculum on climate change at the primary level. We can propagate the findings of the study among the secondary-level students, while teaching about climate change. Thus I have shared this knowledge and the report with the teachers involved in climate change education and encouraged them to integrate the report's findings while developing their lesson plans. It is important to hand down this knowledge among our future generations because the CBMIS study presents the sustainable environment solution, especially for dealing with climate change impacts, it is very important for the continuation of indigenous traditional customary institutions that have played a crucial role in the sustainable forest and other natural resource monitoring and management for generations" (Dev, personal communication, 10 January 2017).

Major Achievements

The CBMIS program has produced major achievements in the following areas: relevant policies and programs, engagement in the government-led community development activities, unity among communities, level of youth awareness about the importance of protecting their traditional knowledge and cultural practices, revival of the collective farming system, construction of the CBMIS center, and livelihood programs.

Revision and Relevance of Policies and Programs

One of the major achievements of the CBMIS program is the active engagement of the Dura community leaders, both at the national and the local levels. Dura Service Society (DSS), the umbrella organization of Dura communities at the national level, is already a member of the civil society organization (CSOs) and indigenous peoples' organizations network working in the field of climate change and REDD+ in Nepal. It has been continuously linking up with other members to pressure the government to recognize the indigenous knowledge and cultural practices of the sustainable forest and other natural resources management in Nepal.





Dura community leaders have also been invited to the multi-stakeholders program led by the REDD Implementation Centre, Ministry of Forest and Soil Conservation (MoFSC) in both the World Bank's Forest Carbon Partnership Facility

(FCPF) and Dedicated Grant Mechanism (DGM) of Forest Investment Program (FIP) in Nepal. These leaders have gained the platform for their continuing advocacy and lobbying with the relevant government agencies and other stakeholders for the recognition of Dura communities and their own customary institutions, which have long protected the forest for generations.

Not only did the government express its strong commitment to support the CBMIS piloting program in the various CBMIS events. As mentioned earlier, equipped with a higher capacity for lobbying, we, for the first time, also were able to improve the government's national REDD strategy, Forest Policy and Strategy, in line with the viewpoint of indigenous peoples. The revised draft forest policy and strategy would thus include indigenous customary tenure as one of the options in the sustainable management of the forest and natural resources in Nepal.

Government-led Community Development Activities

The continued commitment of the government representatives to CBMIS activities at national, community and especially district levels did not remain only in the documents. These officials would be inviting Dura representatives in the government's community-level activities in support of recognition of Dura community contributions in the conservation and management of ancestral land, forestland and other government led development projects. This has helped the communities obtain additional support as well as strengthen our ongoing CBMIS and IPSSDD project implementation. This assistance includes the additional financial support that the Dura community has received for the construction of the CBMIS center.

Among the other government-assisted projects are the vegetable farming and beekeeping described earlier.

Unity Among Communities

Applying PRA and technical tools, the youth, women and community leaders continuously worked for 18 days together, collecting baseline information as well as information on land, forest, resources, biodiversity and carbon measurement. This work was characterized by a high degree of harmony and unity among the youth in support of the common cause of the community development. This group has now joined hands with other community members in other community development activities.

Importance of Traditional Knowledge and Cultural Practices

Apart from fostering relevant policies, government support and youth solidarity, the project activities also built up the level of awareness and capacity of the youth and women concerning their important role in the monitoring and sustainable management of the forest and natural resources. In addition, the program has also encouraged among the Duras the revival of the collective farming system, especially in the planting of fruit trees and cardamom in the community land.

Revival of Collective Farming System

- Revival of collective farming system (Cardamom plantation)
- Income generation from vegetable farming
- Compulsory saving and credit system (bee keeping families collect NRs100 each month compulsorily and mobilize the fund among the members in a nominal interest rate)
- Developed documentary on Dura culture on forest management: This documentary was broadcasted twice through national television *Aakhi Jhyal* program for wider dissemination to advocate and create mass awareness on the issues and concerns of indigenous peoples

Lok Bahadur Dura, the Dura community leader, says:

"Because of the increasing migration to the cities and foreign countries, the community land was left barren for many years. Now, the CBMIS program has increased and motivated Duras to fruitfully utilize the barren land as part of the income generation of the community. So, we have been planing those barren lands and leaving our community land with native trees, fruits and cardamom" (Lok, personal communication, 23rd February 2017).

Construction of CBMIS Center

Another major achievement of the CBMIS program was the construction of the CBMIS center in Turlungkot Sindure, Lamjung, a project initiated by the Dura Service Society (DSS). The CBMIS program provided moral and partial financial assistance to the project while, through donations, the DSS has shouldered the bulk of the budget and costs of constructing the building. The DSS has already collected the donation of NRs15,00,000 (US$15,000) from Shiva Lal Thapa, a parliament member and Rs5,00,000 ($5,000) from the Tourism Office in Pokhara. CIPRED also has provided Rs2,00,000 ($2,000) for the construction support. The construction of the building has already started.

Livelihoods Program

The most important achievement of the livelihood program of CBMIS has been the building up of the level of confidence and self-employment opportunities of the women of the communities. The families that depend on their subsidiary farming now enjoy regular income from their vegetable farming and beekeeping. They also hope to earn better incomes from the cardamom in the near future. Already, they have established a credit and saving system, so that members can access loans with low interest rates.

Each village formed its own beekeeping committee and has been collecting Rs100 ($1) each month for saving. A monitoring committee was also formed to oversee and monitor the progress of the beekeeping committee and also the status of their saving and credit status in Sindure VDC.

After the beekeeping trainings and beehive distributions, now 48 households in the communities started to make honey both for their personal consumption as well as for the commercial purpose. Every household has been started earning NRs5,000 ($50) to 30,000 ($300) by selling honey. Similarly, 54 participants from the communities have gained technical skill and knowledge on different kinds of vegetable farming with low carbon emission even in the off season and now 4 women have started selling vegetable seedling and earning NRs30,000 to 50,000 per year by selling vegetables in the nearest market. This program has empowered and attracted among young people for self-employment opportunities at home. Villagers learned how to produce vegetables by balancing advance technology with their traditional knowledge. Sumitra Dura's case of selling vegetables in local market has encouraged other facilities to grow own vegetable and discouraged the trend of buying the vegetables in the markets.

Lamjung district is becoming famous for cardamom seedlings recently, so Dura villagers were also very excited to plant cardamom in their barren lands in Sindure and Neta VDCs. Some ward villagers planted cardamom plants in-group in common land and encouraged collective farming system in the village though some individual household also have started on their own.

Lessons Learned

In the course of carrying out the CBMIS program, we have learned lessons for the effective implementation of the future programs in the community in the area of research and documentation, media and publication, advocacy and lobbying, sustainable livelihood, the establishment of the information center and, finally, recognition of the community contributions to sustainable development.

Research and Documentation

- Communities are able to collect their own information if they are trained properly in data collection methods and tools
- Elders are especially helpful for data collection, being rich in knowledge of the uses of natural resources, biodiversity, land, and cultural practices.
- Researchers and community data collectors need to work together. In the absence of this cooperation, data needed to be collected will be either lacking or missing.
- A research and biodiversity survey conducted by the community members themselves is extremely effective in accruing ownership of the program to the community and also in developing a pool of resource persons within the communities.
- Community involvement in social surveys and forest inventories makes younger community members and women know more about their resources and traditional management skills; and results in more effective transmission of their knowledge to the future generations.
- Research-based information can be useful in changing the mindset of policymakers and government authorities. The findings on the important role of the Dura communities are also acknowledged by the government officers as well as in the policies and documents that most affect indigenous peoples, such as REDD strategy and forest policy and strategy.

Media and Publication

- Information and messages disseminated through community radio are extremely effective since it is the fastest way to transmit messages to a wider population within a limited time period.
- Publication of the research findings and its dissemination among the policymakers and other relevant

stakeholders are important in influencing thm regarding the important role and contributions of indigenous traditional knowledge and cultural practices in sustainable forest and other natural resources management and also in climate change adaptation and mitigation at the community level.

Advocacy and Lobby

- Continuing advocacy and lobbying initiatives by Dura communities can be effective tools in addressing and ensuring indigenous peoples' traditional and customary practices of forest governance in the long run at both national and community levels.
- Engaging and including government representatives in project activities at the community and district level constitute indirect advocacy and lobbying initiatives with the concerned government agencies. These are extremely important in recognizing the initiatives taken by the indigenous peoples' communities. These also open the door for their effective engagement in government-led activities and projects, such as plantations and social enterprises.
- Case study and research should be done on a regular basis for data collection and the use of the information for the advocacy and lobbying strategies in ensuring the rights of indigenous peoples.

Sustainable Livelihood

- Livelihood programs, such as beekeeping, vegetable farming and cardamom plantation farming, are very effective where communities are receiving direct benefits from the activities through regular income generation. This direct benefit is important for the sustainable livelihoods of the communities.

CBMIS Center

- The Center ia a good platform for sharing the best practices of existing indigenous traditional customary institutions and practices, such as *Badgar* among Tharu communities, *Mukhiya* among Kumal, Bhote, Dura and Raute communities, *Gahadaar*among the Gagai community, and *Sakela* among the Rai and Kirat communities.
- The center will be the bank of information of the communities, visitors, researchers as well as the policy makers, once it is completed.

Challenges

Although we have come up with much achievements and lesions learned during the implementation of CBMIS program activities, we are not yet free from the following challenges:

Expectation from the Community

- Among the communities, there is high expectation of and demand for success and benefits from the CBMIS programs for community livelihood, infrastructure development and capacity-building trainings.
- The resources for capacity-building and empowerment of the community are limited and their expectations are difficult to meet.

Recognition of Indigenous Peoples' Rights

- The concerned governments have made verbal commitments to the recognition of the indigenous traditional knowledge and cultural practices for the sustainable natural resources and forest management and of the need for addressing their rights over their resources. Nevertheless, the policymakers do not

easily embrace or pay due attention to the issue of revising government policies and programs to ensure indigenous peoples' rights in line with the aspirations indicated in international agreements and conventions, such as UNDRIP (UN Declaration on the Rights of Indigenous Peoples) and ILO 169.

Translation and Localization

- While translating and localizing the English language manual, finding suitable technical terms and simple explanations in the local languages are always challenging.

Research and Documentation

- There is a need to develop simple tools and concepts/terms in the local context.
- Reliability of the information/verification is under question, when there are no written documents, memory of details in the past, and stories in support of the findings.
- The knowledge among younger generations on traditional knowledge is limited.
- Access to the technology and knowledge of conducting the carbon and forest inventory and wildlife and biodiversity surveys is limited or lacking.
- There is a needed for proper data management in a systematic manner (SPSS, Excel).

Migration

- Migration, particularly of youth and children to the cities and foreign countries for employment and education, is rampant. There are very few youths in the villages and challenges exist with regards to the continuation of the indigenous peoples' traditional knowledge of the land, forest, territories, water and biodiversity conservation and sustainable management.

Others

- Local elections, strikes, blockades and monsoons are the key challenges to the timely implementation of the program.
- Balanced and equal participation of caste/ethnicity, gender, youth and elders is highly challenged due to the migration.

Opportunities

Despite the presence of challenges, there are also following opportunities:

- The collection of CBMIS baseline information by the Dura community itself has created a sense of ownership and feeling of responsibilities over the collected data. Community people can utilize this information for community development initiatives, for the formation of policy and programs in the new political context of Nepal, and for the continuation of their advocacy and lobbying in support of recognition of their rights.
- Empowerment of youth and women on data collection, using various methods, tools and technologies, has developed their skills and capacity, which they can use to further carry out researches they are interested in. New employment opportunities are created in the course of conducting the community-based research.
- Youth awareness of their history, culture, roles and responsibilities has emerged, further motivating more youth and women to protect and promote their traditional knowledge and cultural practices.
- There is realization among government authorities and other experts on the important role played by indigenous traditional knowledge and customary law and practices for sustainable natural resource management.
- The project has supported the capacity-building of Dura leaders as well as of members of CIPRED so as to

strengthen the ongoing CBMIS and IPSSDD program and the sharing of the findings with other stakeholders, particularly the government agencies and other NGOs. The project has worked as a bridge between the Dura communities and other stakeholders in support of the community development initiatives.

Recommendations

Based on our achievements, lessons learned, challenges and opportunities in the implementation of the CBMIS program, the following are the thematic recommendations for the continuation of CBMIS and IPSSDD program activities:

Livelihood Program

- Continuation of the livelihood program is necessary for creating regular income for the families and for generating self-employment opportunities.
- There is need for empowerment of women through social entrepreneurship development in the community

Awareness-Raising and Capacity-Building Program

- Awareness-raising and capacity-building program activities are necessary in the communities, especially among youth, for generating income in the communities and for protecting and promoting their traditional knowledge and cultural practices.

CBMIS Program

- Continuation of the CBMIS program is crucial for handing down the traditional knowledge and cultural practices to the young generations in support of the sustainable management of the forest, other natural resources and biodiversity.

- With such positive results in such a short period of time, this project has a huge potential of replication to other indigenous peoples' districts. As such, a reasonable budget for all the potential programs should be considered so as to expand program reach and targets in terms of beneficiaries and location as well.
- There is need to create a platform where indigenous peoples and the government can regularly go into dialogue and discourse on relevant issues. This further provides a continuous link and bridge with the government.

Advocacy and Lobbying

- During the different levels of the trainings, it is important to invite government representation—either during the inauguration or closing session of the trainings—for effective lobbying with them and also for them to understand the core issues and concerns of indigenous peoples.
- Continuing advocacy and lobbying trainings is important to update among national and community leaders their knowledge of national and international policies and programs related to indigenous peoples so that they can play an effective role in addressing the issues and concerns on time.
- Inasmuch as Nepal is experiencing a new political situation and is in the process of implementing a new constitution in the federal government, it is essential to provide necessary information and advocacy skills and knowledge among the leaders n support of their effective roles and contributions.

Research and Documentation

- Research activity is still insufficient in assessing in detail issues, the condition and concerns of the indigenous peoples; hence, more research and documentation cases activities should be done regularly

Institutional Support

- Institutional strengthening support and auditing and record keeping training should be provided to the mothers group, the youth club, and to beekeeping committee members.

Media and Publication

- Since media and publication is an important part of the awareness-raising, capacity-building, advocacy and lobbying and other activities needed to meet the objectives of the programs among the concerned stakeholders, especially the government agencies, it is necessary for media to be part of the CBMIS program in the future.

School Education

- Since indigenous traditional knowledge and cultural practices are crucial in ensuring sustainable forests and natural resources, biodiversity, long-term ecosystem management and climate change adaptation and mitigation, it is important that the knowledge is transferred to the future generations through both formal and non-formal education.
- It is necessary to further improve the existing local curriculum on climate change.
- Schoolteachers need to undergo the regular trainings on the important knowledge of the indigenous peoples that has been contributed to the climate change adaptation and mitigation at the community level.

Others

- The notion of forests not only for fodder and fuel but for the preservation of culture, tradition and, knowledge needs to be more persistently programmed.

Annex 1

Table 1. No of Households by caste/ethnicity.

VDCs	Caste/ ethnicity					
Sindure VDC						
Ward	Dura	Dalit	Gurung	Chhetri/ Bahun	Total	Percent
1	44	–	4	–	48	15.6
2	38	5	1	–	44	14.3
3	35	–	–	–	35	11.4
4	29	–	–	–	29	9.4
5	8	–	–	–	8	2.6
6	22	1	–	2	25	8.1
7	21	–	–	29	50	16.2
8	28	16	–	–	44	14.3
9	7	10	6	2	25	8.1
Total	232 (75.3%)	32 (10.4%)	11 (3.6%)	33 (10.7%)	308	100.0
Neta VDC						
1	51	–	–	–	51	30.7
2	49	5	9	–	63	37.9
3	38	4	–	10	52	31.4
Total	138 (83.1%)	9 (5.4%)	9 (5.4%)	10 (6.1%)	166	100.0
Population of both VDCs	370	41	20	43	474	
Total percent	78.1	8.6	4.2	9.1	100	

Source: Field Survey, 2015

INDONESIA

Indigenous Territory Management System

Dayak Jalai Indigenous Community in Kampong BatuMenang

By Regina Yudititasari and edited by Krissusandi Gunui'

Introduction

The large-scale expansion of palm oil plantations and mining are among the factors that account for Dayak indigenous peoples losing their ancestral territories in a massive way. Losing ancestral territory is synonymous with losing sources of livelihood, customs and traditions that have been passed down for generations. Dayak indigenous peoples' customs and culture are inseparable from forests, lands and waters, given that their cultural existence is considerably dependent on the existence of their ancestral territories.

Moreover, government policy has also led to the limited access of the Dayak indigenous peoples to their ancestral territory. For instance, Dayak indigenous peoples' ancestral territories are designated by government as Areas for Other Uses (APL) and their forest areas as protected forest, conservation territories, and production forest in addition to Right to Forest Use (HPH), High Conservation Values (HCV), and so forth. With the designations above-mentioned, government exercises full control over those areas by issuing of all kinds of permits on use of those areas—a situation of grave concern to the Dayak indigenous peoples. This marginalization is fur-

ther compounded by a drop in prices of the local commodity that has become Dayak indigenous peoples' main livelihood source. The latter situation drives Dayak indigenous peoples to sell their lands to corporations. To address these, a system that could provide help to Dayak indigenous peoples in managing and protecting their ancestral territories is needed.

It is generally known that a community would not be self-reliant if it were not for its control of and access to its own resources. Therefore, what needs to be developed is an approach that pursues and revitalizes their goal of local development with or without being dependent on significant external help. In all the 10 *kampongs*/villages in Dayak Jalai and Kendawangan indigenous peoples' community we empower, the communities are not yet fully interested in a monitoring and information system in their ancestral territories. Therefore, Institut Dayakologi arrived at the decision to come up with a new approach: developing an indigenous community-based monitoring and information system that enables the community to monitor and incorporate their natural resource management into their regional development plan and the development of the community as a whole.

We often believe that community development projects promote empowerment, or increase community control of its development and life choices. However, not all community members are equally empowered to participate in project design and implementation. Furthermore, we know that the members of community development committees tend to be predominantly community elites, and male. Through the basic participatory process, then, the community as a whole is little likely to be "empowered" to alter traditional hierarchies of power, or to argue for a more equitable distribution of community development resources. This is especially true in more stratified communities.

CBMIS is a collective and participatory process for safeguarding the existence of knowledge of local wisdom belonging to an ancestral territory. The CBMIS concept means being able to generate, analyze and use data for monitoring changes

that occur in the spatial planning of an area. It is through CBMIS that local knowledge could be passed down to next generations because of consistent monitoring on every change in knowledge, management and use of natural resources accessible to a particularly indigenous community. CBMIS here is not meant to be a formal monitoring and information system, but rather a means of building a community's capacity for empowerment and self-determination.

We are aware that community empowerment must belong to the community itself—management and control of their own choice. With the enhanced ability to monitor and evaluate the progress, the community would be capable of managing itself. Such ability, in addition to the motivation it has, would enable the community to become self-determined in managing its resources. Nonetheless, just like other initiatives, CBMIS will not be useful if it does not receive consistent support from multi-parties. The community members must fully support their use.

Objectives

1. To review the activities and the outcome of CBMIS and IPSSDD in Batu Menang Indigenous Community.
2. To formulate recommendation for more effective implementation of the of CBMIS towards IPSSDD.

Methodology of "Mutual Learning"

Our approach was to build interest on community. We used semi-structured interviews and focused group discussions (FGD) with the village population. We would first discuss about the local history and social life of the community to generate community interest and to know more about the impact of CBMIS and IPSSDD. In addition, we studied documents and reports of ID on facilitation and CBMIS activities in the community. We also looked into documentation (in the form

of pictures, video, etc.) of conflicts or activities occurring in the community.

Profile of Dayak Jalai Indigenous Peoples in Kampong BatuMenang

Kampong BatuMenang, which is inhabited by the Dayak Jalai indigenous community, is administratively situated in KusikBatuLapuk Village, Jelai Hulu Sub-District, Ketapang District.

Below is a demographic table of Kampong BatuMenang:

Table 1. Number of households, males, females and persons in Kampong BatuMenang.

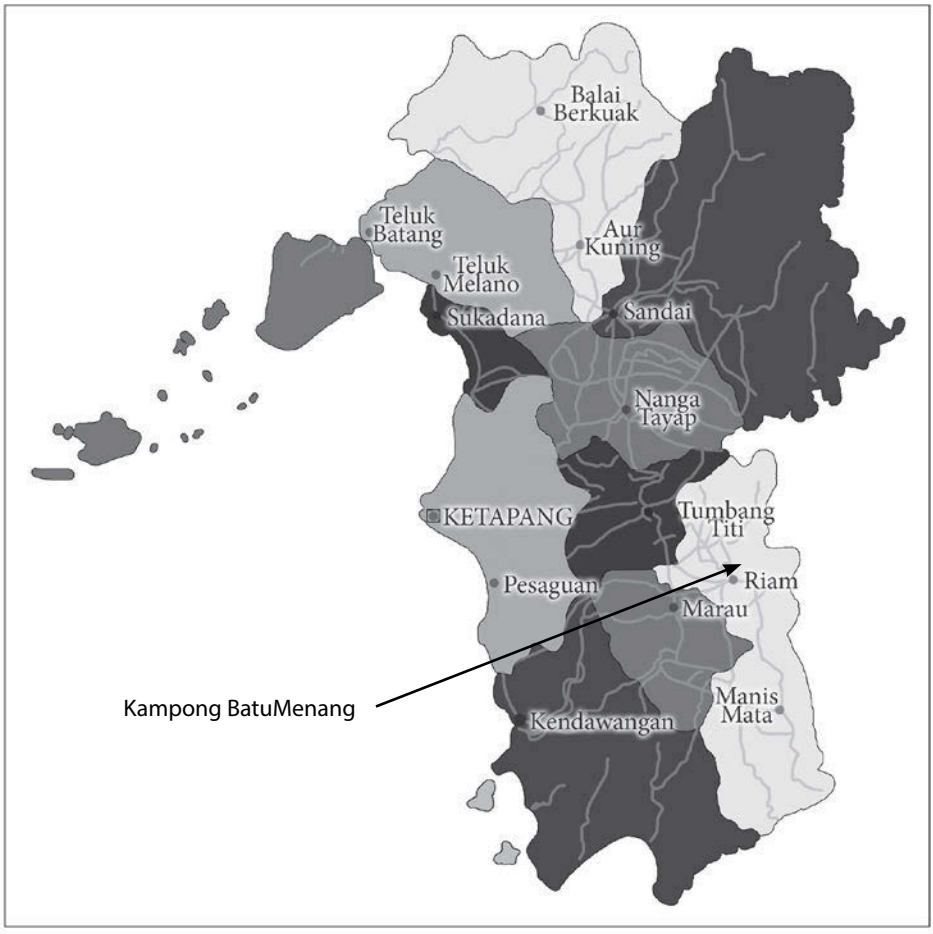
No	Neighborhood Unit/ Community Unit	Number of Households	Number of Males	Number of Females	Total Number of Persons
1	I/I	25	37	40	87
2	II/I	23	36	30	66
3	III/II	28	45	51	96
4	IV/II	33	46	38	84
Total		**109**	**164**	**159**	323

Table 2. Types, number and ownership of infrastructure in Kampong BatuMenang.

No.	Type	Total Number of Units	Ownership
1	Building structures	26	Public/Private
2	Vehicles	119	Public/Private
3	Machinery and appliances	141	Public/Private

The main sources of livelihood of the Dayak Jalai indigenous peoples in Kampong BatuMenang are indigenous rotational farming, rubber tree tapping, and to a lesser extent,

Map of Ketapang District.



handicrafts for sale to other kampongs. Moreover, during the fruit season, particularly durian fruit, the community harvests these fruits and sells them or processes them into *tempoyak* and *lempok*.

CBMIS and IPSSDD Activities

A. Participatory Mapping of Ancestral Territory

Participatory mapping in Indonesia is a modification of Participatory Rural Appraisal (PRA), which in turn is one of the variants of participatory research. Participatory mapping is a process for spatial planning of an area or territory that will generate a map through full participation of all the elements of a community in a particular area.

There is an apparent difference between participatory mapping and other methods of mapping, in which the former must involve the participation and role of the community to the fullest. The following are the common criteria of participatory mapping:

1. There is full involvement in many ways of everyone in the community, including all the stakeholders and ensuring equality between women and men and of all ages;
2. The community is able to identify the problems they are facing, to set a goal and formulate activities to be done collectively and to conduct the process of mapping collectively;
3. The basic information of the map is sourced from the local (traditional) knowledge;
4. The community takes control of the information generated from the activities.

Law No. 24 of year 2007 on spatial planning offers some leeway or opportunity to communities to take part in spatial planning (mapping), in its definition of article 7 clause (3). Regarding spatial planning, the state gives authority to the

government and the regional government for the sake of people's prosperity by taking into account the rights people are entitled to, including the rights of indigenous peoples. This is elaborated in the definition of the article mentioning that the rights of people as a whole also include the rights of indigenous peoples who are entitled to recognition and protection by legislation.

Kampong Batu Menang is one of the empowered villages—kampongs/villages that receive intensive and sustainable facilitation and empowerment from ID and the Alliance of Jalai and Kendawangan Indigenous Peoples (AMA-JK). The Dayak Jalai indigenous peoples in Kampong BatuMenang maintain a strong commitment to safeguard and protect their ancestral territory. Therefore, they deem it of utmost importance to possess a means of affirming the existence of their ancestral territory, one recognized by the outsiders and thus able to serve as a means of advocacy for ancestral territory protection. To this end, they reached an agreement on conducting participatory mapping in the ancestral territory of Kampong BatuMenang.

The Process of Participatory Mapping

1. **Assembly at community level on the protection of ancestral territory (12 May 2014)**

   A community that wishes its ancestral territory to be mapped and receive intensive facilitation must conduct an assembly at the community level in advance. This is aimed at reaching a consensus on their efforts in protecting their ancestral territory. The assembly that took place in Kampung BatuMenang was attended by all the community members, including the local community figures/leaders, specifically, the village head, the hamlet head, the customary leader, and the heads of community and environment units.

   In the assembly, which was needed to strengthen the efforts to protect and safeguard ancestral territory, each participant was entitled to express his or her

opinions, and to find out what was best for all. In this way, this assembly came to a consensus to protect and manage their ancestral territory in line with their local knowledge. Moreover, the assembly participants agreed to strictly reject any forms of exploitation or unsustainable management in their ancestral territory. Following the consensus, an affidavit document of the consensus was drafted and signed by all the participants. Serving as concrete evidence of their unanimity of determination in protecting their ancestral territory, the document would later be archived by the local community leader.

Aside from the consensus or agreement on sustainable management of their ancestral territory, the assembly also generated a list of strategic measures for protecting their ancestral territory, such as mapping and securing facilitation from a capable institution. Immediately following this up, the community then drafted a letter requesting facilitation and mapping in their ancestral territory.



The signing of Affidavit Document of the Agreement on the Protection of Ancestral Territory.

(Photo credit: ID)

2. **Assessment conducted by facilitating institutions (May 19, 2014)**

   Subsequent to the signing of the affidavit document of agreement, the representatives of Kampong BatuMenang contacted ID and AMA-JK, their two facilitating institutions. ID and AMA-JK responded and conducted an assessment in Kampong BatuMenang. The assessment aimed, among others, to ascertain whether the Dayak indigenous peoples of Kampong BatuMenang were genuinely determined to safeguard, maintain and manage their ancestral territory.

   Conducted likewise was an FGD with Dayak indigenous peoples of Kampong BatuMenang on the protection and management of their ancestral territory. As a facilitator, ID explored the prospects of gathering information about the ancestral territory of Kampong BatuMenang, its potential and the way it had been managed so far. All the information collected was to be used as future reference for the facilitation. Aside from that, this FGD was also beneficial to ID in helping it approach and relate with the community and identify up close what exactly the Dayak indigenous peoples of BatuMenang's concerns and aspirations were.

3. **Dissemination of participatory mapping and facilitation of kampong (22 May 2014)**

   Following and in response to the letter of request submitted and findings of the assessment, the next step taken was the dissemination of the facilitation and mapping of Kampong BatuMenang's ancestral territory. Detailed and more elaborate information about processes of facilitation and participatory mapping, including their requirements, potential risks and benefits, were comprehensively generated. In these processes, the community played a crucial role.

   What was also made clear were the criteria that a community had to comply with in order to become eligible for ID's facilitation and for having its ancestral

territory mapped. On the basis of Institut Dayakologi and PPSDAK-PancurKasih's experiences in their collaborated facilitation of the participatory mapping over several kampongs, the following were the criteria or requirements that a kampong had to meet or comply with in order to qualify for participatory mapping facilitation:

a. To possess an ancestral territory with a clear border and recognized by other kampong;
b. To receive support from most of or more than 75% of the indigenous peoples residents living in that kampong;
c. To employ a natural way of managing its natural resources that is done in compliance with self-determination and sustainability principles and is regulated by a strong and determined customary law;
d. To safeguard and maintain as functional customs and customary law;
e. To have a clear historical background.
f. To uphold a standard for land/area spatial planning that is in line with local knowledge;
g. To manage well, safeguard and keep sustainable the ancestral territory and its contents in the form of natural resources (forest, land, water).

It was also explained to the community that the whole process and the phases of the participatory mapping would be carried out in a participatory manner and that all decisions would be made through assembly for a consensus.

Following the dissemination, the Dayak indigenous peoples of Kampong BatuMenang formed a consensus and agreed on proceeding with the next process. The findings of the assessment and the FGD also suggested that the indigenous peoples were eligible for facilitation and participatory mapping. Then the

community stepped further into the next process where they reached a consensus or collective agreement on the facilitation and participatory mapping by supplementing a letter of agreement on protection and management of their ancestral territory that was signed by all the community members.

4. **Submission of request for participatory mapping on ancestral territory and for facilitation on Kampong BatuMenang (28 May 2014)**

   For the sake of ensuring that the mapping was the genuine desire of the community itself, it was required to submit another letter of request to ID for facilitation on the mapping, and the letter had to be approved by the community and endorsed by the village administrators. Eventually the community's latest letter of request was supplemented with letters of agreement on management on their ancestral territory and on facilitation, all of which had been signed by the community. This, again, had to be done just to make sure that the community had a common intent to protect its ancestral territory. Th entire community of Kampong BatuMenang, men and women, collectively worked on the documents required to complement their letter of request.

5. **Forming a local committee for organizing the whole process of participatory mapping**

   ID facilitated the formation of a local committee, aimed at imbuing the community with a sense of belonging and responsibility for this activity. The process of selecting the members that comprised this committee was carried out in a democratic assembly, where all the community members could nominate themselves or whomever among their peers they regarded as capable of membership in the committee. As for the structure of the committee, a woman member was appointed treasurer, shouldering the responsibility of managing the charity contributed by the community

for the mapping processes, while the other woman member was responsible for ensuring availability of food and drinks among the participants of mapping processes and mapping-related meetings.

6. **Internal/Local Customary Assembly of Indigenous Peoples of Kampong BatuMenangon ancestral territory strengthening, kampong's boundaries and natural resources. (June 2014)**

   This assembly aimed at attaining a general description of the entire ancestral territory of Kampong BatuMenang, in addition to determining the course and position that were going to be explored during delineation. Participants were directed to work in groups to determine the boundaries/border of Kampong BatuMenang with that of its neighboring kampongs and to draw a sketch map of their ancestral territory. It was important to take account of the sacred sites, rivers, forests, dahases and rubber tree gardens and farming areas. The information shared by each group was then discussed in order to gather more comprehensive information and agreement/consensus over the ancestral territory's boundaries.

7. **Training on the techniques for participatory mapping (June 2014)**

   This training covered the following topics:

   a. The making of the sketch map of BatuMenang's ancestral territory (basic for data collecting);
   b. The use of mapping-supporting equipment/tools, such as GPS (Global Positioning System), compasses and data storing;
   c. Field surveying that included determining coordinates/points, distances, lighting and note recording.

8. **Initial phase of delineation of the border of BatuMenang's ancestral territory (June 10, 2014)**

   Equipped with four units of GPS tools, the community members divided themselves into four *kelompok*

groups for conducting delineation of Kampong BatuMenang's border with that of its neighboring kampongs. This activity started in the morning and lasted until the afternoon and even late into the night. Women had been busy cooking since dawn to prepare food for those conducting the delineation.

9. **Conducting a Workshop on Spatial Planning taking place in Kampong BatuMenang (June 16, 2014).**

   This workshop aimed to bring together the indigenous peoples from several kampongs situated around Kampong BatuMenang, particularly those directly bordering BatuMenang so that they could share, find and consolidate common views and perceptions in championing the safeguarding of their ancestral territories. This workshop was attended by the community figures of neighboring kampongs, namely KusikBulin, Setipayan, Semantun and Semenjawat, in addition to the community of Kampong BatuMenang. The workshop result was the spatial plan of Kampong BatuMenang, although during the workshop itself, the communities were not certain about the exact sizes of their areas.

Spatial Plan of Kampong BatuMenang:

No	Kampong	Total Area in hectares	Spatial Plan
1	BatuMenang	± 3,583	Lake
			Dukuh
			Rubber tree garden
			Payak/swamp area
			Fruit garden/Pebuahan
			Settlement
			Forest
			Rattan
			Tengkawang

Spatial Plan of Kampong BatuMenang after Participatory Mapping

No	Kampong	Total Area in hectares	Spatial Plan / Total Area in hectares
1	BatuMenang	3,583.13	Lake: 0.47
			Dukuh: 25.24
			Rubber tree garden: 971.94
			Payak/swamp area: 30.47
			Fruit garden/Pebuahan: 89.14
			Settlement: 7.77
			Forest: 2,307.72
			Rattan : 52.16
			Tengkawang: 98.21

10. Customary Leaders' Assembly (MUSTODAT) (June 20, 2014)

Following the workshop on the system for ancestral territory management and spatial planning, a Customary Leaders' Assembly was conducted with the participation of all the indigenous peoples from all the neighboring kampongs sharing common borders with Kampung BatuMenang. This workshop aimed to build the communities' awareness of the significance of ancestral territory protection through mapping, cultural revitalization and natural resources safeguarding. The most important output this workshop generated was the agreement/consensus of inter-kampongs's indigenous peoples on the delineated border of Kampong BatuMenang. That agreement was translated into an affidavit document, signed by all the village-level kampongs' leaders, be they customary or administrative leaders.



The signing of the affidavit document on the border of the ancestral territory of Kampung BatuMenang during the Customary Leaders' Assembly *(Documentation of ID)*.

11. Delineation along the border with the indigenous peoples from neighboring kampongs (June 22-24, 2014)

Delineation using GPS along the entire border was conducted together with the community members representing the neighboring kampongs that shared direct borders with Kampung BatuMenang. This collaboration was designed to directly involve neighboring kampongs so that they would also recognize the validity of the map.

12. Additional delineation within the ancestral territory of Batu Menang on objects such as river, springs, Dahas, farms, wet-paddy rice field and protected area (June 22-24, 2014)

Following the delineation of the border, additional GPS delineation was conducted on specific objects. This was needed to support the plan for the development and management of the ancestral territory of BatuMenang in the future. By doing so, the commu-

nity would be able to identify and get to know what natural resources it possessed.

13. **Completing data of Participatory Rural Appraisal in the form of land use planning, community's productive area, rubber tree gardens, etc. (July 2014)**

    The main goal of this activity was that all benefits and land-use planning for the ancestral territory of BatuMenang, including the settlement area, *dahas*, rubber tree garden, and durian tree garden, be incorporated into the final design of the map. The next goal was that the already collected data be legitimate and obtain approval from the entire indigenous community of Kampong BatuMenang.

14. **Confirmation (cross-checking) of the data in the temporary map (September 2014)**

    This activity aimed to review all the data that had been collected and was carried out when the map was deemed close to final or prior to temporary print-out. Cross-checking is of utmost importance since this phase determines whether the result of the mapping is valid or not.

    Subsequent to the finalization of the map draft, it would then be printed out and handed over to the community for their confirmation/cross-checking to ensure its validity. The community re-gathered and discussed about the review of the map draft. At the end of the meeting, the Dayak indigenous peoples of BatuMenang expressed their intent that their local language be used in the map. This decision was noted, then followed up accordingly and eventually implemented.

15. **Ancestral Territory Map Handover to the Indigenous Community of Kampong BatuMenang (June 2015)**

    A customary ritual was held to mark the map handover from the facilitating institution to the community and the map validation by Ketapang District

Administration. This activity also had several aims, namely:

a. To affirm the ancestral territory map of Kampong BatuMenang in line with the customary law of Dayak Jalai in Kampong BatuMenang;



Documentation of ID.



b. To strengthen the sense of belonging among the indigenous peoples around Kampong BatuMenang in wisely protecting and managing their ancestral territory in line with indigenous peoples' local knowledge and in a sustainable manner;
c. To share their experience in further exploring the benefits resulting from the ancestral territory map and participatory mapping;
d. To gain the recognition and respect for the ancestral territory of Kampong BatuMenang from th multi-parties, namely the communities of neighboring kampongs and the government.

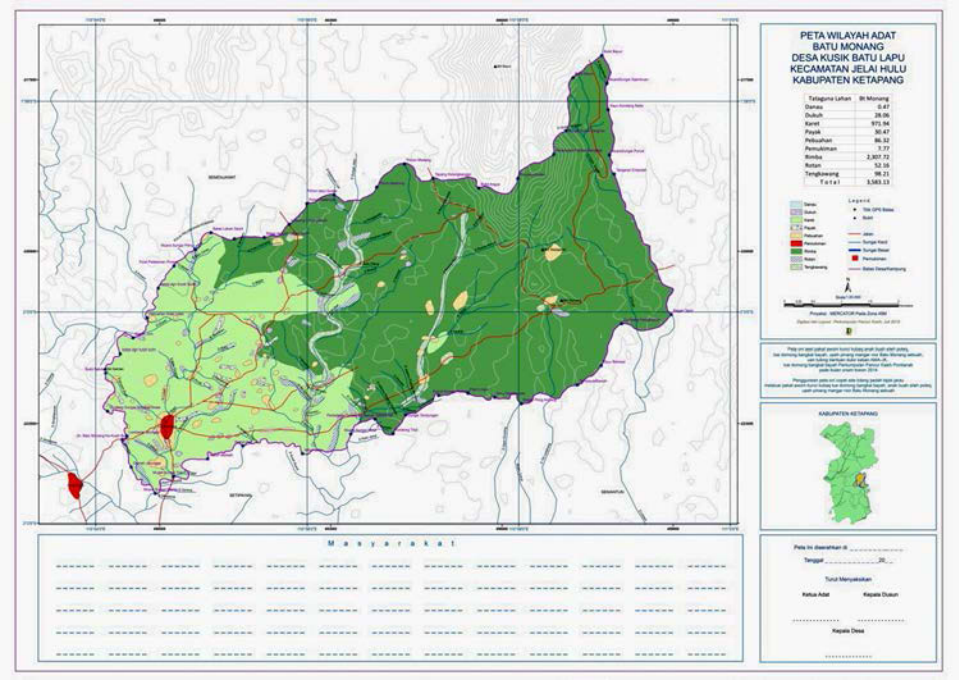


BatuMenang community members put their signatures on the map *(Documentation of ID)*.

The ancestral territory map resulting from the participatory mapping produced several important benefits, among them:

1. Providing the local indigenous peoples knowledge about the existence of their ancestral territory, including its total area, functions, contents (topography) and borders with other ancestral territories belonging to

neighboring kampongs;
2. Serving as an official document of the local indigenous peoples that helps strengthen/increase leverage of their right to their ancestral territory;
3. Serving as a reference for determining or planning the use, management and protection of the ancestral territory in the future;
4. Cultural heritage and local knowledge, particularly in natural resource management;
5. Serving as one of the sources of evidence of ancestral territory ownership.



The ancestral territory map of Kampong BatuMenang.

Protection of the results of participatory mapping from the legal viewpoint can generally be aligned with the social processes carried out by indigenous peoples. The following are sets of regulations protecting the rights of indigenous

peoples to carry out their participatory mapping or spatial planning:

1. Constitution of 1945 article 18b clause (2);
2. Law number 26 of year 2007 on Spatial Planning;
3. Law number 5 of year 1990 on Conservation of Biological Natural Resources and Ecosystem;
4. Law number 41 of year 1999 on Forestry;
5. Law number 7 of year 2004 on Water Resource Management;
6. Law number 32 of year 2004 on Regional Administration (decentralization);
7. Regulation of Domestic Affairs Ministry number 52 of year 2014 on the Guidelines for Recognition and Protection of Customary Law Community;
8. Regulation of Agrarian and Spatial Planning Ministry number 10 of year 2016 on Communal Right of Indigenous Peoples.

To ensure and protect indigenous peoples' rights, the Alliance of Indigenous Peoples of the Archipelago (AMAN) and National Agrarian Agency of the Republic of Indonesia (BPN-RI) in 2011 produced a Memorandum Of Understanding (MoU), with number 05/MOU/PB-AMAN/IX/2011 and number 11/SKB/IX/2011 on increasing the role of indigenous peoples in the effort of realizing legal justice and security for indigenous peoples. In Chapter II on Spatial Planning, specifically in part (b), it states that the coverage of this MoU includes "accommodating Indigenous Peoples' right and their Ancestral Territories in the context of legal reform and legislation in agrarian aspect." Its coverage is further affirmed in part (c) where it adds "conducting identification and making inventory on the existence of Indigenous Peoples and their Ancestral Territory towards legal protection between Ancestral Territories and their Indigenous Peoples."

As of now, the result of the participatory mapping also serves as one of the requirements needed for proposing a community/customary village. President Joko Widodo issued a policy that regulates the process whereby an indigenous

community can obtain recognition from the state over their ancestral territory and exercise full sovereignty over their ancestral territory. This recognition can be secured by proposing that the community's area become a community/customary village. This process requires submission of an ancestral territory map recognized and validated by the community and authorized by the local government. As such, the result of the ancestral territory mapping can be used to pursue such an undertaking since the map has already obtained the signatures of the entire community and is validated by the village and sub-district administrations.

Challenges

Dayak indigenous peoples are facing another problem in the form of large-scale land usurpation by outsiders and frequent violation of their right to their lands. This poses yet another challenge as the outsiders who are coming into their areas are equipped with legal documents such as licenses, certificates and regulations that validate their exploitative acts in taking control over or grabbing the natural resources of indigenous peoples. Investors never get tired of seeking to take advantage of the weaknesses of the community in order to pursue their drive to control its natural resources.

Another challenge encountered is the overlapping status of a territory. For instance, the government designates a particular territory as protected forest by issuing its binding set of regulations. On the other hand, the government also issues another regulation, this time to allow the protected forest to be exploited by mining or other business interests. Such a policy is dubious and defeats the real purpose of protection. Whereas, from the viewpoint of the indigenous peoples, that area is their ancestral territory, which they have safeguarded and managed in line with their local knowledge for thousands of years. Unfortunately, the indigenous peoples are weak in legal aspects and matters. Thus, possessing evidence of ownership in the form of an ancestral territory map presents

itself as a big opportunity for the local indigenous peoples to strengthen their rights to their land and natural resources.

In the past, internal conflicts among the communities themselves erupted, disrupting the provision of expected benefits from their ancestral territories. These were triggered by violations against the existing agreement on natural resource management or against the use of the map according to the original agreement. Historically, these conflicts grew out of the dynamics of social life in the communities, including the diminishing area of ancestral territories and the increasing conflict of interests from year to year in kampongs. With this hindsight, a strictly committed agreement in natural resource management and map use is a must for implementation in order to prevent conflicts of interest among the indigenous peoples themselves.

Developing AMA-JK/ID's Dahas Alternative Income Generating

Dahas Management as a Role Model for Developing Sustainable Livelihood

Dayak indigenous peoples uphold fundamental principles in managing natural resources: sustainability, togetherness, biodiversity and compliance with customary law. Dayak indigenous peoples see the forest not only as an asset or property but more so as a common living place. This concept can be seen from all the rituals they carry out, in which they always prioritize nature and seek consent from inhabitants of the other world. Nature serves not only the interests and needs of humans but also those of other living creatures. Therefore, the exploitation and destruction of nature is strongly avoided for the sake of safeguarding the natural harmony.

Part of the Dayak indigenous peoples' local knowledge is the concept of dahas. Dahas/*pedahasan* is an area grown with

various types of fruit trees in addition to other kinds of beneficial trees. Dahas is an independent area belonging to one or a group of kampong residents or a family and it serves as the center for economic activities of its owners.

Dahas is one of the concepts for managing natural resources that is based on the local knowledge of indigenous peoples of Dayak Jalai, Kendawangan and Pesaguan and that has been passed down for generations. Its management is carried out in groups in line with togetherness and sustainability principles. Dahas is a part of the ancestral territory formed and managed collectively by indigenous peoples' groups based on collective access to ownership and on ancestry. Dahas also serves as the center for agricultural activities of indigenous peoples in the form of dry-field farms, wet-rice fields, rubber crop gardens and livestock breeding. The contents of dahas range from forest, fruit tree garden, farms, livestock farm, and medicinal trees to clean water sources, such as tributary streams or larger rivers.

Dahas is something of utmost importance and a concept of natural resource management that has been passed down for generations. Therefore, it is deemed necessary to preserve dahas. This task began with the initial phase of studying and assessing dahas. Following the assessment, there was the need to classify the dahas and thereby enable an easier stock listing/identification process. After a discussion with the local community, a consensus was reached that dahas is classified into three categories, they are Old Dahas, Young Dahas and Productive Dahas. Old Dahas (*pedahasan*) is an already existing dahas. It dominantly functions as agroforestry, and is indicated by its larger local forest. Its huge trees are of more than 50-100 years in age. Not always does it have a hut/cabin on it but it is normally in a well-kept state. Young Dahas are new dahases, aged relatively young at three years or less. They include even the ones freshly managed in a way either in accordance with family heritage or in groups (reforestation). As for Productive Dahas, it is described as a dahas that has high economic value, and generally serves as the center for the community's productive /alternative income generating efforts, which include

rubber tree gardens, livestock farms, hut/cabins and farming. Productive Dahas comprises a part of the Old Dahas and Young Dahas.

The following is the classifications of dahas in Kampong Batu Menang in Kusik Batu Lapu Village in Jelai Hulu Sub-District:

a. Old Dahas (Pedahasan-Agroforestry): 22 Dahases, total area - 78 hectares;
b. Young Dahas: 26 Dahases, total area - 92 hectares;
c. Productive Dahas: 16 Dahases, total area - 56 hectares;

This concept of dahas proves that Dayak indigenous peoples, and Dayak Jalai in particular, do not recognize shifting farm practices. On the contrary, they are inclined to stay in their dahas area, conducting farming in the location in rotation and integrated with other activities. Therefore, this activity of Dayak indigenous peoples is dubbed as Integrated Indigenous Farming System. Dahas will not be abandoned by its owner unless the latter dies and his/her descendants opt to locate their farms and establish new dahas elsewhere. A dahas, whose owners and their descendants are not known for generations, may transform into a kampong and be owned by entire community.

The sustainability of dahas as a site for managing natural resources can be tracked down from the cycle of developing a dahas: from merely a forest, then cleared for *lakau*/farm; and developed into *lakaumudaq* and later becoming *penggarak* forest (ex-agricultural area no longer grown with productive crops and left with wild crops and vegetation and then eventually becoming forest again).

A dahas is characterized by the following features:

- Dahas is resided intensively and has a house on it;
- Dahas has a forest in which there are diverse kinds of fruit trees growing (*pekampungan*);
- There are livestock in Dahas;
- There are various kinds of forest such as jungles, rubber tree gardens, *lakaumudaq*, *pamaliq* forest, *itungarai*, and graveyards (*pandaman*).

Residents in dahas do everything collectively and this results in a high sense of brotherhood and solidarity among indigenous peoples.

Benefits of Dahas

Dahas benefits and enhances sustainability in a number of ways. It serves as a center for the cultivation of all kinds of local crops and produce of many uses, aside from food and traditional medicine. It has also much creative economic potential. In addition, it serves to safeguard ancestral forest and territory. At the same time, it can serve to support welfare and self-reliance.

Some of the concrete benefits of dahas are described, as follows:

a. Reforestation

Dahas can serve as sites for reforestation, such as what ID has been doing in several facilitated areas, where ID transformed critical lands into dahas and planted a wide variety of crops and trees, such as rubber, durian, and rambutan. Critical land where only weeds and bushes used to grow can be transformed into productive areas and reforested with various trees and vegetation. The ongoing reforestation has involved 478 dahases, totaling approximately 1,567 hectares in area. Meanwhile, the alternative income-generating areas have reached a total of 140 hectares.

b. Local Knowledge Sustainability

Dayak indigenous peoples enjoy an abundance of local knowledge beneficial to sustainability. The existence of dahas allows Dayak indigenous peoples to preserve their local knowledge and practice diverse activities and rituals performed by their ancestors and passed down for generations.

c. Cultural Regeneration

Dayak indigenous peoples who live in dahas are usually closer to nature and to their heritage of customs. They live in line with nature and always take into account natural signs. Dayak peoples' customs and culture are an integral part of nature and thus the existence of forest, land and water is so influential in the existence of Dayak customs and culture. Only with those three elements of nature remaining in existence can Dayak indigenous peoples continuously conduct their rituals and customs. Otherwise, Dayak culture and customs would become extinct. Dahas has those three elements of nature to support the existence and sustainability of Dayak customs and culture.

d. Source of Income

If well-managed, dahas could provide sustainable sources of income, now that dahas has rubber trees, whose latex can be tapped and after becoming solid be sold despite its current low selling price. Moreover, the community can raise pigs or chickens to meet the families' need of meat or provide income from sales. In addition, the community can tend vegetable gardens, breed fish, and plant fruit trees, all of which may generate cash if they are managed properly. In this way, the community would not be pressured pr compelled to sell their lands and survive by working and hiring themselves out as casual laborers in palm oil plantations. They could instead utilize their local potential to meet their needs.

By taking into account the concept of dahas as a whole integrated system in managing natural resources modeled after agro-forestry, we can adopt and embrace dahas as an approach to managing and developing Alternative Income Generation. Managing dahas, whether it be pursuing the already existing model of reforestation, or developing alternative income generation, is not possible if done individually. Rather, it should be managed by organized groups.



Tapping rubber is one of activities in a Dahas *(Document of Infis)*.

Initial Activities

A focus group discussion was conducted in early 2014 to enable the indigenous peoples to share their experiences, challenges and strategies in managing and developing dahases as alternative sources of livelihood. Aside from that, this activity was designed to enable each group to be peopled by qualified and competent members and to thereby ensure sound implementation of their group's activities.

The goals of these groups were:

1. To gather knowledge and information on managing dahases that serves as sustainable alternative source of livelihood based on local knowledge;
2. To establish groups for managing productive dahases in Kampong BatuMenang;
3. To devise workplans of the groups for managing productive dahases.

The FGD was attended by the JalaiSekayuq indigenous community of Kampong BatuMenang represented by the

customary leader, the head of the village/hamlet, the board of AMA-JK of Empowered Village, and women and youth figures.

Among the outputs of the FGD were the:

1. Generation and dissemination of knowledge and information on techniques and methods of managing dahases that serve as local knowledge-based sustainable alternative sources of livelihood;
2. Establishment of groups for managing productive dahases in Kampong BatuMenang; and
3. Crafting of a workplan of the groups of productive dahases.

Developing and Managing Kampong BatuMenang's DahasTeroseq, a Role Model to Dayak Indigenous Peoples Nearby

DahasTeroseq, situated in Kampong BatuMonang, is a dahas collectively managed by the community. Following prior dissemination about and FGD on dahas development, ID together with the community of BatuMenang decided to develop a collective dahas. The responsibility of developing this dahas is borne collectively. The community cleared land for a farm in dahas for them to plant paddy-rice and other food crops, such as cassava, vegetables and spices.

Other activities of alternative income generation are growing vegetable crops such as chilies, eggplants, gingers, all of which are still harvested by the community and stored at the kampong's cash box.

The following are the impacts of dahas on the Dayak indigenous peoples:

1. Creating balance in roles of women and men;
2. Inculcating the spirit of mutual helping/working, an increased sense of togetherness and solidarity;
3. Fostering equal and suitable work-sharing among women and men;



Menugal/planting paddy-rice in dahas of BatuMenang *(Documentation of ID)*.

4. Developing new sources of alternative income generation that can help the community cope with the drop in the world and farmgate prices of rubber,

One of the community members who manage dahas as a source of alternative income generation is Tobi. He is a farmer, whose main source of income is the work of tapping rubber. Unfortunately, the price of rubber kept falling, making him worry a lot about his family's future. Some farmers from the neighboring village sold their land to Oil Palm Company. Tobi did not want to sell as he really was against oil palm. Before the training he had gone to AMA-JK a few times, asking advice on the situation he was facing. His story inspired us to try to find a solution since we have had no control over the price of rubber. Actually years ago, we had already tried to promote the revitalization of dahas but we were then more concerned about the cultural issues and aspects of the Dayak communities.

That is why on March last year, we carried out training on the production effort. After the training Tobi planted several kinds of crops in his dahas: vegetables, chili, cassava and also



Vegetables harvested is Pak Tobi's Dahas *(Documentation of Pak Tobi)*.

coffee. This year he is already harvesting all these, except the coffee. He marketed these harvests in his kampong and also several neighborhood villages. Now, he is less worried about his family's future despite the low and falling price of rubber. He hopes, though, that the price of rubber will shoot up again..

Table 3. Roles of Women and Men in Dahas.

Activities	Women	Men	Collective
Planting various productive crops in dahas			√
Tapping rubber			√
Building hut		√	
Preparing rituals			√
Gardening			√
Nursing livestock			√
Harvesting paddy-rice			√

Not only adult women and men but also their children are working in the dahas. The big kids are helping their parents work in the rice fields after school hours. They help out in the lighter work, such as weeding the rice fields, planting rice and

simply giving drinks to their parents doing work in the field. While engaged in such labor, the children also observe and in the process learn the indigenous way of managing dahas. Some of the kids just play traditional games around the dahas, but as they do so, they help ensure the sustainability of the culture. During break time, the parents usually play traditional instruments while teaching their kids to play these also.

To increase dahas productivity and alternative income generation, the following trainings were conducted:

- Local-knowledge-based alternative income-generating training (March 2016, July 20, 2017)

  This training was held to promote local knowledge-based alternative income generation. ID invited an agricultural expert as resource person to this one-whole-day training attended by Dayak indigenous peoples of BatuMenang. During this training, the community was requested to identify or suggest the present local resources with potential for development into sources of livelihood. It was pointed out that local varieties of crops could be developed for alternative income generating. Also discussed was the policy of food crop diversification.



Alternative Income Generating *(Documentation of ID)*.

This training was attended by adult women and men and even young people. Women comprised 40 percent of the total number of participants and their enthusiasm was visible in the training, during which they raised many questions about the development of alternative income generating in support of the family economy. They were also curious about alternative income generation that is friendly to housewives with small children.

- Training on people's economy (April 11, 2016)

  ID collaborated with CUGK to organize training on people's economy. To start an alternative income generating effort, it is commonly known that start-up capital is required. Therefore, ID collaborated with CUGK in organizing this training. This training has been carried out continuously since last year. Aside from imparting knowledge on economic matters, CUGK also provides loans oriented to local knowledge-based alternative income generating development and accessible to all members of CUGK. This training also covered the field of financial management and bookkeeping aimed at housewives in particular to better hone their ability to manage their family's finance.

- Documentation training (July 20, 2016)

  This training was conducted and facilitated by ID and attended by Dayak indigenous peoples of BatuMenang. This training aimed at improving community's knowledge and skills in documentation of cases, phenomena or incidents that occur around them, including those pertaining to their customary rituals, their farming and livelihood, land appropriation and displacement. ID also facilitates publicizing and propagation of results of the documentation by sending these to Ruai TV, which further broadcasts these on its Citizen Journalist programme, for potential use later as means of advocacy.

- Training on organic agriculture (July 28, 2016)

  The use of pesticides notoriously pollutes the environment and is not in accordance with local knowledge. To address this matter, the community needs an environment-friendly agriculture for the sake of sustainability. Thus, this training was aimed at building community's awareness on the danger of pesticides and on the need for organic agriculture development. Moreover, this training also provided knowledge specifically to women about ways of planting organic vegetables in the hope that they would be able to farm vegetable gardens and harvest produce not only to meet domestic needs but also to earn additional income from market sales.

- Training on traditional food processing for women (April 5, 2017)

  This training on traditional food processing specifically targeted women, particularly housewives. During the training, participants exchanged and shared their knowledge of local food, their methods for processing healthy local food and also the local food potential at the market.

  After the training, a few women attempted to process food. One of them was Ibu Mare, who processed cassava into a cake. But it only lasted for a week. She told us it was really hard to market it because she lives in the small kampong. However, she added that she could prepare the cassava cake on special occasions in the kampong, when many people gather together. She also said the training was fruitful because she learned how to process healthy food for her family with ingredients that could be found in the forest.

- Dahas revitalization (January 2014-2017)

  Dahas revitalization, which was collectively conducted with the community, was aimed at re-utilizing already productive dahases. This revitalization was carried

out by performing the collective work of getting rid of weeds in rubber crop gardens and of planting fruit crops in dahas. The same activity was carried out in turn from one dahas to another. Women played the role of coordinating consumption for those involved in this work. Financial resources in support of this activity were contributed by the community.

ID and the Community Information Sharing

In order to maintain a good relationship, ID and the community needed a way to communicate and share information. The communication was also important in facilitating the sharing of lessons learned, challenges and other vital information. The following are some ways of communicating and sharing between ID and the community:

1. Broadcasting by ID together with GPPK of an advocacy program in the local RUAI TV channel;
2. Social media such as Facebook to update people about what is going on in the community. But it was quite difficult to do so, due to the lack of internet connection or phone reception in BatuMenang;
3. Direct Communication. This is the most common mode of communication used by the community. Since ID has a local partner near Kampong BatuMenang, it is relatively easy for the people from the community to go to the secretariat of AMA-JK, and vice-versa. They often hold conversations or FGDs about the current situation in their community, sharing the information each has and the problems they face.

Conducting Documentation of the Situation in the Community

As a follow-up of the documentation training, we asked the community members to take photos or video clips on anything going on in their area. As we knew, almost all com-

munity members had smartphones. As a result, on November 20, 2016 we received photos and video material from a community member of BatuMenang. The pictures and video recorded an incident of landgrabbing. On November 20, 2016, using a bulldozer, PT. FAP, a palm oil company, evicted Pak Ridik of Kampong BatuMenang from his five-hectare land and rubber garden. Pak Singkir from Kampong BatuMenang recorded the video and then went to AMA-JK to report about the incident.



Land eviction documentation of community.

After seeing the pictures, AMA-JK went to the kampong and had a discussion with the community to try and find a solution to this problem. Later we found out that the land had been sold by persons from Kampong KusikBulin (Jangkit and Berto).

As a result of the discussion, we decided on the following steps needed to be taken to resolve the conflict:

a. Meet the heavy equipment contractor team (led by Alek Tarhan) in an effort to stop the land eviction;

b. Report this matter to the public relations officer of PT FAP, RidiSetipayan, and urge the company to stop the eviction.

On November 2016, the community held a meeting with the people from PT. FAP. The settlement of the dispute took place at the PT. FAP's office barrack G attended by Pak Masud and Pak Rudi (plantation managers), the sellers (Jangkit, Berto, Mardi, Gondo and Daut), and landowners (Ridis, Kristina, Adrianus S, Liho, Ion, Tano, Jirin, Wasgito, Bongir, David and Lisa). The decisions of the meeting were that:

- The company would not work the land before the matter was settled between both sides; Ridis as the landowners with Jangkit and Berto as sellers;
- The land remains the property of Ridis from BatuMenang

As we can see from the case just described, the documentation possesses the power to move people, if AMA-JK had not seen the picture or the video of the landgrabbing, they might not have settled the dispute that fast.

Challenges

Amid the number of advantages derived from the existence of dahas, there are also, however, some challenges facing the tasks of safeguarding dahas, among which are:

a. Stigma
There is a stigma developing among the community members that people who live in dahas are backward and uneducated. Such stigma has led to many members abandoning dahas to avoid being branded as out-of-date.

b. Education that does not support local knowledge
The Indonesian education system is not in favor and appreciation of local knowledge as reflected in the fact that there are now many school children who have for-

gone their customs and traditions. Moreover, there is no school subject that teaches about local knowledge.

c. Indigenous peoples of BatuMenang find themselves trapped in modernization, which fosters among them the inclination towards consumptive behavior, and in the temptations of instant cash. Both challenges are formidable and difficult to counter.

Lessons Learned

Mapping can only be carried out when the entire community shares a common understanding of the management of their ancestral territory. The result of mapping would become ineffective, if the community were less solid in its effort to safeguard their ancestral territory in order to meet various life needs.

To this end, financial management is considerably important for the community to enable themselves to properly manage their finances as well as their natural resources so as to ensure sustainability. Internal conflicts also frequently occur and thus it is ultimately important to be continuously conducting facilitation and motivation.

The community cannot depend on one source of income alone. By managing and developing various alternative income generation, they can fulfill their basic needs. However, to develop alternative income generation, the community needs more knowledge about what will they develop/grow, about how to manage/grow it, and about how to market their products. That is why trainings are necessary to help them. Furthermore, local partners also play important roles—in this case AMA-JK and CUGK. For one, AMA-JK's role is to monitor and evaluate since its members live near community, making it easy for them to communicate and share information. Meanwhile, CUGK's role is also very significant, to develop a new alternative mode of income generation. The community needs capital, which is why we established a partnership with CUGK which can help with capital and loans with low interest.

In addition, knowledge about finance and administration is also important to be able to manage and develop the productive effort.

Marketing the product becomes a main problem because produce such as vegetables are easy to spoil and become rotten. That is why it is really important to process the product before marketing it, as with the need to process chili into chili powder. The last but not the least problem is choosing the variety which will be developed. It is important to choose based on local potential and environment-friendliness. Finally, having a diverse range of products is also important so that the supply of products will not exceed the market need.

Learning from the current application of CBMIS on Dayak Jalai indigenous peoples in Ketapang District, ID is also applying the same with some innovation on ID's facilitated areas in Sanggau District, particularly the Dayak community in Tae and Segumon. As of now, Tae village is in the process of seeking recognition of its ancestral territory toward the establishment of a community/customary village.

Recommendations

Based on the discussion presented earlier, we offer the following recommendations:

1. The establishment and management of dahas as sources of livelihood ought to be promoted and campaigned since that not many community members are aware of their potential and that many prefer selling their lands to managing them. Therefore, promotion, providing role models and awareness-building about dahas have to be conducted intensively in the hope that the community will become more aware and knowledgeable of the potential of dahas;
2. It is important to facilitate the community in generating alternative income so that they would be able to resist the temptation of instant cash income and of selling away their lands to companies;

3. A good marketing strategy is needed in order to be able to compete in the market;
4. There is need for sustainable facilitation and monitoring to strengthen even further the IPSSDD and CBMIS and achieve even more success;
5. A good strategy to improve the social system and economy of the communities based on indigenous knowledge is needed, so that we would not only be talking about empowerment but also already offering a solution on how to empower them economically. This is because most people in the community only sell their land to corporations to support their family economy.

PHILIPPINES

Gains and Lessons Learned on CBMIS and IPSSDD Implementation in Select Communities in the Cordillera Region, Philippines

By Florence Daguitan (with contributions from Abigail Kitma and Roger Lambino), Tebtebba

Introduction

Tebtebba has been, and continues to be, in partnership with three (3) indigenous peoples' organizations, namely the Naundep ni Napahnuhan ni Kalanguya (NNK) in Tinoc, Ifugao, the Pidlisan Tribal Organization (PITO) in Pidlisan, Sagada, Mountain Province, and the Indigenous Farmers Association of Guinaang, Pasil, Inc. (IFAGPI) in Guinaang, Pasil, Kalinga. They are found in three of the five provinces of the Cordillera Administrative Region (CAR), Philippines and belong to the indigenous peoples collectively known as Igorots (people of the mountains). Like other indigenous peoples in the Philippines, the Igorots were able to resist more than 300 years of Spanish colonial rule. They developed their way of life—their economic, socio-cultural and political system and their institutions based on their own world views and self- determination, which distinguished them from their colonized compatriots.

However, these distinct features of the indigenous peoples were not recognized even when the Philippine government was established. Western state systems and institutions on governance, education, health and other institutions were set up to replace already existing indigenous institutions. Assimilation and acculturation of indigenous peoples into the mainstream society that started since the American occupation continue today. Even with the enactment of the Indigenous Peoples Rights Act in 1997 (RA No. 8371) which recognizes the inherent rights of indigenous peoples to self-governance and self-determination (Sec. 13[1]), and the legal basis for the development of their cultures and traditions and institutions (Sec. 2. c[2]), indigenous peoples in the region and other parts of the country continue to struggle against systematic assimilation and development aggression. Despite these, many indigenous communities assert their customary governance, their knowledge systems and practices, and their way of life.

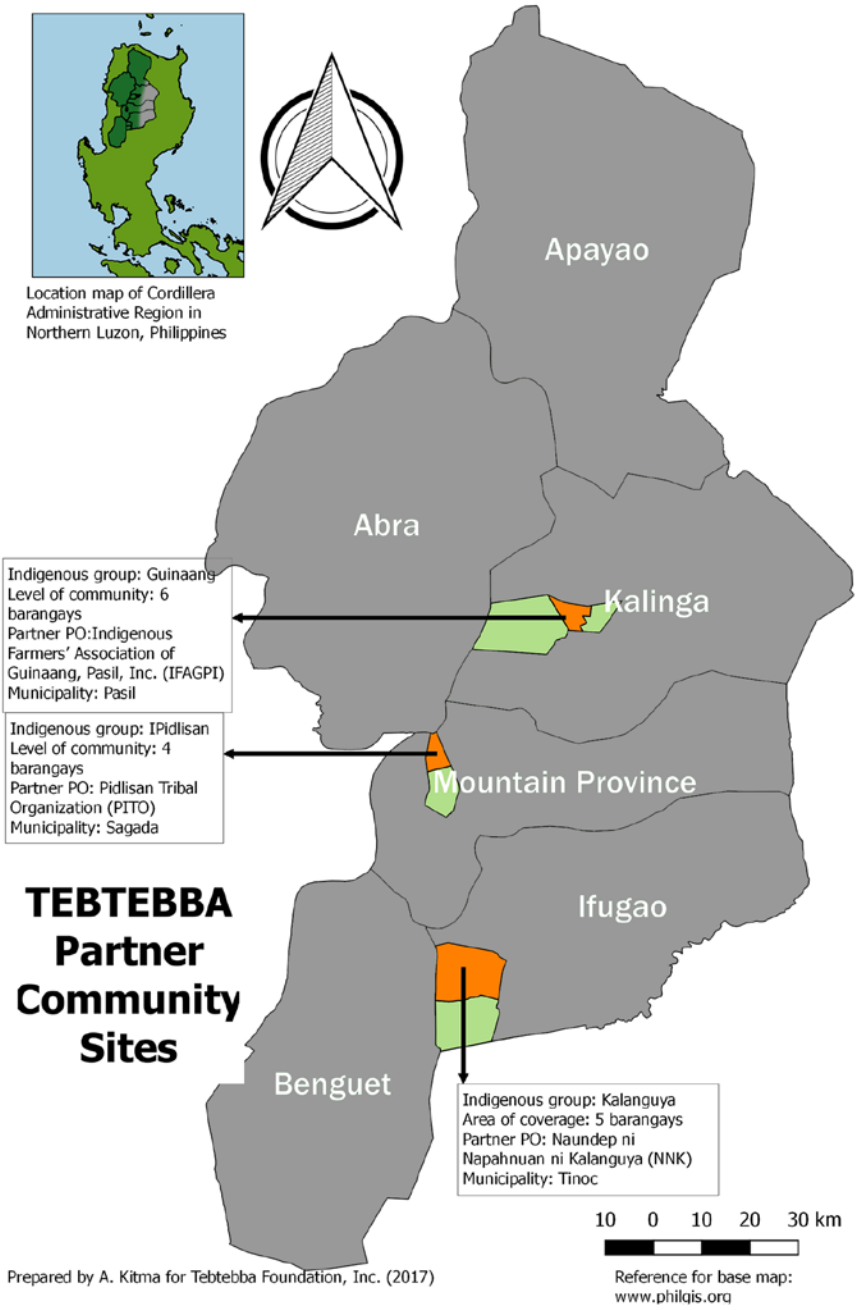
In particular, the Cordillera Administrative Region is unique in the context of indigenous communities in the Philippines, since indigenous peoples compose majority of the population in this area. Nevertheless, they still encounter problems such as poverty, lack of access to social services, loss of cultural values and practices, and displacement, due to many factors, including the imposition of inappropriate state programs and institutions, lack of participation in decision-making, environmental destruction caused by extractive and intensive/high-input industries. The region, as recorded by Philippine Statistics Authority, supplies 83 percent of the country's temperate-clime vegetables, such as cabbage, carrots and potatoes (*Herald Express*, June 2016). The vegetable industry, which promotes monoculture and high-input agriculture, is one of the major drivers of loss of agro-biodiversity and erosion of traditional knowledge in agriculture in commercial vegetable areas. Also being rich in mineral resources, the region hosts a number of mining companies and is eyed by many more mining companies. However, there exists a strong peoples' resistance against corporate mining.

It is within this context that the integrated/holistic approach for indigenous peoples' sustainable, self-determined development (IPSSDD) with community-based monitoring and information systems (CBMIS) is being piloted by Tebtebba with its partner communities: the Kalanguyas of Tinoc, the Pidlisan tribe of Sagada, and the Guinaang tribe of Kalinga. For this document, CBMIS shall refer to the initiatives by indigenous peoples to assess and monitor their communities' well-being and the state of territories and natural resources, applying a mix of traditional knowledge with innovative tools and approaches and the process of building their capacities to manage and control their information and monitoring systems.

The work with these local indigenous peoples' organizations in piloting CBMIS within the framework of IPSSDD are at various levels of development. This paper reports on the experience of Tebtebba's partners in the Cordillera Administrative Region (CAR) in Northern Luzon[3] in the piloting work of the CBMIS. Thus, this report covers the following objectives:

1. To revisit the various components and outputs of CBMIS implemented;
2. To appreciate the contributions of CBMIS in the IPSSDD work;
3. To gather lessons from the process of CBMIS, especially on the participation of elders, men, women, youth and children;
4. To identify opportunities, challenges and recommendations that can further strengthen the implementation of CBMIS towards achieving IPSSDD.

This report also includes all other related work done in all the three areas which started in different years: Tinoc in 2008, Pidlisan in 2012 and Guinaang in 2014. This narration will cover the start of work up to December of 2017.


Location map of Cordillera Administrative Region in Northern Luzon, Philippines
Apayao
Abra
Kalinga
Mountain Province
Ifugao
Benguet
Indigenous group: Guinaang
Level of community: 6 barangays
Partner PO:Indigenous Farmers' Association of Guinaang, Pasil, Inc. (IFAGPI)
Municipality: Pasil
Indigenous group: IPidlisan
Level of community: 4 barangays
Partner PO: Pidlisan Tribal Organization (PITO)
Municipality: Sagada
TEBTEBBA Partner Community Sites
Indigenous group: Kalanguya
Area of coverage: 5 barangays
Partner PO: Naundep ni Napahnuan ni Kalanguya (NNK)
Municipality: Tinoc
10 0 10 20 30 km
Prepared by A. Kitma for Tebtebba Foundation, Inc. (2017)
Reference for base map: www.philgis.org

Overview of Partnership with the Three Communities

Tebtebba does not subscribe to the concept of a donor-beneficiary relationship, but promotes and forges partnership relations with groups and organizations that share the goal of promoting indigenous peoples' rights. In its pioneering community work, it partnered with the Montañosa Research and Development Center (MRDC) to maximize the latter's expertise on grassroots work. Together, Tebtebba and MRDC formed partnerships with the indigenous peoples' organizations in Tinoc and Pidlisan communities to carry on collaborative work. In mid-2013, MRDC opted out and Tebtebba carried on with the partner communities, which eventually included IFAGPI of Guinaang tribe in 2015.

Setting Goals and Objectives

The partnership set the following objectives for their work:

1. Assess status and trends on lands, territories and resources and associated knowledge systems and practices in natural resource management;
2. Increase appreciation of the indigenous knowledge systems and practices on natural resource management;
3. Form/strengthen appropriate groups in the community to spearhead planning and, implementation of community self-determined development plans (e.g., innovations on traditions to better the quality of life, etc.);
4. Enable communities to advocate and influence decisions towards supporting self-determined community development and policy reforms;
5. Maximize the project outcomes for national and international policy advocacy.

All of the five (5) objectives were explicitly explained during the FPIC (free, prior and informed consent) process and was adopted in Tinoc as the objective of the piloting of Ecosystems-based Approach (EA).

Objectives 1, 2, and 4 were identified by Pidlisan and Guinaang as basis of the collaborative work with Tebtebba. But in the course of work, it was seen that the partnerships had also to address objectives 3 and 5. Based on capacities and community pace, activities pertinent to objectives 3 and 5 were undertaken.

Tebtebba's Role in CBMIS

Upon reaching the agreement to work together, Tebtebba clarified to the communities that while it helps in matters that are aligned to its goals, such as activities that promote the rights of indigenous peoples towards sustainable development, Tebtebba can only play a supporting role. Because it upholds the philosophy that people are the main actors of their development, Tebtebba adheres to the principle of full and effective participation of people in the whole process of development—from problem identification, planning, monitoring to evaluation. For all the three areas, the principle of peoples' participation was conveyed during the first or second meetings and discussed again when related matters cropped up during the assessment meetings or evaluation sessions.

For Tinoc, Tebtebba and MRDC did the research design and formulation of questionnaires for the assessment of the territories and acted as facilitators in data gathering and collective analysis. The role of the different sectors in the community during the data gathering differed in their tasks as members of the communities and their occupations. Leaders mobilized the appropriate groups for scheduled workshops, focus group discussions or mapping activities. They also helped identify key people to be interviewed. Women contributed much to the topics related to agriculture, food security, peace and order situation and traditional values, while men, especially those aged 50 and above, shared their knowledge on the forests and rivers, custom laws and community rituals. It was noted in Tinoc that there were some youth below 30 years of age who are already unaware that there existed traditional knowledge distinctively Kalanguya.

In Tinoc, the facilitation of the process of the researches was heavy on the Tebtebba and MRDC staff. Whereas, the members of the communities provided the information, the indigenous peoples' organization partner and the barangay/village and municipal local government unit (LGU) took care of the organizing and some logistics up to mid-2012. From 2013, it was mainly Tebtebba and NNK up to the time when the collaborative work with LGU was revived in September 2017.

Three local volunteers were hired to facilitate the community research in Pidlisan. Some community leaders and elders volunteered to act as a kind of steering committee for the whole duration of the research. But even then, Tebtebba-MRDC had to do the orientation on participatory research, to level off on the proposed research tools that the community adopted. Meanwhile, Tebtebba-MDRC committed to co-facilitate major workshops meant for data gathering and the collective analysis process. Tebtebba played a supervisory role in the collation and data gaps identification, and as planned, acted as co-facilitator in major workshops in collaboration with some leaders and the local researchers. In mid 2013, MRDC opted out.

As for Guinaang, IFAGPI took on the task, with Tebtebba only serving as a guide in response to requests for assistance.

Role of Women, Youth and Elders in Research and Livelihood and Their Relevant Outcomes

In general, the agricultural calendar has been an important consideration in scheduling activities in the research process, decision-making and implementation processes in livelihoods development to ensure participation and sectoral representation In Pidlisan, activities needing more community participation were scheduled during the *obaya,* when villagers are required to stay within the residential areas when community rituals are performed. Among the gardeners in Tinoc, the maximum that they usually could spare was half a day since they had to tend their farms every day; thus they could

an only respond to very specific topics. In Guinaang, group discussions were held at night, and leaders were encouraged to write down on their own time what they knew and what they were informed about.

Each sector—women, youth and elders—is an important actor in the community monitoring processes, and each contributes unique experiences and perspectives in the process of CBMIS and community development. This section will discuss the role of each sector in terms on their participation in research and decision-making, community development and leadership functions.

The Women

In all three areas, there was no need to emphasize gender considerations in terms of participation in data gathering and in the community workshops. There has always been a more or less balanced participation of men and women observed (in fact, women often outnumber men). Historically, women serve as essential support to the male populace defending their territories against intruders or expansionists. The women take care of their homes, while their husbands are away, to ensure that the community remains stable and self-sufficient even in times of territorial disputes. As such, women contribute much to the monitoring of the changes of their agricultural cycle, as well as the biodiversity and available food in the community. At present, women occupy positions related to health and education (such as barangay health workers and barangay day care center teachers, respectively) and also engage much in agriculture. To this end, they are often the sources of information with regards to production and are more often consulted about the community situation on health, sanitation and education. However, there is resistance to open discussion of matters related to violence against women, and this can be said to be one of the weakest points in this project.

Among the concerns focused in the community research and discussion were food systems, food security and health of the children as factors helping shape the plans and im-

plementation of innovations in the farmland in all areas. In Tinoc and Guinaang, these were supported with the purchase of equipment such as rice mills and rice grinders, respectively, both of which directly benefited women and children through lessening the burden of manual rice pounding and rice grinding—tasks usually attributed to women and the youth. Shredders and micro-tillers were also meant to ease the work of women in the farm, aside from facilitating higher productivity.

In all areas, the women are leading the way in reintroducing traditional food crops and varieties that have been diminishing in the farmlands and in promoting organic agriculture with the use of fermented plant juices and fruits and indigenous micro-organisms (IMOs), ensuring that their food on the table is not laced with pesticides and fed with synthetic fertilizers.

Aside from this, household budgeting is one main task of women, and additional income means a lot to them. One women group has started an enterprise of ginger tea production, which gives them seasonal cash income almost double the regular income per day in the locality. They earn about P360 (US$7.20) per day from producing ginger tea, whereas the regular pay in the locality for a day's labor amounts to only around P200 ($4) to P250 ($5). As such, the research processes have also emphasized the importance of women's participation in the planning and decision-making process of the community, as well as of their role in knowledge production. The research's scope, however, is limited to merely the peoples' organization and excludes the local government unit.

Presently, the leadership bodies are dominated by males, both in the formal and informal groups. And, while their articulation is that women's concerns are also their concern as families and communities, there is lack of discussion on these matters in the making of the barangay/village investment plans.

Finally, worth mentioning is that in the three areas, almost all of those who volunteered to be local researchers were women (eight women, as compared with only one man).

The Elders

Elders are often regarded as the repositories of traditional knowledge, especially regarding territorial boundaries and forest resources, oral histories and traditional justice systems, which they willingly share with their fellow community members. They are trusted consultants during the validation and collective analysis. They have also provided guidance on handling concerns of neighboring villages during mapping activities. Both in Tinoc and in Pidlisan, it was observed that the elders always push for resolutions that carry the interests of the commons, such as the campaign of elderly men to restore watersheds in Tinoc and of the elderly women to uphold safeguards in the small-scale mining in Pidlisan.

Elders, even if they do not occupy positions in the council or are not officially part of the *lupon* (the barangay-designated council of elders), are often consulted on matters of concern to the barangay. However, as with most other indigenous communities, there are variations, changes and challenges in the role of elders in community decision-making.

The CBMIS, through public awareness-raising and the project's development, to a certain extent, helped uplift the profiles of traditional knowledge holders, such as the elders, and popularized the value of their knowledge. In this way, these contributed to the confidence-building among some elders.

The Youth

Unlike women and elders, the youth are often underrepresented in community decision-making processes. Some of the youth are out of the community in school or at work, and those who are not are usually represented by their parents. Also, adults' and elders' opinions are considered superior to those of the youth.

The participation of the youth varies in the three areas. Tinoc was on a project basis, involving the youth in 2014-2015 in the Indigenous Peoples Education Project, in which some elders spent a number of hours during school days to teach



students the traditional dances and songs, aside from a few traditional occupations, such as broom-making. This, however, was not sustained. Pidlisan in 2015-2016 implemented an IP Education Project, which was the promotion of indigenous ways of learning and knowing. It has since resolved to continue the "learning by doing" together with the local school. The project has served as a venue for elders-youth dialogue and, to a great extent, as a center for the transmittal of knowledge from the elders to the young, specifically on the rice culture and the development of the rice terraces as an example of self

determined development. It was in this dialogue where the youth made clear that they were interested in learning their culture. To continue this thrust, PITO formulated a program of forest enhancement with the school and students. It is now implementing a continuing program. Guinaang, on the other hand, has yet to implement their program for the youth.

In involving the youth, elders became aware and appreciative of the youths' skills and contribution to the research process, as manifested in the preliminary ecosystems assessment in Pidlisan and in Tinoc during the climate change research. At present, they are hopeful that their youth can continue to contribute to the CBMIS work

Meanwhile, Guinaang faces the phenomenon of labor force scarcity, as most youths are migrating to town centers. It has a clear program on how to get the youth interested and involved, but this has yet to be implemented.

Experience of the Tinoc Community

Establishing Partnerships, Getting the Free, Prior and Informed Consent

Tinoc (specifically Ahin, Binablayan, Tukucan, Tulludan and Wangwang) was selected as pilot site for the implementation of the Ecosystems-based Approach (EA) This was because it was also seen that the community had the potential to engage in benefit-sharing negotiations in relation to the operation of the Magat dam in the lower Cagayan river, since the municipality had been hosting the watershed as a major source of water of the dam. Participatory action research using the traditional monitoring systems of the community was the main methodology in data generation. It was aimed at aiding communities in defining their own road map for community development within the EA framework. In 2009, the Municipal Local Government Unit (MLGU) got interested in the project and facilitated the involvement of the other remaining barangays in the municipality. From the discernment

that its indigenous territory management was based on land use, comprehensive land-use planning (CLUP) was identified as its planning strategy for community development initiatives. The MLGU then conducted CLUP workshops from 2011 to 2012, involving other civil society organizations (CSOs). But the effort was discontinued when groups and people adopted divergent stands on the mini-hydro electric dam proposed by the Quad River company. Most of the local government units (LGUs) favored its installment, while most of the people opposed the dam. To continue the work, the Naundep ni Napahnuhan ni Kalanguya (NNK) was formed from five (5) of the 12 barangays of Tinoc and it partnered with Tebtebba.

Tinoc did not request Tebtebba's support but was chosen as a site for a pro-active project, hence, there was a need to do an FPIC. While there existed FPIC guidelines formulated by the National Commission on Indigenous Peoples (NCIP) of the government, Tebtebba sought the advice of the recognized leaders of the target communities as to how FPIC should be done so as to uphold the primacy of community processes and procedures. As advised, Tebtebba-MRDC directly facilitated and organized a consultation with the elders and elected officers of the LGUs, leading to the conduct of a forum involving representatives from the five target barangays. This consultation was meant to explain what the project was all about and to level-off on process and methodology, as well as on an orientation on participatory research. To decide whether or not to accept the project, each of the barangays convened their own respective assemblies. Tebtebba deliberately did not participate during the barangay assemblies except for that in Tukucan. In the said barangay, Tebtebba and MRDC presented the project concept for community deliberation and decision, as was requested of them.

Except for Binablayan, all the four remaining barangays (Ahin, Wangwang, Tulludan and Tukucan) gave their consent to work with Tebtebba in October 2008, two months after the FPIC process started. Binablayan eventually followed suit in 2010, after having representatives attend as observers the municipal-level sessions organized by Tebtebba and other partner agencies. In 2014, individual community members

and people's organization members from Ahin, Wangwang, Tulludan and Binablayan formed an alliance of organizations named Naundep ni Napahnuhan ni Kalanguya (NNK), through which Tebtebba channeled its support after MRDC dropped out of the partnership.

Community Profile

The Kalanguyas occupy the whole Tinoc, a fourth-class municipality of Ifugao. It forms part of the headwaters of the Magat dam in the Cagayan Valley, which generates 360 megawatts of electricity, some 117 kilometers away from the center of the Tinoc municipality.

Like most indigenous groups in the Cordilleras, the Kalanguyas of Tinoc also identify themselves based on the specific villages where they come from. Thus, they are composed of the Ipulyang (Binablayan), Itinek (Poblacion), Itabuy (Luhong and Danggo), Inangabulan (Impungong and Tawangan), Ibangtinen (Eheb), Ikanawalan (Lusod), Ipalatang (Iahin) and Ihaggud (Wangwang). In the 2015 census, Tinoc's total population was 16,559 people (PSA, 2016).

Table 1. Population of pilot barangays in Tinoc, in 2010 and 2015.

Pilot Barangays	Population	
	2010	2015
Ahin	1,065	1,543
Binablayan	1,478	1,562
Tulludan	850	960
Wangwang	965	1,007
Tukucan	1,157	1,629
Total	5,515	6,701

Up until 1996, Tinoc held the distinction of being the only municipality in the country without any roads. But in 2003, the road network that connected it to the province of Benguet,

and to Banawe and Kiangan, Ifugao was finally completed. Moreover, until 2003, Tinoc had one of the last remaining intact mossy forests in the country; however, this is no longer the case as more than 25 percent of forest lands have been converted to vegetable gardens and around half of its forest are considered secondary forests.[4]

Table 2. Different land uses and their areas of 5 barangays in Tinoc.

Land Uses		*Areas in Hectares*[5]				
Local Term	**English Term**	**Pilot Communities**				
		Binablayan	**Ahin**	**Wangwang**	**Tulludan**	**Tukucan**
Bel-ew	Primary Forest/	1,877.40	3,485.50	2,069.70	289.88	737.9
Kiyewan	Woodlots	567.6	1,987	732	581.03	1,110.26
Katahta-awan	Grassland	29.5	789	120.16	229.15	129.39
Galdin	Gardens	32.7	439.9	48.75	98.29	448.67
Muyung	Agro-forestry/ Assisted Forest	58	28	100.8	2.4	189.2
Payew	Ricefields	46.3	72.6	93	60.74	8.19
Pan-abungan	Residential	41.88	46.7	37.28	12.174	17.06
Inum-an, kinabba	Swidden/ Upland farms	86	76.6	66	76.026	
Govern-ment Buildings		1.62	2.7	4.31		1.5
Total (5 brgys)	16,743.66	2,741	6,928	3,272	1,349.69	2,452.97

Prepared by Reyaline Aquino on August 2013

The recorded total land area of the five barangays in Tinoc is 16,439.38 hectares. Of this, around 83 percent are the forest lands composed of *bel-ew*, *kiyewan* and *muyong*. The remaining 33 percent is divided into grassland, commercial

vegetable areas, public institutions, roads, residential areas, road and rivers. However, the conversion of forests to vegetable productions sites significantly lessened the forest cover by about 25 percent as mentioned earlier. Thus, due to rapid changes in the land use of Tinoc, monitoring of these changes was deemed important.

Participatory Research and Documentation Process

The research process of data generation and processing adheres to the principles of participatory action research, whereby communities are the main actors in mobilizing information, data and knowledge. These are done with guide questions and complemented by staffs' observation. Methods used in the data generation included key informant interviews, workshops, actual observation/participation, focus group discussions, case study and mapping.

Table 3. Providers of data in the different thematic areas during the research process.

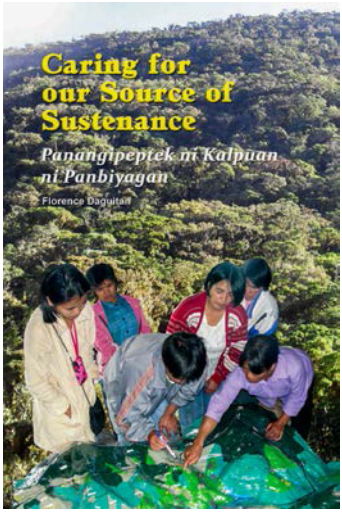
Subject Matter	Data/Information Providers or Data Sources				
	Women	Male	Elders	Youth	Others
Demographics	**BHW**				**LGU records,**
Status and trends in land use	x	X	x	x	Actual observation of staff, Google map analysis
Status and trends in natural resources • Forest • Farmlands • Rivers • Biodiversity • Seeds and crops	 x x x	 x x 	 x x x x		Review of literature
Traditional knowledge on resource management[6]	x	X	x		Review of literature
Customary governance		X	x		

Some information and data are validated by staff by means of actual observation but most data are validated through workshops or group discussion. Data analysis and interpretation is carried out by the group or community, after the staff has collated and done some organizing of the data and information.

Researches and Documentation Undertaken

1. Caring for Our Source of Sustenance

This publication is the documentation of the indigenous knowledge systems and practices of the Kalanguyas in managing their territory and a case study on the effects of vegetable production in Tukucan, one of the pilot barangays. The first output described how the people, through self-determination, were able to create a nested ecosystem of the *bel-ew* (the watersheds), *kiyewan* (woodlots), *payew* (rice paddy fields), *inum-an* (rotational agricultural areas), *pan-abungan* (residential areas) and the water bodies (*wangwang*, *along ni hebheb*) and how these are being conserved, using the profound wisdom and collective action of protection, conservation and enhancement of biodiversity and ecosystems services through custom laws and cultural practices. The second is an assessment of the effects of commercial vegetables on the environmental, socio-cultural and economic aspects of the community. It showed how land use change in the form of the conversion of forests and inum-an lands into commercial vegetable farms and the adoption of monocrop high external-input agriculture, resulted in loss of biodiversity, decreased food security and farmers' exploitation by the market.



2. Preliminary study on climate change vulnerability, mitigation and adaptation measures in Tinoc

The study was conducted to determine the knowledge of the Kalanguya on climate change; vulnerabilities and impacts of climate change on the biophysical environment and livelihood; and to enable communities to strategize for adaptation, mitigation and building resilience.

The study noted that people have since time immemorial observed that changes in climatic conditions can bring about pest infestation and famine. Starting in the late 1970s, more changes were observed, including: (1) prolonged rainy seasons and dry seasons or what is commonly referred to in the Philippines as the La Niña and El Niño phenomena, respectively; (2) frequent heavy rains; and (3) increased heat intensity of the sun.

Problems associated with climate change encompass as well drought, spread of pests and diseases, decrease in crop yields, unexpected typhoons, and increased vulnerability to illnesses arising from erratic change in the weather. As a response, people have adjusted their planting time to make sure that water is available. Moreover, they have been retrieving traditional rice varieties, which they know can thrive in non-irrigated lands. They have likewise revived the traditional seed selection systems, whereby they choose those best able to survive extreme conditions.. Against the threat of famine, they have practiced the counter-measure of diversifying crops, such as planting camote and cassava.

3. Community maps from community participatory mapping

Three-dimensional (3D) maps of the territories of Ahin, Tukucan, Eheb and Impugong and another for the whole municipality were constructed, using the geographical information system (GIS) and based on maps from Google Earth and the National Mapping and Resource Information Authority (NAMRIA). Information on areas in hectares according to land use, peripheral boundaries, landmarks, forests lands, wa-



tersheds, farmlands and impacts of land-use change brought about by adopting the commercial vegetable farming were discussed and analyzed.

The municipal 3D map constructed was requested by the municipal LGU in order that it would facilitate the drafting of the municipal comprehensive land use plan (CLUP). This endeavor was joined in by other NGOs and was spearheaded by PAFID (Philippine Association for Intercultural Development).

Mapping is a tool that helps communities review the situation of their territories of the past, and help them analyze the land-use changes of the present. The project facilitated the documentation of the Kalanguya territory management and illustrated how forests had been protected and conserved prior to commercial vegetable farming. Through the workshop, Tukucan was able to compare and analyze the map of the past (from 1979) and the map of the present (September 2009). This would allow Tukucan to plan for forest restoration. This plan was subsequently presented to and funded by Cordillera Highland Agricultural and Resource Management Program (CHARMP) Phase II (CHARMP), a special project of the Department of Agriculture.

The mapping exercise was used in the case analysis of the vegetable industry in Tinoc by Tukucan gardeners. The findings refuted the prevalent notion in the area that the way forward for community development was to continue to expand the commercial vegetable areas. The information gathered showed another option, which was to revive and innovate on the traditional farming systems and minimize and eliminate use of chemicals in agriculture

4. Resource inventory of a dipterocarp forest in Wangwang

The resource inventory in Wangwang serves as a baseline, since there have been no previous inventories. The inventory was able to present an array of 104 different plant species coming from 50 species of trees, 12 species of shrubs, 19 species of vines, 3 from herbs, 9 species of grasses, 3 species of ferns, 2 species of palm, 5 epiphytes and 1 species of moss. This inventory served to showcase the wealth of natural resources in the community.

Gains and Outcomes of the Research and Documentation Processes

In theory, planning comes after the analysis of data, which in turn in this case comes after the assessment of lands, territories, resources and well-being of the people shall have been completed. However, there are instances in which even in the initial stage of the research, people already act on what they see and believe should be acted upon and continue to do so all throughout the assessment process.. This scenario has occurred in the following notable cases:

1. Peoples' campaign for the revival of traditional knowledge and cultural practices

In 2008, when the project started, the conversion of forests to commercial farmlands was already taking place every day in four barangays. The documentation of their traditional

forest management reminded people of the customary forest protection and conservation carried out by their forebears. The initial assessment on impacts of deforestation pushed people to immediately campaign against deforestation. This campaign resulted in the minimization and stoppage of conversion of forest lands to vegetable production in all the pilot areas. From 2009 to end of 2013, deforestation was observed to have been significantly minimized.

Particular for Ahin and Wangwang, aside from supporting the campaign against deforestation these communities articulated and passed a resolution calling for the revival and implementation of customary forest protection. A manifestation of the success of the campaign can be illustrated by a whole mountain range traversing the barangays and stretching from Ahin and Tulludan to Wangwang. Prior to the project, the area was a vast swathe of grassland that, informants claim, had been subjected to annual burning. It is now a growing forest protected by the community

However, despite this, forest conversion to commercial vegetable farms has been observed to have been resumed in the past few years (from 2014 onwards) in some of the barangays, though the exact coverage has yet to be determined.

As for the revitalization of traditional rice agriculture, the women in Ahin were able to retrieve eight traditional rice varieties by the end of 2009. A campaign for revival of synchronous cropping in the rice landscapes to strengthen natural pest control started in 2009 as well.

2. Public awareness raising

Two land-use summits were held. The first land-use summit was held on January 13-14, 2010 in Poblacion, Tinoc, with the theme "Strengthening customary laws and practices, towards sustainable land and resource use." It was a venue to validate the preliminary research on the Ecosystem Approach research or the Kalanguya indigenous territory management, status and trends on land use and traditional knowledge. Moreover, inputs on the IPRA law by the NCIP staff from

the regional and national office and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) by Tebtebba staff were shared and discussed. The summit ended with the participants signing an agreement to arrest environmental degradation and promote peoples' well-being through revival of traditional knowledge among others. This covenant was signed by more than 60 leaders from the 12 barangays. Specific resolutions included the following policy demands:

a. Converted and privatized forests should be reconverted into forests. Should the "owner" like to retain the land as a "private property," she/he may do so, but trees that are of the forest and fruit-bearing species must be planted on these lands;
b. The assessor's office should provide the records of privatized lands for these to be assessed on what will fall under the resolution;
c. Customary laws of protecting and conserving lands, forests and resources and overall customary governance should be strengthened;[7]
d. Measures to restore degraded forests should be undertaken;
e. Tinoc, hosting the headwaters of such dam, should negotiate in support of benefit-sharing with the Magat dam (but not before the forest restoration).

We had a very good sharing of ideas; we talked about organic farming and many others. These are relevant issues and matters of interest to us. It is time we start thinking of what will happen to the land of our children. If we don't do anything now, the problems will always be with us.

We need to take time out for some seminars and learn together if we are to address our problems and change our lives for the better.

To those who would like to gain more wealth by bulldozing forest lands, let us explain to them that such acts are wrong. It may take some time for them to understand, but they will. We should always keep in mind what is best for the future.

Closing remarks made during the Land Summit of Barangay Captain of Barangay Poblacion, also an elder

The second land-use summit was held at Tulludan on March 26-27, 2013 with the theme "Assert peoples' rights to genuine development, defend land, life and resources." This time, the land summit endeavored to review commitments in the effective implementation of the peoples' covenant to stop land degradation. Participants came out with an assessment that implementation of both the Covenant and CLUP were inadequate and then issued a recommendation to push through the creation of an alliance of peoples' organizations that will lead in the CLUP implementation. This idea materialized on February 28, 2012 with the formation of the ad hoc organizing group for the setting up of the alliance of peoples' organizations. During this second summit, the organizing group became the officers of the alliance called Naundep ni Napahnuhan ni Kalanguya (NNK).

The summit also provided a venue for the participants to share their views on the proposed mini-hydro project. There were discussions on possible impacts of the hydro and geothermal plants, their advantages and disadvantages of such and the action needed to be taken by the communities. The concerns on the non-compliance to full disclosure of the projects as well as the FPIC process were also raised.

3. Comprehensive land-use planning

Tinoc was able to come up with a comprehensive and strategic land-use plan on a municipal level, which was completed on its fourth year (2012) of partnership with Tebtebba. What facilitated the work was the presence of two full-time organizers with the focused supervision of the lead staff and the collaboration of the municipal LGU, which also had mobilized their resources for the project. However, while it was the barangay LGUs that crafted the CLUP, these were not accommodated in the yearly budget allocation of the LGU.

Nonetheless, the CHARM Project, NNK and Tebtebba advanced the implementation of the CLUP and were joined by the Indigenous Communities Conserved Areas in 2017.

4. Identification, conceptualization and implementation of relevant projects for promotion and development of traditional occupations.

a. Wangwang footbridge

The footbridge was constructed in 2009 to address the need to rehabilitate one of the 14 footbridges washed away by Typhoon Ondoy, specifically to prevent nursing mothers and children from being stranded and to facilitate their access to farms and public institutions, such as schools and health clinics. In an assessment and evaluation of the project together with farmers' organizations and the barangay council in 2010, the bridge was judged as the first of its kind in the municipality for having revived and maximized the traditional *ubbo* (collective work for the common good) in project implementation. The bridge was deemed best and highest-quality in design and the most user-friendly among the bridges in the whole municipality. This was because the design was based on the knowledge of those who had experienced footbridge construction and of the academe embodied by the project leader who happened to be an engineer.

b. Blacksmith training center

Blacksmithing or *manhalbit* is a traditional occupation of the Kalanguyas. At the time the center was set up, there was only one remaining blacksmith in the four cluster barangays. The training center, which was operationalized in July 2010, was envisioned to provide a venue to transfer the skills of blacksmithing. Blacksmiths would be enabled to design and fabricate tools and equipment, which in turn would lessen labor in farmwork. In addition, skill holders could transfer their knowledge to other members of the community.

Six blacksmiths were trained under the training center. Upon the completion of the training, sacks of destroyed tools were brought in to be repaired in the

Center. Storing destroyed tools and not throwing these away is one manifestation of the culture of *kailala,* or zero waste. In this way, the revival of blacksmithing becomes even more useful.

The project was implemented in partnership with the municipal local government unit (MLGU). Since the project site and facility and the MLGU offices were all located in one compound, it was assumed that the MLGU would monitor and supervise the project. However, the center ceased operations in 2015. The reasons for this closure are still under evaluation.

c. Inum-an (shifting cultivation) upgrade

As Ahin and Wangwang started to discuss delineation of the forest, communal land and protected areas, these began to address concerns about soil quality in their shifting cultivation of rice paddies. Their community members discussed about innovations on the inum-an systems towards permaculture and the need to revive and develop and enhance indigenous soil fertility and pest control so as to minimize use of pesticides. From this discussion, the project innovating on the traditional farming systems was conceptualized—the inum-an upgrade and innovating in the rice paddy systems.

Upgrading the inum-an was meant to revive, strengthen and develop the system of shifting cultivation by combining the traditional *muyung*[8] system and inum-an system, through the intercropping and rotation of 35 inum-an food crops where choice forest tree species and herbs are planted. It also incorporated sloping land agricultural technology (SALT). This project was envisioned to stop the trend of loss of agro-biodiversity and recover 35 food crops planted in traditional inum-an, improve nutrition of the community and increase food security.

Ten cooperators in four areas volunteered to pioneer in this undertaking and agreed that their farms

be used as demonstration sites. Of the 10, individuals, nine have been monitored to have successfully diversified their crops, but these have not been utilized as learning sites. One farm was able to plant coffee under various forest tree species (under which native chicken roam) and establish vermiculture beds that fertilize vegetables grown for cash, establish multi-story cropping from root crops to fruit bearing trees and successfully use the indigenous knowledge needed to attract bees to her farm and to harvest wild honey.

Two of the co-operators explained the nature of their innovations to the members of their ubbo (labor exchange network) group. However, it is unfortunate that these and other farms have not been used as learning sites on a wider scale.

d. Innovation in the rice farming system

The project aims to increase rice productivity (which, in turn, would allow communities to attain rice sufficiency) by combining indigenous soil fertility enhancement, natural pest control with other knowledge system from other areas, These other technologies include the systems rice intensification (SRI), the use of fermented plant and fruit juices and the use of labor-saving devices, such as micro-tillers and rotary weeders that the people themselves fabricate.

From 2011 to the present, these technologies were promoted in Tinoc via trainings and minimal financial assistance for the production of organic fertilizers. Through time, more and more individuals applied these innovations. But while the feedback is "good" and the positive impacts of organic gardening are commonly known and recognized, this is not being upscaled to a village level, due to the lack of market for organic produce.

Reports reaching Tebtebba relate that three (3) adopters have doubled their rice yield in their first application, and two adopters have even tripled their

yield after three croppings from 3.6 tons per hectare to 12 tons per hectare.

While adoption was carried out only by few individuals, the introduction of such a technology as the micro tiller encouraged people to reclaim abandoned rice paddies in Binablayan and Tulludan from 2015 to 2016.

The innovation in the rice fields was documented, using the MEB or Multiple Evidence-Based approach, which sought to show that knowledge co-production between Western science and indigenous knowledge systems can complement each other. The aim of this project was to determine the effect of some innovations undertaken on the indigenous Kalanguyas farming systems in the *payew* or rice terraces and the rotational farming in Binablayan. The research was implemented in 2015 with the aim of testing some promising innovations and practices that might support and maintain the sustainability of the payew. It made use of community monitoring systems and standards in agrobiodiversity, laboratory tests to analyze effects of innovations on soil quality, and insect inventory that made use of academic science and the community's knowledge of pests. The study demonstrated the validity of the innovations, but continuing research is needed to determine ways of upscaling.

e. Rice mills (Ahin, Tulludan, Binablayan)

The objectives in establishing the ricemill project were: (1) to lessen the burden of manual pounding among women and children; (2) to provide the community opportunities to effectively manage commonly-owned equipment; and (3) to support the community in developing their rice farming and increasing the productivity of the rice farms.

Aside from acquiring expertise in the technical rice mill operations, the organization also learned financial management. Discussions on the rice mills at present

provides a venue for the three organizations to meet and discuss community issues aside from assessing the operation of their rice mill projects.

Of the 285 households in Ahin, 117 are being serviced and of the 112 households in Tulludan, 32 are being serviced. People from Wangwang in the latter part of 2017 started to avail of the service of this rice mill.

> *Having the ricemill in Gulon is of big help for me as I don't need to go to Lagawe, (the capital center which is three hours away by vehicular ride). I can have my rice milled in the early morning and tend to other tasks the rest of the day*
>
> **An elderly woman from Wangwang**

f. Ginger tea production of Binablayan Women Organization

Twenty-four women have been involved in varying frequency, and the net gain per day was computed to be PhP458.00 ($9.20), nearly twice the prevailing rate of farmers, labor pay per day in the community, estimated to be PhP200-250.

Table 3. Population of the Pidlisan tribe in 2010 and 2015.

	Population	
Barangays	2010	2015 (PSA)
Aguid	596	681
Bangaan	703	924
Fidelisan	462	428
Pide	362	375
Total	2,123	2,408

Experience of Pidlisan Community

Establishing Partnerships, Securing the Free, Prior and Informed Consent

The work in Pidlisan is a response to a verbal request for Tebtebba to assist the tribe in assessing status and trends on the lands, territories and resources and the well-being of their people. The partnership was officially formed in 2012, but work under the partnership had started even beforehand. Initially, an oral agreement was deemed sufficient to solidify the partnership, but elders eventually signed a written document addressed to any concerned person or group, stating that they are working with Tebtebba in a research project and would continue to work together for as long as it is needed by their community. This was in reaction to the information that the National Commission on Indigenous Peoples (NCIP) had asked the Indigenous Peoples' Mandatory Representative (IPMR) of Barangay Fidelisan if Tebtebba had complied with the process of FPIC. The elders then wrote and signed the document to protect Tebtebba in case it would be accused by the NCIP of not complying with FPIC.

Within the first year of the research, the community decided to formalize the Pidlisan Tribal Organization (PITO) to gain legal identity. In the third year of partnership, Tebtebba implemented the project "Promotion, enhancement and transmission of indigenous knowledge and practices of the Pidlisan Tribe, Kankana-ey, Igorot of Sagada Mountain Province, Philippines."

Community Profile

The Pidlisan ancestral domain is composed of four barangays out of the 19[9] barangays of the fifth-class municipality of Sagada, Mountain Province. The barangays that are part of Pidlisan are Aguid, Pide, Fidelisan and Bangaan and have

a combined total land area of 3,902.48 ha, about 47 percent of the Sagada municipal land area. The territory is about 81 percent forest composed of the *pagpag* (broad leafed forests and pine forests) and the *kakaiwan*, where they can get their timber and fuel. The rest of the 19% is divided into irrigated rice fields, non-irrigated farms, grasslands, orchards, residential areas, the cemetery, small-scale mining areas, granaries, lakes and ponds.

The tribe has a population of 2,557, with a total of 602 households and 660 families (BHW survey, 2014). The people of Pidlisan belong to the northern Kankana-ey ethnolinguistic group and are also proud to be called Igorots. Together with the other communities in the western section of Mount Province, they are classified as Applai by the Office of the NCIP. But the people themselves self-ascribe as I-Pidlisan or *tribun di Pidlisan* (Pidlisan tribe). The I-Pidlisan speak Kankana-ey like the rest of the Sagada, but with a few variations in intonation, pronunciation and spelling. There are also Ilocano, Tagalog, Bicolano, Abra and Ifugaos residing in Pidlisan who are now considered members of the tribe, due to intermarriage.

A majority of the population are farmers, and almost all of them are also involved in small-scale mining (BHW survey, 2014). Recently, another major source of income of the people is the tourism industry. Driven by the changing production pattern of the community, it has sought aid in their monitoring of these changes, as well as their effects and impacts.

Researches and Documentation Undertaken

The project was clearly intended to produce an overall assessment of the status and trends of the Pidlisan territory and its peoples. However, only about 20 percent of the research time was given to this endeavor, and the rest was spent in evaluating the operation of small-scale mining within the territory. The need for the latter and the decision to prioritize it was made during the first workshop in June 2011 when it came out that most of the emerging problems of the community could be traced to the mining operation.

1. Small-scale mining (SSM) in Pidlisan: A case study

   The study explored the effects of the operation of small-scale mining on the community and evaluated the compliance of miners with the safeguard policies imposed by the elders. It showed that mining created an opportunity for the majority of the communities to earn a living, send their children to school, build their houses and, for some, even to acquire lands in the low-lands and thus set up their businesses. However, the mining resulted in deforestation (much more trees are being cut than those being planted), abandonment of the farmlands, deterioration of irrigation canals, and erosion of culture and cultural values. The mapping that was done also showed that many tunnels were nearing the boundary and limits set by the elders, sparking community action to close some of these. Finally, the research provided the venue to assess the community's mining safeguards.

2. Preliminary assessment of Pidlisan ecosystems and peoples' well-being

   The assessment included the delineation and determination of the different land uses, the general observation on the present situation on each land use, the analysis of the community's production and consumption pattern. The study likewise surfaced out some demographic data, particularly concerning health. The work is still an ongoing process.

   2.1. 2D Tribal Land-Use Map

   As part of the assessment tool, mapping was conducted to illustrate the different land uses of the community, including hazard areas. It involved the participation of elders, barangay officials, women and youth during workshops, as in community spot mapping. Google Earth was used for an interactive workshop, and AutoCAD, for the digitization of the map.

2.2 Inventory of biodiversity of a dipterocarp forest.

The inventory was aimed at serving as a baseline for determining the wealth of their resources. The biodiversity inventory followed the methodology practiced in Tinoc, and the result was presented to the community. There were around 12 plant species that were unfamiliar and could not be identified by the community.

3. Documentation of the development of rice production cycle

The documentation was done through key informant interviews and group discussion, and included the narration of historical accounts of the construction of rice fields. It was noted that rituals and collective work were considered crucial in the construction and maintenance of the rice fields. Thus, it was inferred that the riceland symbolized the peoples' unity and spirituality. Up to the present, the tribe practices their customary laws and performs their rituals in the *dap-ays,* which are related to rice cultivation. The research also revealed the build-up of biodiversity in the riceland as it serves as a production area not only for rice but of diverse semi-aquatic and aquatic flora and fauna in the form of naturally occurring fish, snails, insects. The research also extracted insights into how the invasive specie, golden apple snail and the mosquito fish, which were introduced sometime in the '90s, eliminated native species of snails and the mudfish.

It also documented the rice production cycle and the traditional calendar tied up with the cycle. The calendar was selected for development as learning material for the local education units.

4. Learning materials for Indigenous Peoples Education

Responding to the availability of funds and the Department of Education's initiative on indigenous



peoples education, PITO worked to promote indigenous ways of learning and knowing by producing learning materials in support of indigenous people's education. This program, carried out with the school and in partnership with school teachers, was very successful, But, there has been no conscious effort to implement the plan of strengthening the role of the

dap-ay, the indigenous socio-political system of educating the young people. As such, the sustainability of this effort has to be discussed and reviewed.

This research was intended mainly to create learning materials for the Indigenous Peoples Education (IPEd) in Sagada. This resulted in the following materials:

- *Orthography of Sagada-Kankaney;*
- *Our stories and local heroes;*
- *Dictionary (Kankanaey-English);*
- *The Rice Culture;*
- Materials for reading comprehension;
- Riddles;
- An audio-video production on rice.

Gains and outcomes of the research and documentation processes

The following gains and outcomes were derived from the research and documentation:

1. Groups were motivated to carry on their own in-depth study of a subject matter of their interest and act on identified problems based on their current capacities. In the first case, the PITO officials initiated a deeper study in which they traced the problem of abandonment of the rice fields to inadequate irrigation and the absence of *lampisa,*[10] the local irrigation canal manager-caretakers. As revealed by the research, there was lack of interest among the people in taking on the tasks of lampisa since the compensation that the lampisas received during harvest-time for their labor was regarded as minimal and inadequate. On the basis of these findings, the PITO recommended to the barangay officials to file a resolution in support of a budget allocation for the lampisa, which the officials, to their credit, did.

In the case of mining, mapping was undertaken to determine if the delineation of the mining area as set by the elders had been complied with. The violations exposed by the mapping resulted in closure of some tunnels which had already reached or neared the boundary line. Also it was found out that the higher drop-out rate of students in the mining areas could not be necessarily traced to mining, in view of the policy upheld by the mining industry of refusing to hire children as regular workers.

2. PITO convened a tribal assembly which served well for raising awareness on emerging community concerns, such as problems arising from the mining activities Through a series of discussions and meetings, they were able to resolve much of the problems. The attention of the tribe was also drawn to the threats facing the watershed and the abandonment of some of the rice terraces. As a result, policies were strengthened to counter these trends and strict compliance with these rules were reinforced. As part of the community response, for two months straight, all miners took time out to shoulder the work of backfilling the abandoned mines. For more than two years, the whole tribe deliberated on these pressing problems and took action to resolve the problems related to the operation of the small-scale mining, It responded by strengthening policy discipline and countering cultural erosion by means of more stringent sanctions and penalties for violators, enforcing protocols during community ritual, setting rules against drinking and gambling, imposing a one-million-peso fine on a mine manager and closure of his processing plant for violating the policy of "no use of chemicals," among others.

3. The assessment found the farmlands to be decreasing in productivity. Based on this conclusion, PITO integrated into its program the promotion of sustainable agriculture. In 2017, PITO invited the municipal agricultural officer to present the positive results of

the SRI and use of organic fertilizers and explored the sourcing of possible support from the Department of Agriculture.

In Guesang, the production of organic sprays for fertilizers and pesticides became even more popular. Their production is carried out collectively by the farmers" organization, while individual producers prepare these, according to their needs. They plan, develop and commercialize these products.

> *The initiatives of the Guesang community to produce organic farm inputs may contribute to the success of organic producers in the whole municipality of Sagada. It is a small step now but I know it can open a much wider path for organic producers.*
>
> **Osenio Lay-os, barangay captain of Bangaan and president of Pidlisan Tribal Organization**

Moreover, PITO was able to convince all the barangay councils within the tribe to allocate incentives for irrigation managers in a bid to recultivate the abandoned rice fields.

4. Traditional values were reviewed and recognized to have weakened; hence, the need for these to be strengthened. In response, the community formulated a plan to strengthen the dap-ay (the indigenous institution on education) and to make the school a part of the community so that matters of relevance to their culture and values could be taken up and studied to the subjects at school.
5. Pidlisan kicked off the collective effort to advance agro-forestry in its territory by establishing nurseries. Native forest tree species were collected in its forests for propagation in the nursery. They have already replanted alnus and coffee trees in their designated agro-forestry areas. The alnus will serve as shade for the coffee trees growing underneath.

Experience of the Guinaang Community

Establishing Partnerships, Securing the Free, Prior and Informed Consent

As in the case of PITO, IFAGPI itself requested Tebtebba's assistance and thus FPIC was seen as unnecessary. Instead, terms of partnership on the collaborative work were agreed on, written and signed between IFAGPI and Tebtebba. The Guinaang tribe requested Tebtebba's assistance in their goal of strengthening their customary governance and in mapping their territories in support of their plan to process the legal recognition of the ancestral domain.[11] While the partnership was conceptualized in 2014, the collaborative work and implementation started in mid-2015.

Community Profile

Guinaang is one of the tribes in the municipality of Pasil, a fifth-class municipality in Kalinga Province. It has a rugged topography, with sloping mountains of elevations ranging from 1,500 to 2500 MASL. Its forestlands serve as watershed area for the Pasil River and its smaller river tributaries all go down to the Chico River which, in turn, irrigates wide tracts of rice lands in the lowland areas of the provinces of Kalinga, Isabela and Cagayan.

The Guinaang tribe occupies six of the 14 barangays of the Municipality of Pasil in Kalinga, Philippines, namely: Guinaang proper, Galdang, Bagtayan at the upper part; Pugong, Malucsad at the lower part; and the barangay across the Pasil river, which is Dangtalan. In 2016, the combined total population of the six barangays was 3,501 (PSA, 2016).



Table 4. Population of the Guinaang tribe by barangay in the years 2010 and 2015.

Barangay	Population as of	
	May 2010 (NSO)	August 2015 (PSA)
Dangtalan	664	580
Galdang (Casaloan)	368	397
Guinaang Poblacion	954	960
Malucsad	535	429
Pugong	702	679
Bagtayan	412	456
Total Population	3,635	3501
Total Population of Pasil	9,671	9671
% Population of Guinaang	36.30%	37.58%

The community strongly adheres to a traditional lifestyle. Their source of sustenance is mainly from the land, from the wild and from their farms, all of which they are keen to conserve and protect through the observance of rules regarding their customary land uses. Of their approximately 7,086-hectare territory, 94 percent are *ginubat* (forest lands), *baang* (agroforestry areas), *uma* (gardens) and *pulag*, and six percent are divided into farmlands, residential and small scale mining areas.

The Guinaang are also known to actively practice the *bodong* system (or peace pact system) along with other indigenous groups in Kalinga, which is important in protecting their territory or *bugis*. With their vast and rich territory under the radar of extractive industries, such as mining companies and geothermal companies, they seek to strengthen their customary governance and monitor their territory to protect their bugis.

Researches and Documentation Undertaken

Guinaang requested only guide questions and went on to do its own data generation, using the set core domains of the CBMIS. For the mapping activities, Tebtebba directly assisted it by providing inputs on the basics and how to's of mapping and provided technical supervision in the actual mapping exercise. Also the digitization of the map will be shouldered by Tebtebba.

Guinaang assumed the responsibility of facilitating and undertaking the actual data generation themselves and carrying on the CBMIS work at their own pace and based on their community processes. Some of their researches were:

1. Assessment of the Guinaang tribe territory, people and governance and documentation of customary laws on resource use and management

   IFAGPI facilitated workshops among elders/leaders to assess their tribal domain and document the traditional custom laws applied. They planned to come out

with a research paper, but they still need to complete the assessment and the documentation of their community protocols.

2. Forest resource inventory

   The forest resource inventory (FRI) is part of IFAGPI's goal to document the status and trend of their communal forests in support of their advocacy on the protection and management of their forest land uses. Their initial assessment from the FRI is that action should be taken to regulate cutting of trees for the timber used by the existing SSM activity in the forest.

3. Tribal map

   The mapping work was directed towards the demarcation of tribal boundaries and land use and tenure, which have been consistently affirmed by the existence of peace pacts between Guinaang and its neighboring tribes. This was done by conducting dialogues with elders/leaders of adjacent and neighboring barangays and tribes to affirm their tribal boundaries. The map serves as a documentation as well as mechanism for public awareness-raising.

4. Documentation of community protocols

   This is an ongoing activity in which existing policies and safeguards related to management of land use and resources and to, laws governing the stewardship, and access to agriculture knowledge systems are being recorded.

Livelihood Activities Undertaken

Aside from researches, livelihood projects with the IPSSDD framework in mind were undertaken by IFAGPI with assistance from Tebtebba staff. One of these involved pastureland development and agroforestry development in Guinaang. The project aimed to increase the number of carabaos as work animals and for rituals, and to contribute to expanding agro-

forests and raising farm productivity and biodiversity. The community agreed to restore the allocated lands for pasture land development and purchased four heads of carabaos as initial stocks which will increase in coming years. The project also expanded the planting of various fruit-bearing trees in defined agroforestry areas.

Gains and outcomes from the research and documentation processes include:

1. The community, under the IFAGPI leadership, waged a successful campaign that prevented the entry of a private mining corporation from 2012 to 2014. The campaign involved, among others, community meetings and petitions contesting the FPIC process conducted by NCIP in favor of the mining corporation;
2. In the process of documenting customary laws on sustainable resource use, and preparing their community map, the Guinaang elders were able to transmit much of their knowledge of their territories to most of the community members;
3. The leadership of IFAGPI pushed for the renewal of peace pacts to share their maps with other tribes and reaffirm their tribal boundaries;
4. The community used the data in their mapping to make more public their affirmation of their customary tribal boundaries, which were being contested by the neighboring tribes. It became active in pushing for the holding of peace pact renewals with their neighbors, wherein the results of their mapping were presented;
5. Also using the maps, IFAGPI initiated an audience with the LGU of Pasil municipality to clarify the concept of tribal domain vis-à-vis the barangay system. The LGU expressed its recognition and support for the completion of the tribal map. Their mapping effort is now recognized by the municipal government of Pasil and has articulated support for the tribe for the assertion of their tribal boundaries;
6. The process increased IFAGPI's confidence and strengthened their resolve to unite all the sectors of

the tribe in all the six barangays, led by the farmers, the dominant group;

7. IFAGPI leaders were able to produce an in-depth analysis on how to develop the different land uses and customary communal ownership and sustainable management vis-à-vis individual declaration of ownership or appropriation of customary communal and clan-owned lands.

Lessons from the Findings in the Three Areas

1. *The research showed that data gathering through direct participation, monitoring and observation of events and changes continuously took place in all the three communities.*

   Traditionally, data and information from experience and observations are shared through various venues when people come together. This occurs during community rituals, during work in the field among members of labor exchange networks (ubbo for Pidlisan and Kalanguya, abbuyog for Guinaang) during the wake of the dead and during weddings, among others. Depending on the issues or the subject matter, various groups take action, as with farmers who can try out new seeds, methods and innovate on their farming systems. As made clear in their history, all three have taken collective action in defense of lands and resources, such as the successful opposition of Guinaang against Makilala Company in 2012-1013, the opposition of the Kalanguyas against the operation of the Heald Lumber Company in the early 1980s and Pidlisan women baring their breasts to drive away personnel of a mining firm during the American occupation.

2. *People were able to rediscover the profound wisdom of indigenous territory management.*

   Based on natural land formation, vegetation and water availability, the communities developed land-use

patterns that supported distinct biodiversity patterns in each of the ecosystems present in their territories. Shifting cultivation areas, agro-forestry areas, rice fields, residential areas, woodlots and others were created as add-ons to the natural ecosystems of forests and grasslands. Ways of conserving resources within each ecosystem were developed and two views stand out. First is the belief that life is most precious, and that habitats of every creature should be respected. Second is that nature has its own processes beyond the control of human. Humans should be able to adjust its ways to nature; hence the development of agro-ecological calendar which sets the tempo of the activities—a time to hunt and a time to plant, a time to fish and gather the bamboo shoots, to celebrate weddings and celebrate the harvests.

Therefore, it can be said that indigenous territory management conforms with an ecosystems-based approach, where sustainable use and conservation of resources are strengthened by culture and spirituality, illustrating a man-land-nature-and-spirits relation and whereby resource allocation is biased for the common good.

3. *Uncritically disregarding the indigenous knowledge and the culture of respect for life and habitats of creatures can create multifaceted problems, not only in the health of the environment, but also in the health of the people and social relations.*

This is demonstrated in the case of the commercial vegetable production in Tinoc and the small-scale mining operation in Pidlisan. The experience highlighted opposing values between the indigenous knowledge systems and "modern" practices. Other examples are the use of synthetic fertilizers as opposed to organic food for the living soil, monocropping as opposed to diverse food productions systems, the use of pesticides versus cultural pest control, and equitable benefit sharing of production versus the wage system (which can also be exploitative at times), among others.

Both the commercial vegetable production and the operation of the small-scale mining increased the consciousness of the people on the need to take needed precautions in decision-making on what cash-earning occupation to adopt in consideration of maintaining ecological integrity. Pidlisan planned for intensified farming and Tinoc planned to shift to organic/natural farming. However, at present, the implementation of these resolutions is based on each community member's or household's own individual capacities and have yet to be acted on at a community level.

4. *Systemic discrimination through the imposition of inappropriate and uncontextualized practices by formal educational institutions, fundamentalist religion, and government programs and technologies served as obstacles to the advancement and promotion of indigenous knowledge systems and practices*.

Against all odds, however, much of these knowledge systems persist in contemporary times. Their persistence is an indicator of validity. More importantly, their persistence affords the present generation a chance to revitalize a knowledge system that cares for the health of the environment and for ecosystems that ensure the well-being of the people.

Hence, it is the obligation of the present generation to promote, innovate develop and strengthen indigenous knowledge systems and practices.

Having been taught by our parents and grandparents and in a context where anybody can be advised by community members, most of us, senior teachers, are very much aware of the gradual but continuous erosion of indigenous values nowadays. The effects on the children ares worrisome, hence we are more than willing to contribute to promoting and strengthening indigenous knowledge in any which way we can.

Rose Batane-Mayocyoc, teacher of Bangaan Elementary School, Pidlisan, Sagada, Mountain Province

The public awareness that went hand in hand with the research processes has facilitated the identification of solutions to the problems felt by the people. Capacity-building, education, campaigns and organizing are being carried out in all three areas. But what captures and sustains the interest of the people are projects by which people can enjoy concrete economic benefits in the form of better income or a more comfortable quality of life, such as foot bridges and appropriate tools which lessen the reliance on hard labor. During assessments of these projects, more people are mobilized.

Using Information and Knowledge in Advocacy Work

National Level

IFAGPI, even before its partnership with Tebtebba, carried on its own advocacy at the national level when it initiated a series of dialogues with the NCIP to assert their right to FPIC on a proposed mining project in their territory and expose the anomalous FPIC process conducted by the Makilala Mining Company. This process eventually caused the suspension/ withdrawal of the company's mining application in the area.

For Pidlisan and Tinoc, the output of the research process has been presented in national fora, workshops and meetings by either Tebtebba and/or representatives from the pilot sites. Tinoc's work has been shared with the network of NGOs in the Cordillera Administrative Region, Among these are Philippine Traditional Knowledge Network (now UPAKAT or Ugnayang Pambansa Para sa Katutubong Kaalaman at Talino), indigenous peoples' educators at the national level and in national CBD-related meetings. The common hope in the network is that the work in Tinoc serve as inspiration for innovation and replication in other areas.[12]

Some barangays in Tinoc, especially those surrounding the Mt. Pulag National Park, were chosen to be part of one

project site for the Indigenous and Community Conserved Areas (ICCA). The mapping work in Tukucan, Ahin and Impugong (of which Tebtebba was part) influenced the inclusion of these sites in the ICCA initiative in the Philippines. The consortium mainly involved the barangay captains, and its planning and organization are still underway. The continuing work on CBMIS helped disseminate information and updates on the ICCA to the barangay technical working group.[13]

Global Level

At the global level, Pidlisan was able to participate in knowledge co-production workshops among indigenous peoples and scientists for the promotion of the multiple evidence-based approach (MEB). MEB proposed parallels, whereby indigenous, local and scientific knowledge systems are viewed as generating different manifestations of knowledge, which in turn can generate new insights and innovations through complementarities. MEB emphasizes that evaluation of knowledge occurs primarily within rather than across knowledge systems.

The operationalization of IPSSDD are shared in training workshops on the CBD and the IPBES processes. The CBMIS and its work in promoting customary sustainable use were recognized in CBD progress reports on the Article 8(j).

Present Challenges in Doing IPSSDD with CBMIS

Research work can be a heavy job for community members, especially in agricultural communities where intensive labor in subsistence production is performed every day. It is assumed that the research work should be considered the counterpart of the community. However, this rule is not workable most of the time since many community members have to attend to their livelihoods on a daily basis.

1. All the communities are very much affected by the increased intensity of vilification, Red scare and

branding of NGOs, peoples' organizations and their personnel as fronts or members of the Communist Party of the Philippines and New People's Army. In Tinoc, this makes community mobilization difficult and induces lack of action on plans, even if these were identified needs of the people and were collectively planned.

2. On the Tebtebba side, there persists a lack of human resources and adequate time to fully facilitate the CBMIS process and community development work. Three staff have to troubleshoot the nitty-gritty of integrated community development work—organizing and resource mobilization, education, projects development, advocacy and networking. There is also the problem of limited funding assistance to partners in replicating or upscaling their initiatives in livelihood development.
3. The limited capacities of partner communities/organizations to generate resources or to influence government programs to upscale the successful and doable innovations have still to be developed.
4. In Tinoc, despite the conduct of workshops and orientations, there is still need for greater and deeper understanding of concepts, such as human rights and full and effective participation.
5. Indigenous peoples' organization partner admits its lack of computer skills. Encoding is a challenge and Tebtebba staff have to help out in this department.
6. The campaigns, though very relevant and noble, have been mostly individually-driven thus ending up with no significant results. Tebtebba needs to take the initiative to guide the partner communities in formulating their collective campaign plans.
7. Youth are often underrepresented in the CBMIS process, due to various factors mentioned previously. Thus, changes should be made to engage more youth in the process.
8. There exists difficulty in, or reluctance to, discussing and addressing Violence Against Women issues and

cultural changes or the patriarchy system influence. Therefore, methodological remedies should be planned with women leaders for these not to remain unknown.

Present Status of CBMIS Work

The reality of the difficulty of sustaining engagements for community empowerment and the changes in needs and priorities of the community allows for the challenges that have been enumerated. However, the partnership of Tebtebba with the indigenous peoples' organizations and communities continue to face these challenges head on to de-mystify the view that only professionals can do research and put in practice the theory of participatory action research, where people are the main actors in their research processes. The participation (most especially in a collective manner) has resulted in people acting on matters needing attention even during the preliminary research stage and has been sustained up to the post-completion of a research cycle. In the process, a level of systematization of guide questions and tools for data generation has been attained, and lessons on community strengthening within the present realities of climate change and widespread modernity were derived.

As mentioned, work in the communities has different contexts, and the level of achievement varies per partner. Tinoc from 2008 to 2012 reached a common understanding on ways forward in the form of a land-use plan and was able to unify various stakeholders at the municipal level. But due to a proposed mini-hydro project, which polarized the whole of the municipality, the work was discontinued for some time. Despite this and some organizational weaknesses, NNK proceeded to develop and implement meaningful livelihood projects aligned with the CLUP. In 2014, Tebtebba attempted to facilitate the process of building community capacities to enable them to put in place their community information systems and further their indicators work for the CLUP. Local

researchers were appointed by NNK to work with Tebtebba to perform this task. However, due to non familiarity with computers, the expected output targets were not met.

In October 2017, Tebtebba, NNK and the municipal LGU "reforged" the partnership to conduct barangay-level validations of the municipal data on demographics (similarly called CBMS or community-based monitoring system). Another objective of the research was to update and enrich the land-use plans. Still another was to use the information in drafting proposals for funding on climate change adaptation and mitigation (such as the PSF or People's Survival Fund).

To date, CBMIS work in Tinoc has taken the form of correcting government data on demographics and enriching and updating the land use plan. This is currently underway.

PITO is in the process of completing the gathering of information and analysis based on the research guidelines and have yet to formulate their strategic comprehensive plans, However, the organization has been sustaining the implementation of planned activities and projects based on immediate livelihood needs. PITO is in the process of gathering information to be able to strategize on how to unite the various organizations within the tribe.

IFAGPI is on its second year of implementation and is continuing its data gathering. It has mapped out clear plans for some livelihood projects. However, it recognizes that there is a need to do a comprehensive strategic plan which can be done only after they have completed their assessment. IFAGPI plans to help facilitate a tribal assembly for the six villages of the tribe which will define more appropriate and workable mechanisms and plans to facilitate tribal unity and strengthening.

Both PITO and IFAGPI were able to discern the weakened solidarity of the tribe due to internal and external factors and to identify organizing and education as major and urgent tasks of their organizations. In addition, the IFAGPI leadership pushed for peace pact renewals to share their maps with neighbor tribes and to affirm the customary boundaries of

their territories. But while strategic planning has yet to be realized, the CBMIS has resulted in various plans and activities for the common good of the communities.

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Endnotes

[1] Sec. 13. Right to Self-Governance.- The State recognizes the inherent right of ICCs/IPs to self-governance and self-determination and respects the integrity of their values, practices and institutions. Consequently, the State shall guarantee the right of ICCs/IPs to freely pursue their economic, social and cultural development.

[2] Section 2.c The State shall recognize, respect and protect the rights of ICCs/IPs to preserve and develop their cultures, traditions and institutions. It shall consider these rights in the formulation of national laws and policies.

[3] Tebtebba has another partner in the Philippines, SILDAP, which is also doing similar work. This paper is limited to Tebtebba's actual implementation with identified local partners.

[4] This is based on the observation and estimation by workshop participants in a mapping workshop held in September 2011 at Tinoc.

[5] Estimated from Google Earth digitization of the different land uses.

[6] While traditional knowledge (especially on resource management) is typically not held exclusively by a sector in the community, elders are more likely to be knowledgeable on the customary laws and practices on land and resources.

[7] This is echoed in the statement: "We may not be having a Indigenous Peoples' Mandatory Representative, but still each and every elected officials must '*takder-an ti pag-IP, pagka-Kalanguya*" (truly uphold her/his IP identity and values)."

[8] The *muyong* system is a traditional communal natural resource protection mechanism among other indigenous groups in Ifugao, Philippines.

[9] These four barangays make up the bulk of the Sagada Northern Zone, along with barangays Madongo and Pidlisan.

[10] Lampisas are those who have volunteered or have been appointed by the elders to maintain the communal irrigation canal and to ensure equal distribution of water. They possess knowledge of how to predict the weather ion and discern the volume and availability of water so that they can distribute the water up to the most remote rice fields. They are also responsible for mobilizing people to carry out major repairs of the irrigation canal by way of the *chang-as* or collective work for the common good In exchange for this service, rice field owners share a percentage of their harvest with the Lampisas.

[11] In the Philippines, state recognition of ancestral domains is formalized through the document, Certificate of Ancestral Domain Title or CADT.

[12] It caught the attention of a key official of the NCIP, who then requested a training session on the process of ecosystems assessment. But so far, there has been no follow-up of this request, as of this writing.

[13] A conversation with the barangay captain of Tukucan reveals that he has high hopes for the inclusion of his barangay in the ICCA, which would generate opportunities for funding and development. However, discussion at the Tebtebba level also raises the issue of the possibility that the ICCA may undermine the Certificate of Ancestral Domain Title (CADT).

VIETNAM

IPSSDD Implementation Through the Model of "Community Ownership-Based REDD+ Initiative Through the Legal Community Entity"

By Centre of Research & Development in Upland Area (CERDA)[1]

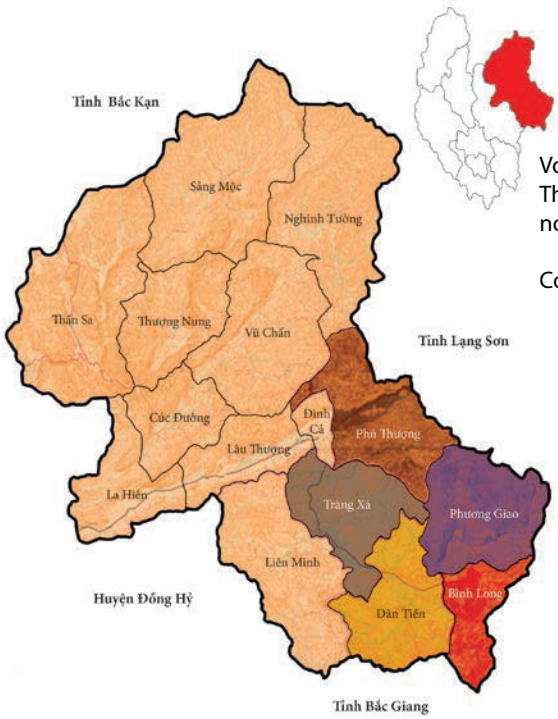
Brief Description of the Pilot Communities for CBMIS and IPSSDD Implementation

The Centre of Research and Development in Upland Area (CERDA) works directly with vulnerable groups, ethnic minority communities and the Vietnamese government from the local to national levels, and maintains partnerships and networking with civil society organizations, indigenous peoples' organizations and international organizations. In partnership with Tebtebba, through the Indigenous People's Global Network on Climate Change, Forests and Sustainable Development, CERDA undertakes implementation of projects or researches on climate change and sustainable development and advocacy in various levels.

The sectors that CERDA focuses on are climate change, REDD+,[2] sustainable livelihoods, biodiversity conservation, community-use rights on lands and forests, customary law and traditional knowledge conservation, and local governance to ensure that the rights of ethnic minorities and local communities are respected and implemented. All efforts contribute to climate change adaptation and mitigation and

ethnic minorities' sustainable, self-determined development. Specifically, CERDA focuses on ownership of community over their natural forest resources, and community-based monitoring and information systems (CBMIS) as crucial instruments to promote their rights and self-determined development.

CBMIS, through this project, has been implemented in five (5) communes, namely, Binh Long, Phu Thuong, Dan Tien, Trang Xa, Phuong Giao, in Vo Nhai district, Thai Nguyen province. All the communes are located in the mountainous part of Vietnam and are inhabited by the Tay, Nung, Dao, Cao Lan, San Diu, San Chi, H'Mong, Thai, Muong, E de, Hoa, and King ethnic minorities. The total population is 30,382 composed of 7,270 households. The percentage of the poor households in these communes, respectively, are 48.7%, 13.9%, 34.9%, 34.8% and 39.6%, while the nearly poor households are 7.3%; 9.3%, 9.6%, 10.6% and 20.0%, respectively.



Vo Nhai district,
Thai Nguyen province,
north of Vietnam

Communes:

- Phu Thuong
- Phuong Giao
- Dan Tien
- Binh Long
- Trang Xa

Prior to the implementation of this project, the unallocated natural production forest area in five communes, temporarily under the Commune People Committee, was 4,276.26 ha. This forest area was under pressure due to serious illegal logging, smuggling of wood and the conversion from the natural forest to the other purposes as agriculture and Acacia plantation.

As a result of the situation that had been going on continuously for decades, the natural forest area had constricted and serious biodiversity loss had occurred, with the disappearance of almost all the wild animals. The water regulated by the natural forest was running out. The agriculture production, dependent on rainwater, had become uncertain, exacerbated by unreliable rain pattern as a result of climate change. The livelihoods of the local people had become more unstable, resulting to more and more villagers working far from their home. Young couple had to find work far away, leaving their children under the care of the grandparents.

As a result of prolonged chemical use, such as fertilizer, pesticide and weedicide, income from agriculture has also fallen. The local people were not only poor but also lacked capacity to overcome their poverty as livelihoods dependent on the forest can no longer sustain them as in the past. In brief, the local people in the target communes faced huge difficulties even with several government programs that had been implemented.

Situation of the communes prior to project implementation

- High percentage of poverty
- Lack of land for livelihood
- Natural forest is exhausted due to illegal logging and other activities
- Agriculture land, and land in general, are seriously degraded by overuse of chemical fertilizers, pesticide and herbicides and suffer erosion
- Profit from the all kind of production is getting less
- Negative impact of climate change
- Local people borrowed a big loan from the government bank but were not able pay back the loans
- Poor knowledge on laws and policies, no knowledge on REDD+ and climate change.

The CBMIS and IPSSDD Activities Implemented by CERDA

1. Allocating Forests to Community with Local Resident Participation

A total of 4,276.26 ha of natural forest covering the five target communes in Vo Nhai district, Thai Nguyen province, had not been allocated to any forest owners as defined by Land Law and Law on Forest Protection and Development. The forest was under serious threat from deforestation and forest degradation.

CERDA piloted the CBMIS in Vo Nhai district, Thai Nguyen province in northern Vietnam. Vo Nhai district is the poorest district and has the biggest forest area in the province. A majority of the population in Vo Nhai is comprised of ethnic minority groups, who account for an estimated 80 percent. CERDA, with the support of Tebtebba, cooperated with the local government to implement the project of "Ethnic minority community's readiness for REDD and REDD+ pilot" from 2011 to 2015 in Binh Long commune, Vo Nhai district.

The core nature of the project is to pilot the model of "Community ownership-based REDD+ initiative" and "Community-based Forest Monitoring and Information" and the results-based payment under the REDD+ mechanism. With the success of these three initiatives in Binh Long commune, these were replicated to the other four communes near Binh Long commune, namely, Trang Xa, Phuong Giao, Phu Thuong and Dan Tien from 2015-2016.[3]

The projects focused on the four main components:

i. Support the ethnic minority and forest dependent communities' access to the long-term forest use rights with a base of 50 years;
ii. Pilot the model of "Inter-community–landscape and customary governance based forest management";
iii. Pilot the model of "Community ownership-based REDD+ initiative" and Results-Based Payment under

REDD+ mechanism; and

iv. Pilot community-based forest monitoring and information system (CBMIS);
v. Pilot of community-based forest species survey by combining the science and indigenous knowledge and practices.

In Vietnam, there is a process to allocate forest/forest land to the forest owner. The government hires a company to undertake the technical part without any participation from the local people.

This project was designed to restore the traditional relationship between the people and the forests, which was historically the effective way to manage the forest sustainably.

CERDA convinced the local government to do forest allocation through an innovative approach: firstly, to allocate the forest use rights to the traditional residential clusters, and not the village as defined in the Laws on Land and Law on Forest Protection and Development; and secondly, to allow local villagers to participate in the allocation process. These were all agreed with the local government.

In order to support the ethnic minority and forest dependent communities' access to the forest use rights, a number of the activities were done. The traditional residential clusters were established as Self-Governing Groups (SGG). SGGs are smaller units than the villages composed of 15 to 30 households living near each other traditionally. This was established under the decision of Commune Peoples Committee. As designed, SGGs shall be the community forest owner.

In order to support village participation in the forest allocation process, the project supported the setting up of Free, Prior and Informed Consent (FPIC) teams. The FPIC teams were trained on relevant laws and policies on forests and on the rights of citizens, including women. After the training, the FPIC teams worked as "farmer experts" to disseminate the knowledge on forest and land laws, rights of forest owners, citizen and women to the villagers at SGG level; and also served as advisers to the villagers. The capacity building process for

the FPIC team and villagers took a considerable time as the knowledge of the villagers on laws and rights was almost nil.

Another key activity was the identification and selection of key farmers that shall form the technical team. This technical team would then be trained on the use of the GPS (Global Positioning System), and skills on reading maps and measurement of the timber volume of the forest (carbon accounting) for the forest allocation. The technical team did the field work such as measuring the forest area, establishing the boundary through GPS and measuring the timber volume of the forest. With the participation of the local technical team, the cost for the forest allocation was reduced significantly. Therefore, with the modest funding, the project was able to support the ethnic minorities and local community groups in the pilot areas to finally be able to get their allocated forests that is recognized by the government.

Model of "Inter-Community – Landscape and Customary Governance Based Forest Management" with High Cost Effectiveness Through Legal Community Entity Status

In the project area, the unallocated forest area, which stretches through the communes, is located far away from the residential area. In order to protect the remote forest area at a minimal cost (e.g., the time and labor for patrolling the area), the project piloted the model of the "Inter-community landscape and customary governance-based forest management."

Individual households, villages or the SGGs would not be able to effectively protect the forest when customary governance no longer exists. Cognizant of this, the project supported the SGGs in the commune to establish community cooperatives according to the Law on Cooperative, and restore forest customary governance.

Once the cooperative has been established, the local villagers now have the legal status and can officially function, revive or develop their forest governance systems for forest

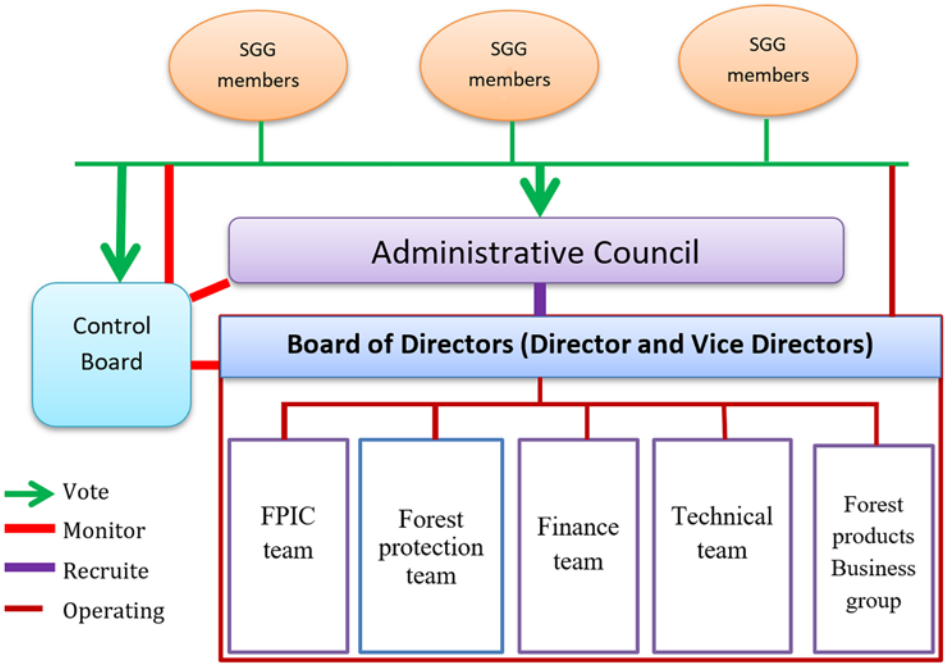
management, and protect their legal rights and interests as forest owners.

Through the cooperative, the local people are therefore able to:

- Undertake collective protection of forest thereby reducing cost among the small forest owners;
- Participate in REDD+, including results-based payment, with legal status;
- Collectively undertake timber and non-timber-related livelihoods;
- Apply and take advantage of relevant government policies, including REDD+.

Women participate through the self-governing groups and the cooperative, become forest owners, and participate in

The structure of cooperative for forest protection, preparation of readiness of REDD+ and commercial forest production.



the decision making process in relation to the FPIC approach, among others. The SGG and the cooperatives are therefore good platforms to increase participation of women and amplify their voices.

A numbers of activities were implemented to help the local villagers develop the internal policies and procedures of the cooperative, such as the regulations and village conventions that combined the state and customary governance for the forest management and to help the cooperative to produce the commercial forest products. Community-based Forest Monitoring and Information System (CBMIS) were set up to support forest-related livelihoods (commercial forest production) and readiness for REDD+.

This model was first piloted in Binh Long commune and replicated to four other communes of Phu Thuong, Trang Xa, Dan Tien, Phuong Giao commune. A total of seven (7) cooperatives have been established.

"Model of Community Ownership-Based REDD+ Initiative through the Legal Community Entity"

The other intervention of the project was the piloting of the "Model of Community-Ownership-based REDD+ initiative" and the results-based payment in Binh Long, and its replication to the other five cooperatives of forest owners.

In the case of Thong Nhat and Hoa Binh cooperatives of the forest owners, the members of the cooperative are as follows: 962 households (Hoa Binh co-op) and 338 households (Thong Nhat co-op), respectively. They have been allocated 1,168 ha of natural production forest through the project. The pilot was designed based on the Cancun social and environment safeguards and the National REDD+ Action Plan.

A seed fund in the amount of VND575,552,000, which was supported by the project and managed by the two co-ops, was established for the advance carbon payment. Key features of the model are as follows:

- The REDD+ pilot area is 479.65 ha with three layers of timber: 108 ha with timber volume from 10-50 m^3/ha, 106.1 ha with timber volume from 50-100m^3/ha, and 265.5 ha with timber volume from 100 – 150 m^3/ha.
- Some principles applied: 1 m^3 of wood growth per year with a potential equivalent to 1.5 tons of CO_2 if sustainably maintained; Pilot cost for 1 ton of CO_2 equivalent is US$4.5; verification cost will be shared by both parties (CERDA/the project and the co-ops).
- REDD+ pilot objective is to achieve increase of carbon stock in the timber tree and activities undertaken include forest protection;
- Pilot period is 2.5 years.

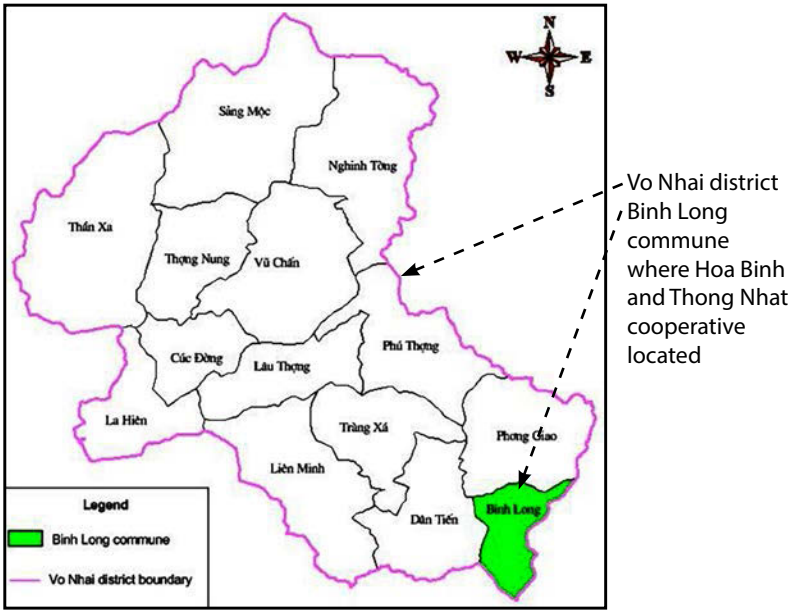
In this pilot model, CBMIS was established for monitoring and collection of data for the results-based payment by the technical team. FPIC was obtained and was respected. A number of the consultation meetings at SGG-level were organized and conducted by the local FPIC team of the cooperatives. The FPIC included all the information related to the pilot, including benefit-sharing, MRV (monitoring, reporting and verification), Cancun safeguards, grievance mechanism, results-based payment. All the topics were developed and consulted with all members of SGGs.

Survey of the Diversity of Species of Flora and Fauna

A survey of the diversity of species was undertaken in the natural rocky forest of Hoa Binh and Thong Nhat cooperative by the technical team.

Both scientific and indigenous knowledge and practices informed the survey. The technical team was trained on: 1) the methods and techniques on how to do inventory on the various flora and fauna found in the forests (trees and plants, animals, insects and molluscs, etc.); and 2) on determining location of various tree species through GPS, take photos with

Administrative maps of Vo Nhai Thai Nguyen province.



positioning, and recording and maintenance of the data and information. The technical team used indigenous knowledge to identify the various species of trees, plants, animals, insects, using its traditional/local name.

In relation to CBMIS, an aim is to establish a long-term database which would support the cooperatives' capacity to engage in the readiness phase of REDD+; generate data on various forest products (timber and non-timber forest products) for long-term income; and report changes of forest in terms of area and timber volume that can be provided to the government agencies. To help the co-ops run CBMIS, a number of training workshops were organized to capacitate the leaders of the coops and the technical teams. These include training on the technique, procedure, method and indicators on forest inventory, monitoring the changes of the forest in terms of area and timber reserves, developing a database, and on usage of the template forms to maintain the data. Currently, the team continues to further develop

and maintain the database on the forest, based on identified indicators.

What are the Outputs from the CBMIS Initiatives?

Community institution development and gender equality promotion: A total of 119 Self-Governing Groups/forest owners (SGGs) have been established officially through the decisions of the Commune Peoples Committee. These SGGs are comprised of 2.189 household members (around 10,000 people).

SGG is an innovation of the project. It is sub-village; composed of 20-30 households living together traditionally and historically.

For each co-op, an Administrative Council, Control Board, and Board of Directors were established. To manage the forest and produce the commercial forest products, a Forest Owner Council was formed and is composed of members from the Administrative Council, Control Board, Board of Director and heads of SGGs. The technical team and FPIC team were organized to run the CBMIS, undertake necessary REDD+ related work, which are intended to support forest allocation. The community cooperative that have been organized ensures that the ethnic minorities and local communities are able to act as independent stakeholder as forest owners. They are able to understand and make use of government laws and policies, as well as create and develop forest-related livelihoods for income generation.

The project activities were organized to train the leaders of the coops and the heads of SGGs to run their organization with transparency and accountability, ensuring the high participation of the co-op members in the decision-making process, comply with legal requirements as forest owners and with the Cancun safeguards. Core principles include respect for FPIC and the rights of the co-op members.

With legal status and a developed capacity to run CBMIS, the forest owner cooperatives are able to access directly the

Provincial Forest Protection and Development Fund[4] of the government, therefore increasing sustainability efforts of the communities. The coops also have an increased chance to access future REDD+ related funds if they so choose.

An important cross-cutting theme in the project is gender equality. Previously, the women have had less voice and limited participation in the public activities. To enhance women's participation, all the FPIC activities have been organized at SGG level to ensure that voices of women are heard. SGG is a traditional group and is small in terms of size, so the women are confident to speak out.[5]

CBMIS used for Forest allocation to SGGs and database development: Under the project, 119 communities in the form of the Self-Governing Groups (SGGs) have gained access to 3,520.8 ha of the natural production forest. The database on the forest has been developed. The table below shows the data on the forest owner and the allocated forest area.

Table 1. Allocating the forest use rights to communities through the SGG.

	Cooperative	Number of SGG/ community forest owner	Number members of SGG/co-op	Allocated forest area to communities (ha)
1	Phương Giao	13	228	938.2
2	Dân Tiến	20	340	770
3	Tràng Xá	16	240	427.7
4	Ba Nhất	10	145	216.93
5	Hòa Bình	45	900	946
6	Thống Nhất	15	336	222
	Total	119	2,189	3,520.8

On average, each household was allocated only 1.61 ha of natural production forest area. All the forest is far away from their home, and the individual household or SGG may not be able to protect the forest. The SGGs cannot participate in REDD+ as their forest allocation is too small. To overcome such limitations, they agreed to band together to establish

cooperatives in compliance with state law, and organized themselves into an Alliance of Cooperative of Community Forest Owners of Ethnic Groups (ACCFO).

More importantly, according to the law, the co-op is eligible to create partnerships with domestic and international organizations and open a bank account. With such advantages, the forest owner cooperatives and the alliance can be able to go into business with their forest products by setting up partnerships with other entities, including NGOs, in compliance with state law and policies. That is a way to empower the ethnic minorities and forest dependent communities effectively.

Establishment and Operation of Community based forest monitoring and information system (CBMIS): The forest area monitored and supervised is 3,520.8 ha of natural forest in the rocky mountain which is owned by 119 self-governing groups, six cooperatives in five project communes. To run CBMIS, a number of tools are needed. Some monitoring tools for CBMIS are as follows: i) five benchmark maps of forest area and timber volume for each co-op dated on June 2016; ii) 22 permanent plots which can be used as the ruler to measure the changes of the timber volume/Carbon stock; iii) forms to record the data and information; iv) GPS device, positioning camera.

In terms of organization, five technical teams (with 26 members) of the seven cooperatives have been set up and trained. All of these teams know how to use the GPS device, how to set up permanent plots, use the map, conduct the measurement of timber/carbon and forest area, and calculate the timber reserves of the forest.

This know-how has been share to other groups as well. A technical team from Vo Nhai district came to train the ket farmers in Cat Van commune, in Thanh Hoa province on how to use GPS, to set up the permanent plots and measure the timber volume.

Monitoring indicators were developed, such as those related to: i) Change in forest area: increase-reduction, reasons, time, location; ii) Change in timber reserves: increase-reduction, reason, time, location. All the templates and forms to

record information about all kinds of changes were created. The operation costs for inventory and information monitoring system were supported through annual contributions from the forest owners.

The cooperative's leaders and the members of the technical teams were tasked to do the following activities:

i. Measure and calculate the changes in forest area, timber volume;
ii. Identity diversification of forest trees, plants;
iii. Set up 22 permanent plots and measure the timber volumes of 22 permanent plots;
iv. Provide the information to make 5 benchmark maps with full information about reserves and area in June 2016 and update when there is a change.

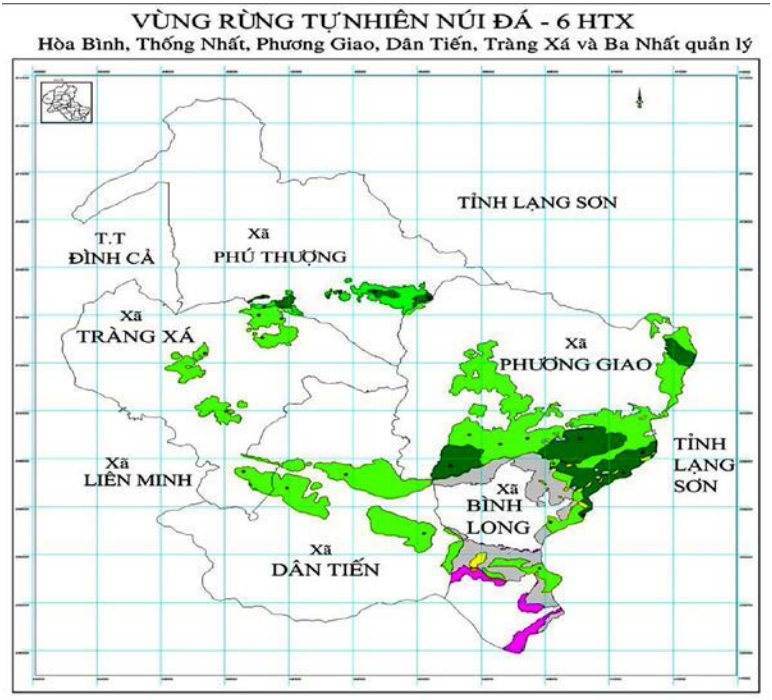
The data on the 22 permanent plots covering over 4,276.26 ha of natural forest in the rocky mountains of Binh Long, Phu Thuong, Dan Tien, Trang Xa and Phuong Giao are presented below.

Table 2. The data of 22 permanent plots over 4,276.26 ha of natural forest of 6 cooperatives of forest owners.

No	Cooperative	Sign of permanent plot	Coordinates X	Coordinates Y	Timber volume	Number of species of tree
1	Phuong Giao	1	470659	2398970	15.3	12
2	Binh Long	16	468159	2395357	24.8	11
3	Binh Long	19	467812	2393435	27.8	13
4	Trang Xa	4	458034	2399981	33.26	8
5	Binh Long	11	468476	2397324	36.3	9
6	Trang Xa	1	458584	2397486	37.62	14
7	Trang Xa	5	459056	2403999	48.5	11
8	Ba Nhat	1	459227	2404354	49.33	13
9	Phuong Giao	2	464970	2397805	52.7	12
10	Ba Nhat	5	463919	2404681	60.17	15
11	Trang Xa	3	457375	2402408	64.72	10
12	Trang Xa	6	459173	2403057	65.57	10

13	Phuong Giao	3	465099	2397459	74.2	11
14	Binh Long	14	469174	2395663	81.25	12
15	Trang Xa	2	459758	2403851	85.39	13
16	Ba Nhat	3	461603	2404958	89.67	9
17	Binh Long	8	469311	2397562	102.41	12
18	Binh Long	42	470438	2397429	119.3	13
19	Ba Nhat	4	464349	2404734	124.1	9
20	Ba Nhat	7	459884	2404541	131.5	8
21	Ba Nhat	6	462686	2405000	146.69	13
22	Ba Nhat	2	459192	2404750	168.17	12

Map of allocation of 4,276.26 ha for 127 forest owners and 22 permanent plots (*).



C 1.3 (cm): Trunk circumference at a position 1.3 m above the ground
D 1.3 (cm): Trunk diameter is 1.3 m above the ground
Hvn (m) : Tall tops of trees
V(m3): Wood volume

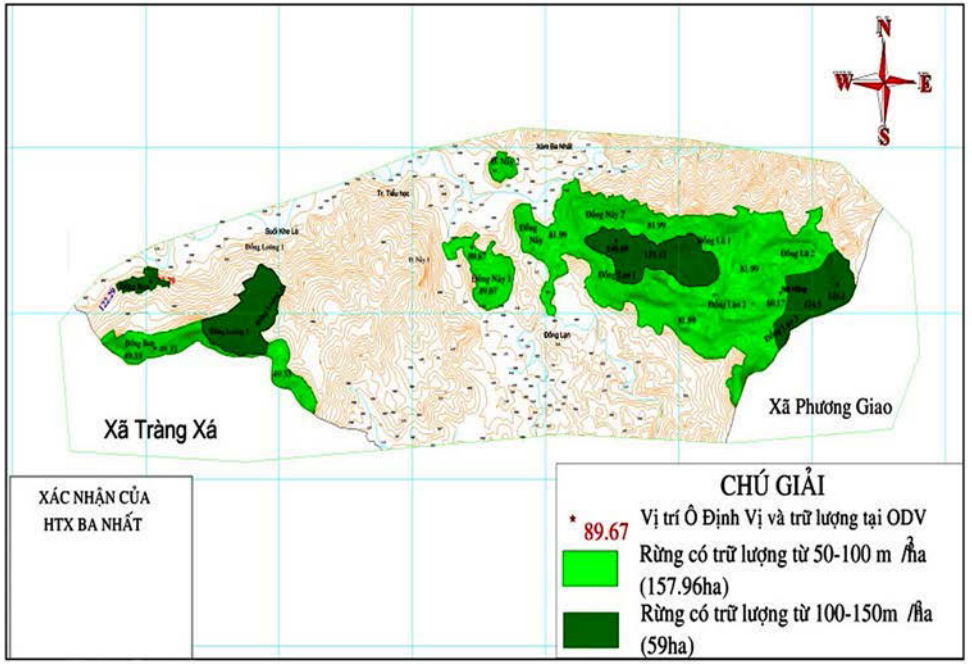
Permanent plot is one of the tool of monitoring the change of timber volume which is built by the technical villager.



The benchmark map of the forest is one of the very important tools which helps the forest owner track the increase or reduction of timber volume/carbon stock in their forest. Without the benchmark map, the forest owners cannot calculate the timber increase that they are eligible to benefit from according to the law. It would also be difficult for them to calculate the carbon stock and timber volume.

As stated above, to reduce the cost for monitoring forest and be considered as big forest owner, the co-ops established the Alliance of the Co-operatives of Community Forest Owners of Ethnic Groups (ACCFO). The ACCFO is in charge of monitoring the 4,276.26 ha of natural according to a set of indicators. The five forest benchmark maps with the different timber layers and its corresponding area are used for the forest allocation, as well as for running CBMIS over the forest area of all cooperative. The data taken from the five benchmark maps are presented in Table 3, on page 304, and the base data are kept to track change in term of forest area and timber volume.

Example of the benchmark map of Ba Nhat and Trang Xa communes.



Note:

*89.67: Permanent plot

Forest area (157.96 ha) with timber volume from 50 to 100 m3/ha

Forest area (59 ha) with timber volume from 100 to 150 m3/ha

Benchmark map of forest area of Ba Nhat cooperative in 6/2016.

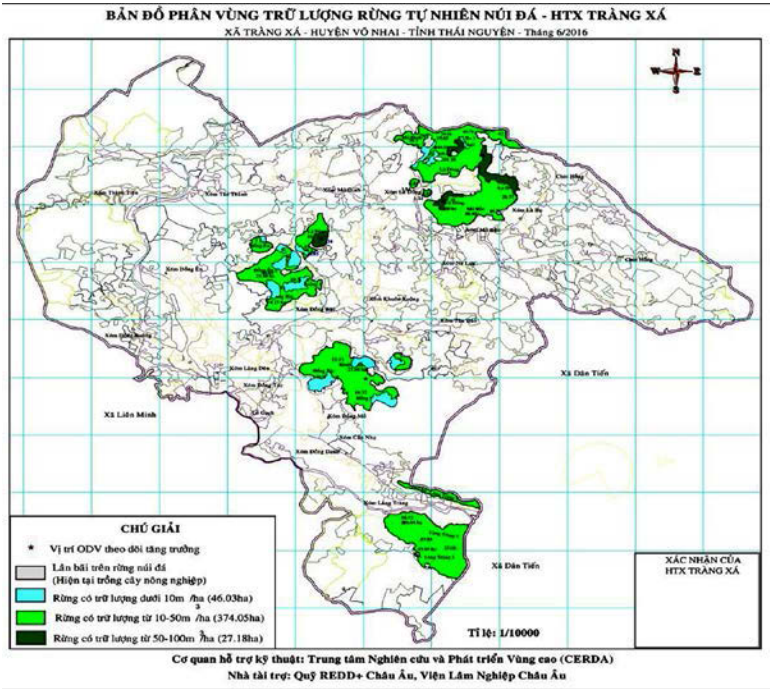


Table 3. The forest area and corresponding timber volume.

Reserves level (m3/ha)	<10	>10-50	>50-100	>100-150	Total
Hoa Binh and Thong Nhat cooperatives (ha)	688.4	108	106.1	265.5	1,168.00
Ba Nhat cooperative (ha)			157.9	59	216.93
Trang Xa cooperative (ha)	65.41	374.05	27		427.7
Phuong Giao cooperative (ha)		672.7	265.5		938.2
Dan Tien cooperative (ha)	377.74	250	142.26		770
Total (ha)	1,131.55	1,404.75	698.76	324.5	3,520.80

The 22 permanent plots were maintained to measure the timber/carbon increase/reduction per period. Every 3 or 5 years, the measurement of all the standing trees in the permanent plots shall be carried out. Based on the data collected in the permanent plots and the forest area, the forest owners can calculate the increased/reduced amount of timber volume in the tree as well as the increased/reduced amount of tons of carbon. The following are samples of forms to record the data:

Form 1. Template for recording data of permanent plots.

Parameters			Quantity
Name of cooperative			
Total of forest area (ha)			
Name of monitoring and synthesizing person			
Sign for permanent plot: PP no.1			
Area of permanent plot: (ha)			
Co-ordinate VN 2000: X ……, Y …….			
Date of measuring			
	Name of tree	DBH (cm)	Notes (double trunk tree, tree without top, etc.)

Form 2. Forest loss data.

Parameters		Quantity	
Name of cooperative			
Total forest area (ha)			
Name of monitoring and synthesizing person			
Time(date/month/year)	Forest loss area (ha)	Lumber reserves before the time of forest loss (m3/ha)	Detailed description (coordinate, location, reason for loss, etc.)

Form 3. Summary of land use change matrix.

Name of cooperative	Name of Monitor					
Monitoring time						
Forest/land classification	Natural forest> 150m3/ ha	Natural forest 50-100m3/ ha	Natural forest < 50 m3/ ha	Production forest	Land without forest	Total area (ha) year X
Natural forest> 150 m3/ha						
Natural forest 50-100 m3/ha						
Natural forest < 50 m3/ha						
Production forest						
Land without forest						
Total area(ha) year X + n						

Another tool being employed is the sand table, which is used for the planning of patrol and marking of changes of forest area.



CBMIS used for piloting results-based payment in the REDD+ pilot – The story of Binh Long commune. The project in Binh Long commune focused on the capacity building and institutional development for the local people so that they are able to: a) strengthen their communities' organizations; b) strengthen ownership to manage their lands and forest; and c) enhance understanding of forest-related policies, including REDD+ policy.

The pilot of the results-based payment for forest protection is dependent on the amount of timber/carbon stock increase over time. As such, the cooperatives have to show the increase in the amount of timber/carbon stock per the contracted period.

In Binh Long commune, the model of "Community-ownership-based REDD+ Initiative" was piloted. The pilot project answered the questions: How should REDD+ be implemented at ground level? How can ethnic minorities and forest dependent communities benefit from REDD+?

Some figures of the pilot project are as follows:

i. Pilot area: 479.6 ha of natural production forests;
ii. Payment pilot period: 2.5 years;
iii. Regulations: Timber volume increase equivalent to tons of CO_2 equivalent; 1 m^3 timber volume increase/year is equivalent to 1.5 tons of CO_2 equivalent; Payment pilot for 1 ton of CO_2 equivalent is US$4.5; Verification cost before payment is paid by both parties; Cooperative is responsible for coordination, disbursement, reporting, provision of disbursement information to related parties; All related parties have the right to complain. The complaint unit has to answer in the period as regulated depending on the complication of the case, but not exceeding 30 days; Payment shall be paid through contract;
iv. Conditions for results-based payment: Forests growth over time, reflected in the amount of timber volume increase in the period; Cooperatives have evidence (records) showing the amount of timber volume in-

creased, and in case the cooperative of forest owner cannot prove the amount of increased timber volume, advance payment shall be returned; Cooperative has to preserve the advanced payment.

The cooperatives of Hoa Binh and Thong Nhat provided the data on the timber volume increase created in the pilot forest area. The forest has been growing after 2.5 years of protection. Timber volume increased compared to the timber volume of the permanent plot between the beginning and end of the period (12/2013 and 6/2016) as stated below:

- Volume level from 10-50 m^3/ha: increase by 2.01 m^3/year/ha;
- Volume level from 50-100 m^3/ha: increase by 2.16 m^3/year/ha;
- Volume level from 100-150 m^3/ha: increase by 2.54 m^3/year/ha.

The total timber volume was increased by 2,801.57 m^3 based on measurement of permanent plots covering over 479.65 ha. The total timber volume reduced due to cutting of young tree for firewood and illegal logging was 13.11m^3 in 2014. The timber volume increased and maintained on 479.56 ha in 2.5 years was 2,788.46 m^3. The total payment which was released by the project: VND423,200,498/period of 2.5 years over 479.56 ha of natural forest. The average payment for forest protection of 1ha/year was: VND352,924.

In conclusion, the members of the co-op have gained income from forest by preventing the logging, chopping of the young tree for firewood, and conversion of natural forest to other purposes. They have also gained experience on how to work on the results-based payment. CBMIS was not only used for the results-based payment under REDD+ mechanism but also for the application for permission for legal timber logging and harvesting of non-timber forest products as well.

*CMBIS used for Monitoring Biodiversity and Baseline Information***.** The methodology employed for biodiversity inventory was a combination of scientific and traditional knowledge. Using traditional knowledge and science, the technical

teams were able to monitor biodiversity in their forest and collect information for their baseline information.

The inventory covered species of timber trees and non-timber forest plants with economic and environmental value (such as food for animal and human, medical herb, ornamental plants and handicrafts, etc.), and species of animals, birds, reptiles, insects, molluscs. These were identified and recorded.

A total of 730 species were observed, pictured and documented.[6] On average, there were 43 species per hectare. In relation to the total vegetation species, 337 trees were identified and 160 were non-timber flora. Animal species identified were 31, of which beast animal: 5; bird: 4; reptile: 2; insect and molluscus: 2. Moreover, there were nine species of plants/trees that were in the list of the Vietnam Red Book such as Nghien (*Burretiodendron tonkinense*), Lat hoa (*Chukrasia velutina*), Khao xanh (*Cinnadenia paniculata*), Trai (*Gacinia fagraeoides*), Khao la to (*Machilus grandifolia*), Đinh (*Makhamia stipulata*), Day dau xuong/day mem gan (*Tinospora sinensis*), Binh voi (*Stephanie spa*), Hoang tin (*Disporopsis sp*). For each individual species, the information recorded included the local name of species, detection time, coordinates and pictures.

The example:

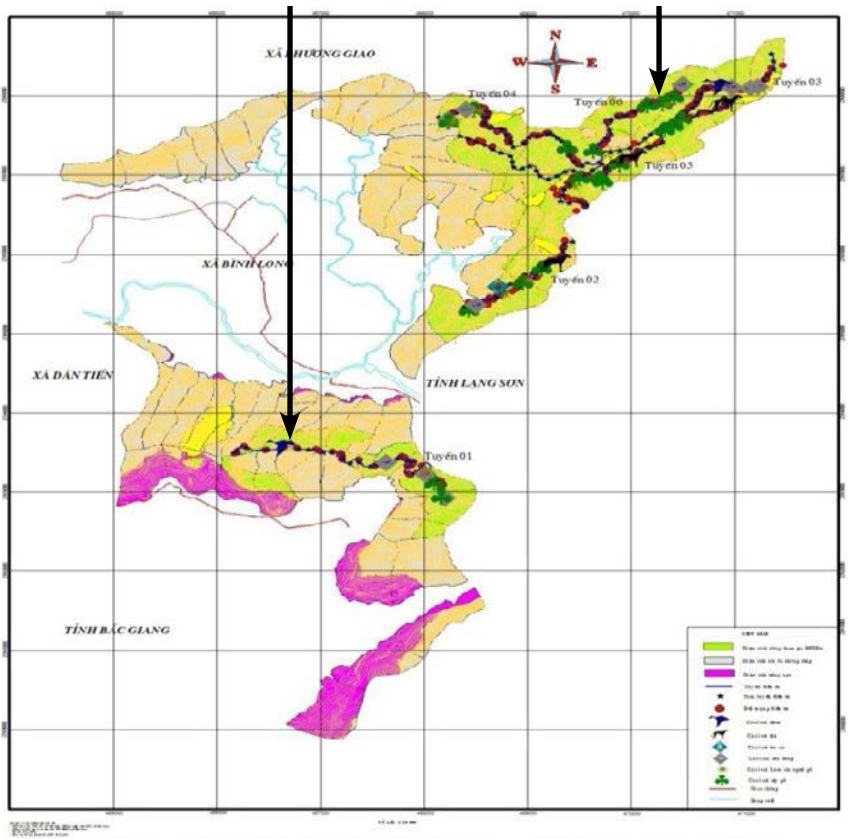


Local name: Nam moi
Coordinates:
X:469250
Y:2396932
Detection time: 11/2014

Roughly compared with the natural conservation area or national park (Than Sa, Phuong Hoang, Thai Nguyen province, Kim Hy – Bac Kan province, Tam Dao – Vinh Phuc province), the diversity of species in Binh Long limestone forest was found to be rather high.

The map below shows the survey line over 479.56 ha of natural forest in rocky mountain. The pictures were taken by camera with coordinates and time.

Area and survey line of species of tree, plant and animal, bird, insect.



Dự án: "Mô hình thí điểm Chương trình giảm phát thải khí nhà kính từ nỗ lực giảm mất rừng và giảm suy thoái rừng (REDD+) tại cấp cơ sở, miền Bắc, Việt Nam"
Giai đoạn 1: 2010 - 2013; Giai đoạn 2: 2013 - 2015

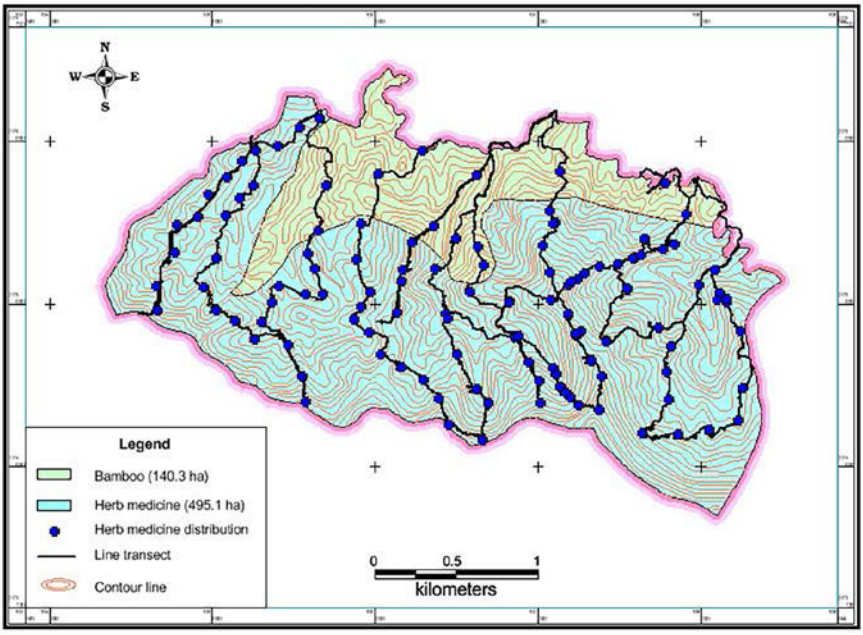
Project "Pilot models of implementation of Reducing Emission from Deforestation and Forest Degradation (REDD+) at grassroots level in North of Vietnam"
Phase 1: 2010 - 2013; Phase 2: 2013 - 2015








The inventory of species of non-timber products was also implemented in Cat Van commune, Nhu Xuan district, Thanh Hoa province. The technical team members of Hoa Binh cooperative trained a numbers of members in Thanh Son Lam cooperative, Cat Van commune on how to conduct inventory of the non-timber products in the forest. About 125 species of non-timber products were identified, photos taken, and the map of distribution of non-timber products will be made. This will be used for the development of a long-term business plan in relation to non-timber products.



Survey lines to detect the species of non-timber products in the natural forest area of 660.3 ha which belongs to 10 SGGs, 236 households.

Using CBMIS Outputs

CBMIS creates the valuable opportunity for ethnic minorities and local communities to master and control their forest resources. With CBMIS, ethnic minorities in the pilot areas are able to demonstrate, through generated data, their capacity to direct, manage and sustain their natural forest that has been allocated to them. In terms of forest use rights, through CBMIS, the cooperatives of the forest owners are able to work professionally and legally and enhance economic opportunities from their forest: timber and non-timber products, water, carbon.

Recently, the co-ops have developed profiles and sent these to the provincial Forest Protection Fund and district authority for funding for forest protection. The good news that Thai Nguyen provincial Department of Agriculture and Rural Development informed that the ACCFO will be given the chance to participate in the target Program for Sustainable Forestry Development 2016-2020.

Thanks to the project, the natural forest is well protected, my pond is having more water for gardening and later for fish raising. Before, the pond has always very little water.

Mr Nhan, a farmer in Dan Tien co-op

We are patrolling around the forest under heavy rain. The water that is coming out to the stream from the forest is very transparent and not muddy anymore!

Mr Ha Trung Thong, Hoa Binh co-op

The local people know how rich their forest is and are able to develop proposals and send these to the government to obtain license for forest product exploitation. With CBMIS, the forest owners are becoming proactive in make their plans for the production of commercial products from their forest

resources. Previously, the local people did not have the know-how nor the capacity to secure the license for logging, so they resorted to illegal logging and sold unlicensed forest products to smugglers at low cost.

With CBMIS and the effective forest management, the position of ethnic groups and local people in society has increased. They are able to measure changes in forest area and timber volumes and generate reports to the local authority. They now have the knowledge and skills as well as data to work with the government, including local authorities and forestry officials such as the forest rangers (as seen in the Hoa Binh and Thong Nhat co-op case study).

It can said that for the first time in Vietnam, the local people in the pilot communes are now capable to do this type of work. The local government appreciated the contribution of the co-ops in combating climate change and forest protection. The local government and forest ranger in Vo Nhai district highly appreciated the results of the projects in general and CBMIS in particular. This is the first time that the forest owners can report the changes of forest area and timber as defined in the law. Now, with CBMIS, the communities has become the real forest owners.

Together with the cooperatives (as legal entity) and the alliance of forest owners (ACCFFO), CBMIS provides the opportunities for the ethnic minorities to participate in REDD+ as an independent stakeholder.

The model of the community-based forest monitoring and information system (CBMIS) and the model of "Community-ownership based REDD+ initiative through the legal community entity" have been shared with the Ministry of Agriculture and Rural Development, Vietnam REDD Office and the Vietnam REDD+ network through number of national workshops, and with local governments. The delegates from UNDP, and the Forest Carbon Partnership Facility (FCPF) in Vietnam also visited the project in Binh Long. The results of the models were shared as well during meetings of the climate change (UNFCCC) and biodiversity (CBD) conven-

tions through several side events under the coordination of Tebtebba. This experiences and lessons learned have also been shared and replicated in other communities in Thanh Hoa province, in the central part of Vietnam.

Increasing Women, Children, Youth and Elders Participation in CBMIS

A majority of members of the technical teams are young and middle age villagers. They are capable of using the GPS, in measuring the timber/carbon stocks and investigating the species of flora and fauna in the forest using a combination of science and indigenous knowledge. They also provide technical backstopping to the forest owners so that they are able to participate in REDD+ as an independent stakeholder, and enhance capacities to comply with requirements of a results-based payment in REDD+ in the future. The technical teams also participate in the process of making the proposal to secure permission for timber logging and for commercial non-timber forest products. With the legal products, the forest owner can sell the products at higher prices and are in a better position to negotiate prices of their products. In addition, the technical team can help the local households, especially women who use the land without any certificate, by measuring their land needed for securing of legal permission. The technical team can also help measure land in cases of land conflicts. Members of the team can also teach the others, especially the young people, on needed skills so that they can become future community technical team members.

Key Achievement in CBMIS Implementation

With the technical capacity to run CBMIS, the ethnic minorities and local people from the pilot communes have demonstrated that they are able to participate in the forest land allocation and do this at a low cost. The forest alloca-

tion to SGGs in five communes for 3,520.8 ha, undertaken by the communities themselves with support from CERDA, amounted to VND846,921,106.54. The cost per ha was VND240,547.92, accounting for only 40 percent compared to the government cost norm.

CBMIS provides a way to empower local ethnic minority groups and forest-dependent communities, particularly the women and youth, secure forest land tenure. The local communities as forest owners are more confident to work with the government officials in protecting or claiming their rights and legal interest.

The forest owners with the legal status (co-operatives and the alliance) are eligible to set up new partnerships with international and domestic organizations which create more opportunities for generating income. They now have the opportunities to access the Provincial Fund on Forest Protection and Development. Recently, the Alliance of Community Co-operatives of Ethnic Group (ACCFFO) with the support of CERDA has submitted a proposal to the fund.

CBMIS is a tool to help the legal organizations of forest owners to participate in REDD+ as an independent stakeholder. More importantly, CBMIS helps the forest owners develop business plans for commercial forest products.

The government officials now have more respect for the local people because of what they can do and the knowledge they had gained during the project implementation. They are more respectful of the ethnic minorities and local community due to their contributions. Some local governments in pilot areas have signified interest in establishing partnerships with the community cooperative in implementing policies. A more important gain is that the local people themselves, through their cooperatives, understand their rights and have the agency to protect these.

Recommendations in Strengthening Implementation of CBMIS and IPSSDD

1. More Support to CBMIS

Piloting of CBMIS has shown good results in pilot areas in Thai Nguyen and even in Than Hoa province. Government and donor support are needed to scale-up CBMIS and expand these to other ethnic minority communities. This system can help the forest owner to sustainably manage, use and exploit forest products in a professional and legal way, increasing income for owners, reducing poverty while contributing to climate change mitigation and adaptation. In addition, this system can indirectly reduce illegal timber trading and transporting. Moreover, forest owner organizations such as the cooperatives can contribute to state forest management by feeding into the state's annual forest development reporting (in terms of area and volume) and through participation in results-based payment for forest protection, such as the REDD+ program.

2. Recognize Traditional Knowledge and Customary Governance

It is necessary to recognize the value of traditional, indigenous knowledge, and customary governance in forest land allocation and protection. The value of indigenous knowledge has positive impacts on efficiency, sustainability and equality in forest land allocation, management and benefit-sharing.

3. Holistic and Integrated Training for Ethnic Minorities

A holistic and integrated approach is needed to ensure sustainability of CBMIS and overall sustainable, self-determined development efforts of ethnic minority communities. This entails not only continuing capacity building to set up

and run CBMIS, but more importantly, providing ethnic minorities and local communities with know-how in relation to technology, as well as legal, management and institutional expertise as independent stakeholder so that they are able to take full advantage of state laws and policies, e.g., REDD+. The following methods need to be applied: continuing on-the-job training (no single training course), training "Local key farmer group to become the local farmer expert group" and "Farmers-train-farmers," among others.

In the Vietnam context, the household-based forest owner is dominant. Setting up of cooperatives among such small household-based forest owners, and providing them the skills to effectively manage these organizations, are steps in the right direction to empower the ethnic minorities and local communities, with the support, especially from NGOs.

Endnotes

[1] CERDA is a Vietnamese non-governmental and not-for-profit organization which was founded in 2004. It operates under Permit Number A-123 that was granted by the Ministry of Science and Technology, under the management of Vietnam's Union of Science and Technology Associations (VUSTA).

[2] Reducing Emissions from Deforestation and Forest Degradation, including enhancement of forest carbon stocks, conservation and sustainable management of forests.

[3] With funding from EU REDD+ Facility and European Forest Institute through the project of "Strengthening tenure among upland communities in Vietnam to reduce illegal logging and conversion of natural forest."

[4] Now, in the Law on Forestry which will be effective on 1 January 2019. In term of a legal forest owner, the definition of community as a forest owner has been changed. It is not a village community any more but it is a community which can be a traditional residential cluster.

[5] In Vietnam, the size of the village is big, around 120 to 150 households. In the village meeting, women often keep silent and are not confident to speak out.

[6] The team who collected the data was composed of 9 local people who have been collecting the data from the area of 479.64 ha of forest. The total investigative area is 17.01 ha. The methodology used in the collection and documentation is a mix of traditional knowledge and science. The species investigated include the species of animal, tree, plant, reptile, insect and mollusks. After identification, the villagers ranked the species according to its uses and importance to them.



I, the Baka chief of Minkoo, have never participated in a program like this one in which each one of us can identify themselves and the problem or difficulties facing his community. The appellation CBMIS rhymes with another word in our local Baka language, kulbimis, which means "Open our eyes." This means that CBMIS is an eye opener for the Baka people, allowing them to see the abuse of their rights and also the poverty plaguing our communities.

Melo Samson, Chief of Minkoo, Djoum, Cameroon

With the mapping, we were able to see on the spot how many hectares of forest we have: primary forest and secondary forest. It helped us to recognize by sectors how many hectares of woodland we have to protect, and from there, the idea of conserving and protecting our forests, and recovering them, was born. Men, women and children, we all participated. The elderly folk helped us identify the medicinal plants, so we all learned something.



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