



## **Learning Sustainable Life: *The Bukidnon Pulangiyan community experience of integrating mother tongue education for sustainable development***

This book tells the story of how the Pulangiyan community in Mindanao is working to save their culture and environment and where it is contributing to the growing Asian experience on multi-lingual education programs monitored by UNESCO in collaboration with our Department of Education.

The Apu Palamguwan Cultural Education Center (APC) with support from the Environmental Science for Social Change (ESSC) provides culture-based education for indigenous children and youth living along the forest fringes of northeastern Mindanao.



Learning Sustainable Life:  
Bukidnon Pulangiyan Community Experience  
of Integrating Mother Tongue Education for  
Sustainable Development

Pedro Walpole  
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## Prologue

All People who come to Bendum gratefully acknowledge that our Indigenous People, the Pulangiyan and their forebears, have sustained their spirit, their wisdom, and their bodies in this Land and have worshipped through this beautiful and rich domain for centuries before us. We may worship in different languages and cultures: “*Migtanghaga*,” “*Magbubuhay*,” “Creator,” “*Magbabaya*,” “*Diyos*,” “God,” “Allah,” “Ginoo,” yet there is only one Spirit.

We hope and pray that all who come to Bendum are reconciled in the differences that have divided people in the past and together we live free from fear and sustain peace through honesty, trust, justice, and care. The richness of the land is dependent upon the richness of relations we hold with each other and with the Creator.

We are learning that anything we take must not be taken from others and must not be taken from the sustainability of the land and of our children and of their children. The youth are our hope in true leadership and service, and in sustaining all relations and all life. Our hope and our dreams humbly require that we care for what the Creator gives us through the life of the land and waters, and through the diversity of our cultures and relations, always trusting, always peaceful.

May we share the future with wisdom, grace, truth and justice, with hope in our children and care for the land, so we may live the promise of the fullness of peace.

*from “One Who Stayed”  
post-ritual reflection, December 2009*

## Acknowledgements

An acknowledgement needs first to be given to the “genealogy” of the area and the importance of these families and relations. Traditionally, family groups, led by elders of the family or clan, organize the communities of Indigenous Peoples. When the initial assisting group arrived in Bendum, the following are the major family groups: Menaling, Ampohon, Almahan, Linantad, Haguilay, Sagula, and Singaman. These family groups helped in organizing activities such as construction of school buildings, the tulugan or the community center, the water system, and other activities. Their tribal council, their elders, and their ancestors, and now their youth are the source of this work.

Except for a few, these family names do not represent the families that historically relate to the land in the area. Due to the inter-marriages that are patriarchal, current family names are referred to in this acknowledgement. Among the family names that have historical roots in the area based on the genealogy are: Menaling-Lipanda, Compade-Lumihay, Paldon-Lummista, Baringgay-Menaling, and the Loquindo-Ampildon.

Their organizations Nabantaw Bukidnon Pulangiyan Organization (NBPO) and Kabatan-onang Lumadnong Pulangiyan (KLP) are ways forward in developing options and they too would acknowledge the contribution of the accompanying team over the years. These include Eric “Popoy” Bruno, Andres Ignacio, Cesar Aguinaldo, Trixie Clemente and other staff of the Environmental Science for Social Change (ESSC), Jenny Lynn Lee, Rene Aclub, Grace Limbago and other staff, and teachers of the Apu Palamguwan Cultural Education Center, members of the Jesuit Volunteers Philippines, Xavier Year of Service and Jesuit Scholastics who were assigned in Bendum.

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We acknowledge with great pride the first graduates of 1997, including Jovy Sagula, Mercy Almahan, and Zarmin Garcia who are now teachers. We acknowledge the graduates each year thereafter and in the years ahead. We share equal hope for the present youth group that is assisting in forest regeneration. While they seek greater sustainability of local livelihoods, it is our hope that their sense of culture and values will grow and prevail in a changing world.

# Introduction

Our parents, community, and culture are the sources of many of the greatest truths we actually live by and are the starting points of our education in life. This education allows us search for meaning and responds to our desire for learning. How then do we share this education with the children of our culture and time? Such wisdom and character engendered by this education can be of great depth and service especially when there is peaceful and sustained opportunity for learning in a community.

But communities also live in a world where the prosperity and security of the greater global economy takes priority over local needs and the personal anxiety of achievement overtakes the integrity of community. Yet this world must provide the space for such a learning and education process that deepens the sense of value and that brings the desired inner peace in a community. This world must allow this education flourish and vigorously support, and not undermine and dismiss in the flurry of responding to global needs and national development agendas. And communicating these community education experiences to the next generation is crucial.

Our understanding of what education needs to be is very different in a world of globalized culture. In the Philippines, national development efforts push an educational system that is very competitive, making it difficult to nurture our sense of belonging. Some of our cultures live in the mid ground between remote tradition up the hillside and consumerist society down the valley. Some cultures have developed a local economy and political (though traditional family) representation over the last century and are holding out between the different forces. Many other cultures are not so flexible in managing the changed relations but they persist through attitudes of cautious engagement. They are struggling not to be overtaken by markets, economic development interests or armed groups, and seek greater security of basic needs. Education is thus a primary force for these cultures in asserting their continuity and unique contribution to broader society.

The understanding of our cultural strength and relations needs to be internalized and integrated to appreciate both the commonalities and uniqueness in our nation's cultures. This broadened and integrative understanding then provides a stronger and more meaningful basis to socially respond to the education and other basic services that many of these communities need. In this way, our learning is both intimate and open as this also nurtures friendships and closer relations while at the same time opening up engagements with broader society. The intimacy of education is that it fosters the relations of our community and

allows learning towards a sustainable way of living. And where this is recognized, it leads to a strengthening of our relations with society while improving our community's actual equity.

This approach to education is considered a community-based approach to sustainable livelihood. MLE when applied as the community's education program needs to integrate not only the language but also explicitly the community's culture, knowledge, landscape and resource management practices, thereby strengthening its capacity for adaptation that sustains the local environment.

This publication summarizes the engagement of the Apu Palamguwan Cultural Education Center (APC) with the Pulangiyan community of Bendum, Bukidnon in Mindanao, Philippines. The book is divided into two main sections: Culture and Environment. There are 15 points for discussion that attempt to be stepping stones for a greater integration of the challenges of education for present and future generations.

I have called this experience *Learning Sustainable Life*, as it has been a learning for all of us. Education is a desired and basic need for upland communities. However, schools that teach a curriculum and a language of concepts often alien to the land context can further alienate people. The history of Indigenous Peoples' alienation through the State's blanket Regalian claims to all forestlands disinherited many generations of their place in society. After 100 years, the National Commission for Indigenous Peoples is slowly addressing this concern. And similarly with the efforts in ancestral domain titling, there needs to be approaches to education that draw upon the integrity and knowledge of the people. These approaches must contribute to a strengthening of society so that learning is not simply from the center out, but one that values cultural wisdom and develops new options for engagement from the margins.

In accompanying the Pulangiyan, a process we call *duma*, we are looking for ways to integrate mother tongue based education with the need for sustainable livelihood and the cultural celebration of life. The basis for this integration is found in the *gaup* and *kalandangan*: the land and the wisdom of how it is ruled.

Pedro Walpole  
Apu Palamguwan Cultural Education Center  
Bendum, December 2009

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## Abbreviations

APC	Apu Palamguwan Cultural Education Center
BEC	Basic Education Curriculum
CADC	Certificate of Ancestral Domain Claim
CADT	Certificate of Ancestral Domain Title
CBE	Culture-based education
CBFM	Community-Based Forest Management
DA	Department of Agriculture
DepED	Department of Education
DENR	Department of Environment and Natural Resources
DOH	Department of Health
ESD	Education for Sustainable Development
ESSC	Environmental Science for Social Change
HDI	Human Development Index
FIDA	Fiber Industry Development Authority
FLEMMS	Functional Literacy, Education and Mass Media Survey
FPIC	Free and Prior Informed Consent
INNOTECH	Regional Center for Educational Innovation and Technology
KLP	Kabatan-onang Lumadnong Pulangiyan
LGU	Local Government Unit
MDG	Millennium Development Goal
MLE	Multilingual Education
NCIP	National Commission for Indigenous Peoples
NBPO	Nabantaw Bukidnon Pulangiyan Organization
NSO	National Statistics Office
SEAMEO	Southeast Asian Ministers of Education Organization
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund (formerly United Nations International Children's Emergency Fund)



CULTURE



*Datu Nestor Menaling who has all his life known the Bendum area and settled many families in the area as the logging ceased. Along with his wife, 'babaylen', Nai Ilay, they sustain the peace and seek education for all.*

# 1

## The Pulangiyeen of Bukidnon

The Pulangiyeen people live along the upper Pulangi River in the eastern valley of Bukidnon in Mindanao, Philippines. The community possesses a rich knowledge of the landscape and a deep understanding of forest, water, and all life in the area. Over the years, the people continued to withdraw from the advancing logging and now, from the agricultural intensification by migrants.

The Pulangiyeen identity has weakened over the years with many people identifying themselves as simply Bukid-non. The Pulangiyeen people share the same mother tongue with several other cultural groups in Northern Mindanao. This language is widely known as Binukid. This term is not used in APC as it is a word used by lowlanders to refer to the language spoken in the mountains. "Bukid" in Visayan means "mountain." Bukid-non or Higaonon is the generic cultural reference of the coastal migrants for people of the northern part of the province of Bukidnon. Some of the more traditional communities are trying to strengthen their Pulangiyeen identity, one of which is Bendum. They have their ancestral domain or *gaup* for which they are seeking a Certificate of Ancestral Domain Title (CADT).

A significant part of their land is still forested but is not commercially viable for logging. The community is exerting effort to regulate timber extraction and protects the forest that provides valuable water and other resources. A basic subsistence economy with abaca as a source of cash keeps the community together. The people's cultural connectivity to the land gives them identity, sustains their livelihood, and

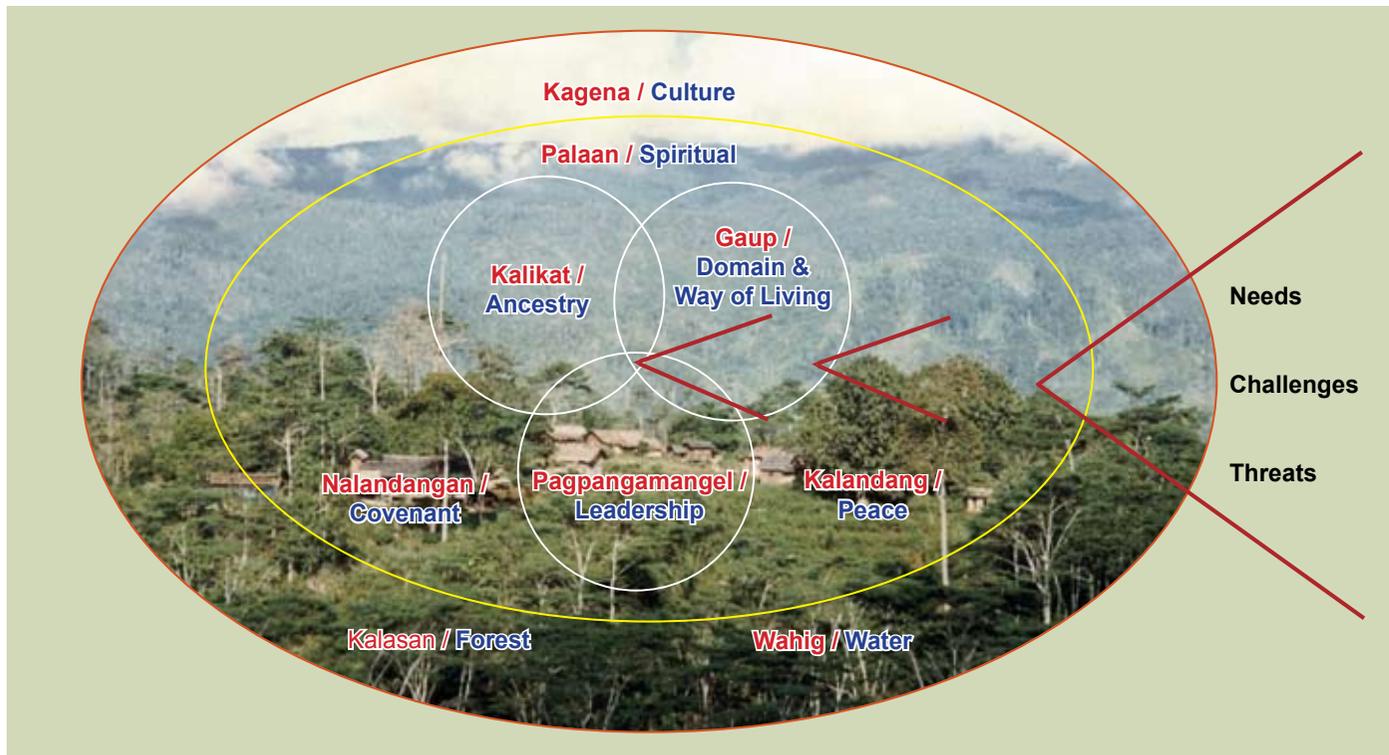
provides ecological services to communities down the valley. The Pulangiyeen seek to chart their future among others while reasserting their cultural integrity by managing their domain.

From an Indigenous People's perspective, the *gaup* is the physical area where they live and carry out their way of life. This includes the village or settlement, and all rivers and surrounding forests along the Pantaron Mountains\* where they hunt, farm, gather materials for livelihood, settle their disputes, and conduct their rituals. Within the domain, land rights and clan relationships are defined by one's ancestry, sustained by agreements or a covenant, and formalized through rites. This allows for a peaceful coexistence among clans and keeps the people connected to the land and to their ancestry.

Where the Pulangiyeen is daily challenged is in the need to have an income to meet basic needs. That is not made easy by the shortage of good land that settlers increasingly occupy and develop. This situation challenges not only the Pulangiyeen way of life and identity but also their continuity as a people of a given place. Lands planted by migrants to maize, coffee and rubber are moving far beyond the irrigated lands and up the hillsides, overtaking the Pulangiyeen in marketing strategies and land acquisition. No compensation is yet forthcoming from industry, or local or national

*\*Meaning gravel and pronounced "Pantadon" if spoken of from the Agusan side*

**Chart 1. Ancestry as Living Relations of Security and Life**



*In seeking to relate the different elements of the Pulangiyan Culture, primary in the discussion is the ancestry or 'kalikat', allowing them to share the 'gaup' or domain and way of living. This emerges from the deeper myth of creation and all relations sustained by the ancestors. These relations are based on the covenant or 'nalandangan' that is the source of peace, 'kalandangan' and occasion for renewal, strengthening and engagement with others. The sense of the sacred and the spiritual relation palaan is the foundation of their relations. The effort is always to include. It is in this context that the whole culture comes to light not as merely the external dress and dance but an integral relation that also includes the forest, 'kalasan' and water, 'wahig'. The emphasis is placed here on the active relations of living through the 'gaup' and the importance of the overriding covenant as the basis for responsible allocation and management actively sustaining a clear peace.*

government. Presently, the National Grid Corporation of the Philippines, a privately-owned corporation<sup>†</sup> collects an environmental charge of 0.0025 peso per kilowatt hour sales. The government then manages the distribution of the collected fees through the Power Sector Assets and Liabilities Management Corporation and the Watershed Management Department of the National Power Corporation (NPC). The Pulangiyan through their CADT need to be supported to maintain the ecological services provided by their forests in the upper catchments of Maramag Dam that NPC operates. If this way of life and people are to survive, sustainable environmental management is essential in providing many of the basic needs and security of the people, and as a foundation for educational development.

<sup>†</sup> The State Grid Corporation of China owns 40% of the National Grid Corporation of the Philippines along with Monte Oro Grid Resource of the Philippines and Calaca High Power Corporation.

## 2 The Education Program in Partnership with the Pulangiye

With the end of logging in the area in the late 1980s, the desire for a school grew in the community, given that the three-hour daily walk to the nearest public school was too long and dangerous for small children. In 1991, the community built a classroom, hoping the government would send them a teacher. The community clearly expressed its willingness to contribute in establishing an education program, given the investment of resources and the time necessary to build this structure. Government support was not available at that time, but by collaborating with a support organization, classes in basic reading, writing and counting began for children and for adults. This literacy initiative has since grown into a formal education program that allows many to continue on to higher education, including a number who have since returned as teachers. Beyond formal schooling, the community sees the primary value of education in that it facilitates cultural continuity and effective management of their *gaup*.

The education program that emerged seeks to build cultural identity while developing knowledge and skills relating to mainstream culture. In 1995, formal classes and a five-year curriculum were developed. The Department of Education (DepED) did not yet officially recognize the school, so students had to take equivalency exams to move on to high school. In 2004, the school applied for recognition, taking on the name Apu Palamguwan Cultural Education Center (APC). The vision of APC is to support the community in its desire to learn from its culture and from society while living as Indigenous Peoples.

What facilitated this recognition was the DepED Order 42 in 2004, giving “permission to operate primary schools for Indigenous Peoples.” This order saw a significant advance in how DepED could relate with locally developed education programs. There is a critical need for informal and Indigenous Peoples’ education programs that have a curriculum to gain formal status, so that students going through these programs need not take equivalency exams to advance to high school. Then DepED Secretary Edilberto C. de Jesus established the template for formalizing such programs through this order. This departmental order allowed for flexibility in an indigenous community’s school curriculum and thus made possible the bridging of culture-based education (CBE) and the national Revised Basic Education Curriculum (BEC). The order also permitted the recruitment of local para-teachers to teach cultural content, as well as the use of a school calendar that aligns with the seasons of the community’s livelihood and cultural life. Culture-based education uses the language of the community as the medium of instruction and the content of the lessons is drawn from the culture, including learning the crafts commonly held. The Revised Basic Education Curriculum is the English-based primary education curriculum taught throughout the country.

APC was the first school recognized under this order, giving the Pulangiye community a new insight into educational opportunities and a new lease of energy to engage with mainstream society. This recognition of APC as an independent school for Indigenous Peoples differed from previous recognition given to other schools for Indigenous



*APC recognition in 2004 with Pedro Walpole, Datu Nestor Menaling and Dr Fe Hidalgo (DepED) in Bendum.*

Peoples that operated on the basis of being an extension of an existing private school. What was established with this DepED order was the possibility of a third category of Indigenous Schools not necessarily within presently defined public and private schools. And more importantly, schools within this category could be developed in the future with great attention as to how Indigenous Peoples want to organize and take responsibility.

The mission of APC is to provide an integrated and holistic education to the indigenous children and youth along the Pantaron Range. APC seeks to achieve this by promoting and deepening the children's cultural understanding while providing knowledge and skills that will enable them to confidently relate with mainstream Philippine society. This includes advancing in the formal education system, and handling effectively the technological achievements of the global community while gaining greater understanding and appreciation of their culture.

### ***Impact on the Community***

Members of the community indicated that they believe the program strengthened the community by drawing them together geographically. Before APC began, most of the residents who now live in the community of Bendum were dispersed in the forest, wherever they had cleared for cultivation. Because they now need to live close enough for their children to walk to school each day, they choose to live in a community. Today, the community is comprised of the families of approximately 70 children who attend the school. Parents and tribal elders express their belief that this is a positive development for the community. Without the school, the community would not so easily engage the local government and benefit from services. It also brought many of their relatives closer and around 40 children are from related communities in the Upper Pulangi and several river based communities in the neighboring province of Agusan del Sur.

The community uses the center as a physical meeting place with its useful facilities and also as a social venue that draws in the community. Attitudes changed with wider knowledge and greater opportunity. For example, some parents and most children now want opportunities other than early marriage. Marriages are now seldom for those who are 12 to 14 years of age, as young adults in their late teens and early 20s are the more frequent marriage partners.

However, depleting resources, armed clashes, and inadequate official support are continuing problems in Bendum. Sustainability is not yet within reach and the challenge of how to work with the demands of education and the insecurity of livelihood with limited rights is a constant problem. These are the challenges that face most educational programs in the uplands. If the community is going to be a strength to their children, they have to be part of the learning context and challenges to be overcome, otherwise education will only lead people out of their culture to a disappointed response.

*Development of the original school built in 1991 by the community.*





*Much of the teaching material is developed by the community teachers themselves.*

## 3 Trends from the Margins of Philippine Education

At the margins of the Philippines, education is not accessible in a sustained manner. This is most notable in the uplands of Mindanao, in indigenous communities situated at the edge of many barangays with predominantly migrant populations. In many cases, churches and voluntary support groups engage in both non-formal and formal approaches, but not always with the sustainability desired or the documented and cultural focus. Some have developed a simple curriculum to make it formally acceptable and with attention to language and practices but resources are generally limited.

There are no clear figures for the number of informal education programs in Mindanao, but a rough estimate of 300, including alternative child literacy and formal community programs, is probable. In places where indigenous children do have access to formal education, their culture and language are marginalized by the national educational system. Throughout much of the Philippines, the language of formal education is not the language of the home and of the local knowledge. Dropout rate is high in areas that are culturally and economically marginalized, and this is especially true for Indigenous Peoples.

In Mindanao, the concern for cultural communities and the environment sustains the search for educational approaches. In ensuring the availability of basic education, the local language is used, and in so doing, culture and relation to the land are also taken up. Local knowledge and values are integrated. There is a sustained development of informal adult and child literacy programs that grow with different levels of curriculum

development and organizational formality. The difficulty is that many parents, communities and groups, because of the prejudice and lack of support to marginal culture, find it difficult to sustain the cultural values they hold and are pressured to be 'like others' and to 'fit in.'

The structured use of the mother tongue along with the national language and other languages is what makes an education program multilingual. Multilingual education (MLE) is a growing trend amongst Indigenous Peoples in many Asian countries. There are those who are more aware in many communities of both the need for a more appropriate education that sustains local culture and does not widen the social gap with mainstream society. Examples can be found in different parts of Asia but a comprehensive understanding and a national strategy in the Philippines are just emerging. Most communities are left with their own local initiatives and strengths to persevere, and external support is at times available but they usually do not have a comprehensive understanding of the educational needs and possibilities.

The use of mother tongue in informal education is widespread, but often lacks a formal curriculum and insight as to what it can achieve. There is also the impression that it is inferior compounded by a limited understanding of what is strategic and most effective for a given community.

The Philippines is challenged to achieve the Millennium Development Goals (MDGs), especially in education and culture based education or CBE is a primary strategy forward. This has led to an awakening in the DepED of the importance of local CBE initiatives that can more easily respond to the community context for learning and capacity, and by so doing increase attendance and continuity of participation. MLE allows for internalization of the learning in the local language and the development of a sound platform for understanding of the national language thereby ensuring learners' integration with national society. The MLE approach can incorporate and strengthen local CBE initiatives and give formal recognition. MLE is seen as part of the overall MDG commitment and can

be combined with the delivery of broader basic needs such as health services. Such services that run in conjunction with the school generally reduces the days children are absent in school and can help the child's focus on studies. Other initiatives can address family needs without taking children out of class to fill in for work at home. This provides a more comprehensive way to achieve greater social equity while sustaining a broader national integration that central government is usually focused on as a primary national objective.

The majority of informal schools throughout the country are both a cultural and national wealth of experience not only in addressing educational deficiencies, but also in contributing critically to the enhancement of the national education program in its diversity and incorporation of all. MLE is clearly one of the major trends in addressing the education of communities in the greater margins of most Asian countries in the next decades.

With the emergence of the MLE approach that affirms a community's cultural desires for strengthening identity, self-expression, and growth in learning and social relations, other culturally responsive educational programs stand a greater chance of success. There are various networks of relationships, familiar and strategic, that are sustaining this work outside of government. Beyond this, the desire for more culturally responsive secondary and college education is leading to new institutions.

In Oriental Mindoro, the TUGDAAN Center for Human and Environmental Development operates a formal secondary education program for Mangyan communities and is recognized as one of the country's outstanding culture-based programs. In Davao City, the Pamulaan Center for IP Education is an educational institution for Indigenous Peoples and runs a two-year early childhood development program for preschool indigenous children, an elementary and high school program, a tertiary education program with full-time degree and short-term training courses, and training programs for local educators. In a number of cases, local government units and some provincial and regional DepED offices are actively engaging in the work.



The modern Madrasa schools begin in the language of the religion, which is the most valued language in Muslim culture and so upholds cultural preference. This can act in a similar way to MLE where the education system recognizes the religious conviction of the local community while it engages in further subjects and languages, thereby allowing the child to relate with broader society.

This growing effort in the Philippines to teach in the mother tongue connects with the advocacy strategy of the UNESCO and multiple partners in the Asian region to get national government support for mother tongue education as the most proficient way of providing education in marginal communities where the first language is not the national language. Studies in the region increasingly show that children learning in their mother tongue can develop more rapidly, and in a sustained manner, skills in other languages. Too often, children shifting from home to school have difficulty in understanding when taught directly in the national language or English. This is one of the main reasons for the high dropout rate in Philippine schools.

*Using the Pulangiyen text, children learn to write their own stories.*



Due to the pressure of meeting the agreement under the United Nations' MDGs, there is a wider recognition of the need to act on education for Indigenous Peoples. In July 2009, the DepED issued Order 74, recognizing the superiority of the MLE approach and institutionalizing this as a fundamental policy and program of DepED. There is much work to be done to overhaul the bilingual policy in place for the last several decades. Much practical experience can be drawn from the ongoing MLE programs of the Lubuagan public schools in Kalinga and the Apu Palamguwan Cultural Education Center (APC) in Bukidnon. The Summer Institute of Linguistics (SIL) is assisting the Lubuagan program and recently extended evaluative services to APC's program.

UNESCO with this involvement of SIL produced a series of valuable publications on the approach with examples of the process and its evaluation with models that aid its development (please refer to the suggested reading list at the end).

In November 2009, APC held a conference on MLE, Culture and Environment involving educational groups from different areas of Mindanao. Conference participants included teachers and program implementers from both government and non-government schools. The latter included both literacy and formal education programs that are yet unrecognized by DepED and those that attained recognition through other private schools. These schools and programs use different approaches and are at varying levels of implementing mother tongue and cultural education. It is hoped that this gathering is a further step in understanding the opportunity and importance of developing culture-based curricula that can bring greater learning and equity to the margins. DepED conducted a strategic planning workshop in November 2009 and a nationwide MLE conference in February 2010 that are expected to generate more support and capacity development.

# 4 Multilingual Education

**M**LE speaks of the use of many languages and is usually sought in a context where two, three, or four languages are either used locally and are not the languages of the national education program. In general, MLE seeks effective education in the local context where there is a mother tongue, the learning of which needs to be formally grounded and bridged with the national language. The process is made more complex by the possibility of several local languages, including the provincial or regional lingua franca, along with the possible national agenda of English being taught apart from the national language.

## *Process*

Mother tongue-based MLE is an approach to education that begins with the students' first language and gradually adds other languages that are needed. The students' first language is used in the beginning as the language of classroom communication. After students develop the appropriate competence in the oral and written forms of the language and conceptual development, a second language is added. The first language is not abandoned and conceptual growth continues. Its use is continued throughout the school years, but the number of classes where it is used decreases. After the students gain competence in a second language, a third language can be added as needed. The use of a mother tongue as medium for instruction for six years is seen as essential but this can begin from preschool.

The actual use of a language is necessary for acquiring the language, so MLE favors teaching that reduces how much teachers speak and increases how much students think, speak, and interact. Given that language and culture are closely related,



MLE favors teaching that uses as much cultural knowledge as possible.

## *Benefits*

MLE is an innovative approach to learning in that it draws from the local knowledge and develops many appropriate learning materials from the ongoing study of the culture and creativity of community. The aim is to produce learners who are:

- Multi-literate: they can read and write competently in their local language, the national language and one or more other languages of wider communication including English.
- Multi-lingual: they can use these languages, including the lingua franca that is Visayan, in various situations and achieve social integration and participation in society without loss of identity in culture.
- Multi-cultural: they can live and work in harmony with people of cultural backgrounds that are different from their own, while maintaining their love and respect for their home, culture, and community.

*Graduation class where activities focus on the relation of children and their parents in community*



*Daweg A which is the first year, where much attention is given to the children's interaction and communication*

By teaching in the language of the community, MLE seeks to counteract the inability to read and understand which largely explains poor performance, low retention, and low learning outcomes in many high schools. It was estimated in a 2003 survey<sup>1</sup> that out of 58 million Filipinos aged 10–64 years old, around five million could not read, write, compute, and comprehend.

MLE is not a new concept in the Philippines. In 1957, the vernacular languages were the medium of instruction in Grades 1 and 2. This ceased in 1974 under the Marcos government when Pilipino was promulgated as the first language. In 1999, the Department of Education launched a pilot project for mother tongue for Grades 1 and 2 but English became the national language for education.

Communities see the MLE approach as facilitating meaningful local learning that leads to an enhanced learning of other languages. It allows for a greater engagement of marginal

communities with national society. The recognition by community of the strength and importance not just of language but culture through identity, practice, and resource security of traditional domain leads to a much more meaningful education. This sums up the local MLE experience and aspiration and leads to social participation and therefore national strength.

UNESCO supports mother tongue instruction as a means of improving educational quality by building upon the knowledge and experience of the learners and teachers.<sup>2</sup> UNESCO supports bilingual and multi-lingual education at all levels as a means of promoting both social and gender equality and as a key element of linguistically diverse societies. It also supports language as an essential component of inter-cultural education to encourage understanding between different population groups and ensure respect for fundamental rights.

Where communities are 50 percent or more indigenous, the DepED in Bukidnon Province is developing a curriculum for one subject inclusion based on the expressions of the seven cultures of the province and how they want to express their tradition and relation with society. Even though the program is not focused on language development, there is the very important aspect that all children learn the basic values and concepts of the different cultures with respect for the diversity. Communities can raise awareness among parents and others about the purposes and benefits of MLE and can mobilize community members to take an active part in planning and implementing the programmes, supported by partners from outside the community.

Our greatest national resource is the diversity of cultures in our country. Diversity means more viewpoints to clarify, more ways of solving problems, more creative ideas, and a greater ability to deal with change and to make necessary adaptations. Where diversity is ignored or even crushed, the nation becomes weak and divided and this is the importance of MLE in nation building.

# 5 A Community School Using a Culture-based Curriculum

For an indigenous community, the *gaup* that refers both to the community and the land is the context of learning, and its effective self-management an end goal of education. Thus, curriculum development with Indigenous Peoples requires integrating community and land concerns. In APC, the output is called a culture-based curriculum, one that integrates traditional knowledge and practice, and responds to the particular needs of the local community. The APC that exists today was not envisioned at the beginning of this process and still has much to accomplish with the community.

The process began in 1992 when Pedro Walpole met with community members to listen to them talk about their needs. He came visiting the different settlements in Upper Pulangi leading to dialogue and identification of needs. The Bendum community constructed one classroom and offered to construct a shelter for him if he continued to visit the community and work with them. While education was highlighted, other concerns and their interrelatedness surfaced such as questions on water and health, rattan and timber extraction, security over their *gaup*, farming, abaca production, health, peace and stability.

In 1993, literacy classes were organized and these were conducted in Pulangiyan, the mother tongue, as the community wanted their children to learn the kind of reading, writing, and arithmetic that could be used in community life. One factor that made the establishment of the literacy classes easier was the existence of the Roman alphabet for the language. There have been many language dictionaries compiled and the most recent was in 1992 by SIL with an accompanying grammar sketch.



*Bendum dormitory today for those children coming from more than ten other villages in Upper Pulangi and Agusan del Sur*

In 1995, as part of the effort to address various needs defined by the Bendum community, the assisting organization undertook a series of community profiling activities. A household survey was conducted to gather baseline data for program development. Community discussions were held where people mapped their domain and made an inventory of available natural resources. Sessions were also conducted where people documented their genealogy, history, and cultural practices that relate to various aspects of their life.

The information was used in the community's application for a Certificate of Ancestral Domain Claim (CADC). Through this certificate, government acknowledges for the first time the claim by a community that they occupied the land since time immemorial and are no longer considered by the law as squatters. The process for attaining a Certificate of Ancestral



Tribal leaders discuss the community's application for a CADC.

Domain Title (CADT) is important in establishing actual management rights and has taken a further 15 years.

In these community discussions, community members gradually realized they could, and should, make use of education to address various community needs of health, nutrition, livelihood, cultural continuity, and sustainable resource management.

Thus in 1995, program staff and local para-teachers designed a five-year education program covering elementary level learning competencies while at the same time integrating local culture and addressing community needs. The program was formal in that there was a full curriculum and schedule with records, but there was no formal recognition as yet from DepED. Cultural subjects were introduced, namely, "Our Language," "Our Culture," and "Our Livelihood" aside from the mainstream subjects (Filipino, English, Math, and Science). Given the particular concerns of the community,

Science was further divided into Science and Health, Science and Nutrition, and Science and Environment. Much of the content for the cultural and science subjects was based on the community profiling results.

Vocabulary and grammar in the mother tongue are taught in "Our Language." "Our Culture" encompasses a whole world of cultural meaning, from the area's history and the people's genealogy. This includes Pulangiyan domain with its mountains, forests, lands, rivers, and animals; the meanings attributed by the people to these; the way they use and manage natural resources; the cultural beliefs, customs, rituals, leadership, and men-women roles. Beyond Pulangiyan culture, students also learn about Indigenous Peoples' rights and the histories of surrounding territories. In "Our Livelihood," traditional ways of earning a living are taken up, and students spend time learning to make different handicrafts from forest materials. Beyond these subjects, students actively participate in cultural events in the community, learning not only from their teachers but also from the tribal elders. The annual *kaamulan* or *amul-amul* (to gather) brings the students together to perform for the visiting communities. It is also an occasion where the students sit and listen to elder men and women share their skills, stories, and wisdom.

Lesson plans were developed for both mainstream and cultural subjects, and some of these were used as inputs for the six Pulangiyan books published in 1998. With clear bold print, pen and ink drawings, and stories, these books, one for each grade level, were entitled *Magkinanau Kuy*, a Pulangiyan phrase that means "Let us Learn." They primarily contain language lessons in the mother tongue, written and developed by program staff from the design of existing published materials. Beyond the language lessons, the books also include articles and stories on Pulangiyan ancestry, community descriptions, local legends, traditional practices, as well as local wildlife, medicine, and resources. Community members contributed these stories and articles.

These books emphasize ideas that the children and their parents can identify with and stress the need for care of the environment.

When APC made the shift to formal education with recognition in 2004, Social Studies was added to the mainstream subjects using the BEC. This was developed based on available textbooks. Over the years, APC strove to make mainstream subjects relevant to indigenous children by integrating traditional knowledge and using the local culture as context for all lessons. For example, traditional knowledge and practices of leadership and resource management are taken up in Science and Social Studies, and used as reference for new lessons. Teachers also developed monthly cultural themes that follow the seasons of traditional Pulangiyan life. These serve as context for lessons across the different subjects. To deepen the understanding of teachers and students of these themes, tribal elders were invited to further explain and share their knowledge.

### ***Impact of a Culture-based Education***

Without the teaching of culture in the school, it is possible that traditional knowledge and practices will eventually die along with the elders. As people gravitate towards mainstream culture and forget about the old ways, there is a tendency to view traditional knowledge and practices as something to be ashamed of and outdated. At present, the students may be more critical in considering their culture while accepting everything they are presented with from outside. This is partly because they know their culture and the limitations of their context, but have yet to see the limitations of urban life. The children grow up with a strong identity of who they are, rich in their traditional cultural heritage which reaches beyond just their costume into a deeper, richer understanding of their life. Some community members noted that the older children are more confident in their interactions with outsiders. Before the school began, children would not interact with outsiders.

As culture is lived and talked about, there is a rediscovery of deeper meanings. The Bendum community simply identified themselves before as lumad (a term in widespread use for indigenous in Mindanao). The Pulangiyan identity recently resurfaced in the last few years. People remembered that they used to be called Pulangiyan, and gradually also remembered what being a Pulangiyan means. Many thought that this term simply comes from the river Pulangi but the traditional meaning comes from pulang, which is to keep vigil through the night and not go to sleep until a conflict is resolved. Historically, this primarily characterized the people living in the Upper Pulangi Valley whose sense of justice was not based on mangangayaw. This is a cultural system of justice whereby an offended member of community may seek justice through his community members against the offending community where the perpetrator of the crime comes from, resulting at times in numerous deaths, and further deaths and retaliation in subsequent years.

The impact of the school also extends to the internal security of the community. Because children are learning their genealogy in school, this makes them aware of their familial relations and develops a sense of connectedness with each other. Many of the children's families are related and students get to know their cousins and extended relatives through learning their genealogy. This is significant as it builds connectedness not only among families in Bendum, but also among families living across the different settlements. This builds the families' social capital and the familial relations that can be tapped in times of difficulty or to achieve common goals.

### ***Science and the Environment***

Not yet fully realized, APC aims to integrate cultural knowledge in the Science curriculum by strengthening the curriculum content for:

- traditional knowledge and systems of landscape, forest, soils, water and health

*Youth combing abaca (also known as Manila hemp), a regular resource for the community*



- farming practices that further conserve soil and water much needed in the shift to permanent land use
- experience in abaca site selection, processing, and marketing, and
- leadership skills in forest utilization and sustainability of water, rattan and wood.

For further relevance, higher grade Science classes focus not only on the acquisition of scientific concepts and theories, but also on the application of these in the environment, community and livelihood. Preventive health care systems and strengthening of indigenous and contemporary medical practices are taken up, along with an understanding of government programs and policies in relation to the land and community.

*The APC library is a resource both for the school and the community with books and cultural artefacts*



The library as part of the cultural center is a resource not only for the school, but also for the community. The center houses not just books, but also cultural artefacts that students learn to make as part of their education. Because of the thrust towards a culturally relevant education, students, led and facilitated by teachers, are increasingly active in responding to local community issues, challenging adults to more conscientious and more responsible courses of action. These issues include rattan growing, illegal logging, charcoal making, and mining speculations in the community. Oftentimes in an indigenous community, teachers play a significant role in problem resolution, bringing along the students in the process.

In the set-up of a community school, the principal person really is the datu (local leader), so the school head is called a “manager” and not a principal. In APC, the datu and bai (woman leader, in this case husband and wife) play a major role by being a resource for the cultural aspects of the curriculum. Beyond this, their opinion is sought in many cases involving teachers and students. They are also involved in resolving and deciding on disciplinary problems.

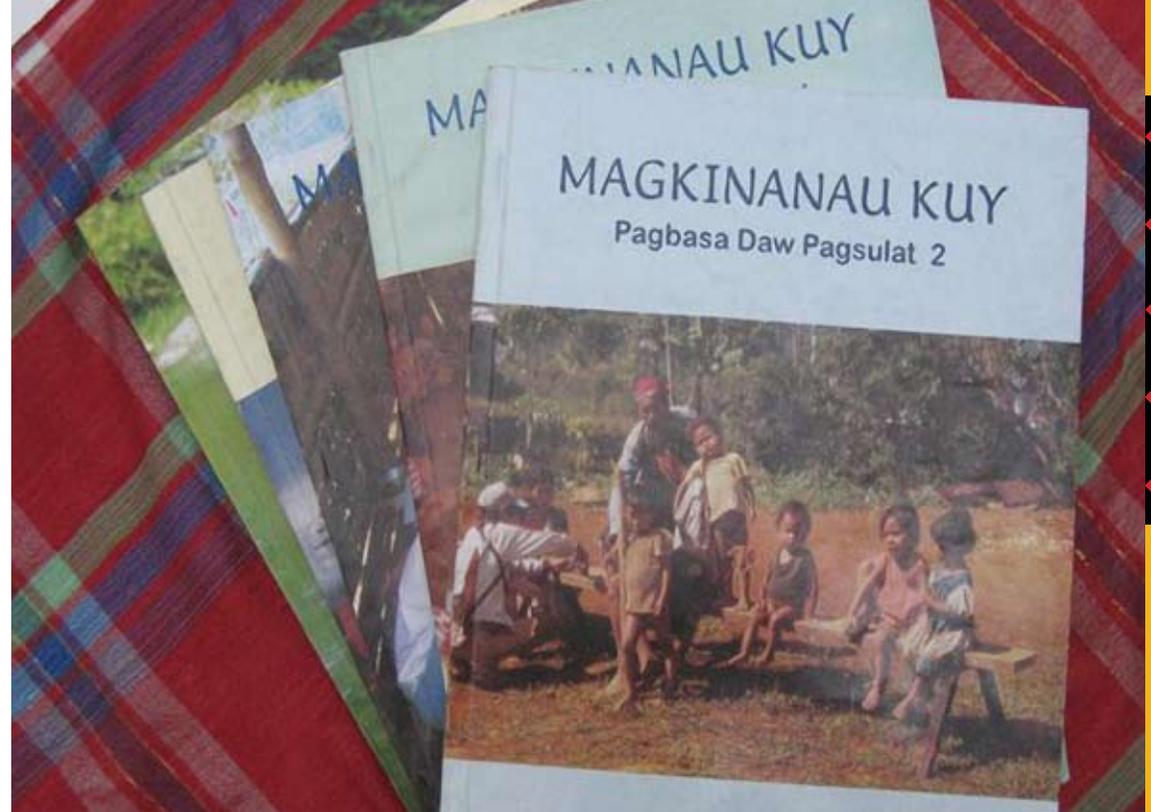
# 6 Implementation of the Multilingual Approach

Basic literacy, now called elementary education or “teaching the 3 Rs” of reading, writing and counting arithmetic, has developed in Bendum into CBE. The mother tongue is essential and used as the language of all classroom communication to teach preschool and Grade 1. Filipino begins in Grade 2, and English begins in Grade 3 as subjects. As these languages are added, the first language continues to be used as the language of instruction in the cultural subjects until Grade 6. In the three higher grades, English is used for Math and Science while Filipino is used for Social Studies. In reality, there is a level of Visayan that is used in the classrooms.

Where APC seeks to improve is in ensuring that students have already developed appropriate oral and written competence in the first language before the second language is added. APC seeks to discontinue the use of English in higher Math and Science, as many children do not easily acquire new concepts in a language in which they are not yet competent. If students first learn these new concepts in Pulangiyan, they are better founded in bridging to the same concepts in the national language. At the same time, APC seeks to work with students to speak more in the different languages to better acquire the concepts and communications.

## ***Impact of MLE***

Many parents have said that before the school began, some of their children did not speak Pulangiyan, but because of the school they are now able to do so. Prior to the school opening, some of the students



*Six books were initially written in Pulangiyan, one for each year. The lessons draw on the stories and experiences of the community.*

spoke a mix of Pulangiyan with Visayan, the lingua franca, a regional language brought by the migrants from the central islands of the Philippines. Several community members voice very strongly that they now see the value of education and deeply regret asking their children to skip school in the past to take care of family needs. The parents expressed very positive feelings that their children are now speaking Pulangiyan while directly communicating with any people who visit. They noted that this has given them more motivation to continue to use the language as well. The community members noted that because of the use of Pulangiyan in the school, they are making efforts to bring back vocabulary that the community stopped using.

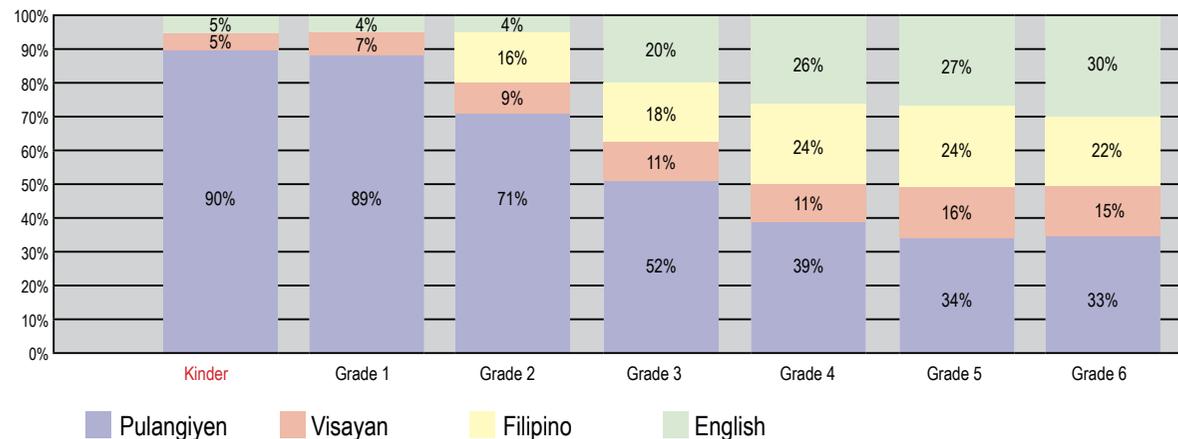
## ***Critical Characteristics***

In APC’s experience of implementing MLE, the following characteristics for an authentic, relevant, and empowering education program were found to be critical:

**Table 1. Subjects and Languages of Instruction in APC**

Grades	Kinder	1	2	3	4	5	6
Our Language	Pul	Pul	Pul	Pul			
Our Culture	Pul	Pul	Pul	Pul	Pul	Pul	Pul
Livelihood					Pul	Pul	Pul
Math	Pul	Pul	Pul	Eng	Eng	Eng	Eng
Science	Pul	Pul	Pul	Pul	Eng	Eng	Eng
Filipino			Fil	Fil	Fil	Fil	Fil
English					Eng	Eng	Eng
HEKASI					Fil	Fil	Fil

**Table 2. Percent of Use of the Different Languages in APC Classes**



- a. The program begins in the students' first language, that this is the language of all classroom communication and through this, students build foundational language skills.
- b. After a strong foundation in the first language is established, students are introduced to additional languages in a systematic manner. In this way, students are prepared to transition to national educational programs.
- c. The first language continues to be used, as needed, to learn new concepts and develop communication skills.
- d. The curriculum uses the local culture as its context and thereby integrates cultural crafts, knowledge, practices, and roles. It uses the culture to teach concepts.
- e. Traditional land allocation and cultural knowledge of land use practices are built into the curriculum from kinder to Grade 6.
- f. The curriculum incorporates realities of land productivity, trade and livelihood, and employment opportunities.
- g. The program develops students' understanding of traditional ways to resolve conflict and secure peaceful relations with external groups.
- h. The program develops students' ability to integrate into broader society while remaining rooted in their cultural identity.
- i. The students learn about local, national, and global trends and policies that impact or can potentially impact their lives.
- j. The program develops students' ability to understand negotiation with local government in addressing basic needs, establishing land security and management, and providing incentives for ecological services that benefit broader society.

## 7 Responding to Other Needs Beyond Education

Efforts to address other basic needs are most effective when they coincide with education initiatives given that there is a basic community structure and a singular physical location that allows scheduling of events and services. School facilitates having not only school children present, but also mothers and infants who are easily drawn in. Health services, if already active, can be greatly strengthened and made more regular and inclusive of all families and all members of each family.

The presence and effective management of a water system is important for community health and sanitation. A voluntary support group may facilitate the initial process of construction, but technical capacity of the community is essential for the maintenance of the system. This is also desirable in the tapping of solar and hydro sources of energy within the community. Community members from the start need to be involved in not just the labor requirements of the installation of local infrastructure but need to be trained in basic pipe and tap repairs and viable extension of the system. Appropriate wrenches and other tools need to be stored in a place of controlled access for this specific purpose alone otherwise the probable lifetime of a water system is limited to five and at best, 10 years. These initiatives increase the community's technical capacity and empower them to take greater responsibility for addressing their needs.

Through forest, land, and water management in the uplands, ecological services are provided to people down the valley. Maintaining the forest in the headwaters of the upper watershed allows for good rainfall infiltration and more stable river flows. In certain months, influence from the cooler local climate of the forest allows for more frequent short convection rains in the afternoons, sustaining the sources of rich biodiversity and

aspects of food and fiber production. More generally recognized is the availability of clean water without fertilizer and pesticide contamination, and high levels of sedimentation. Hopefully in the near future, there will be a greater appreciation of these ecological services that will allow for some form of payment to upland communities integrated with domain management.

Road opening and maintenance, infrastructure development, and provision of access to market are critical support initiatives of local government. However, these developments often lose sight of the negative impact on communities, especially Indigenous Peoples, if there is no proper consultation with the people and no proper understanding of the interplay of socio-economic and political factors. Most frequent is the incursion of Indigenous Peoples' lands by migrants before the local community has proper recognition of its rights or the social processes that prevent the wholesale loss of the land and their withdrawal to higher elevations and poorer soils.

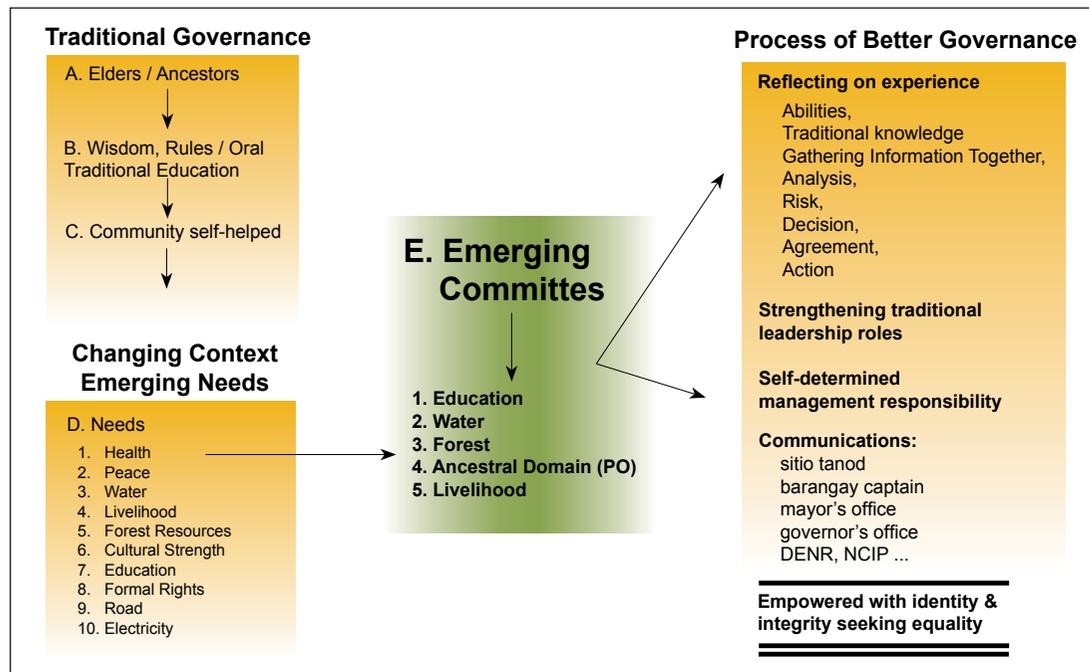
In other countries, tribal lands cannot be sold to non-tribals and this prevents the loss of inheritance of land rights and cohesion of the area. Actual functioning management rights of and by the different Indigenous Peoples along the Pantadon must be established. This is more important than another blanket declaration of ecological protection that still leaves people without resources and capacity to secure their needs and rightful place. This is an area subjected to such economic and social marginalization for the last century and with a history of various armed groups occupying the forest areas also for more than a century. However, Bukidnon Province needs to give primary recognition, resource rights and basic services to the Indigenous Peoples and not just approve "development" projects and protected areas without honest and proper consent and empowerment of the people.

With decades of destructive commercial logging and now commercial plantation schemes vying with protected areas for the land, communities caught in the conflicts of ideologies and development can be easily overtaken.



*In 1995, a spring box was constructed to pipe water to the village replacing the traditional water delivery system of split bamboos. To maintain the spring box, clearing of roots is done every three months. A committee is also responsible for the distribution of water and collection of fees for the maintenance of pipes.*

## Chart 2. Work Relations in Communities



*The culture has its traditional governance, respect of ancestors and elders and the wisdom and rules that are passed on through the 'datu', 'bai' and those who give leadership and skills. The specificity of knowledge are in 'alimaung' (defense), 'baylan' (spiritual), 'mangunguyamu' (health), 'pamalukan' (messenger), 'mangangabul' (abaca weaver), 'manlalala' (mat weaver), 'mananalsal' (metal craft), 'mangangasi' (hunter). In this way the needs of the community were addressed.*

*The changing social context results in needs of a related but different nature such as health, peace, water, livelihood, forest resources, cultural strengthening, formal rights, education, roads, and electricity being addressed through the emergence of committees. These committees often have to learn to keep written records, resolutions, and financial records.*

*In response to these needs, different committees emerged with their own structures and schedules. As the school is central it has become the driving force and basis for questioning and supporting many initiatives while sustaining others with reflections on the process taken. Joint action in the community and leadership is strengthened.*

Ideally, land use rights recognized under the CADC/T and community-based forest management agreements should result in a greater productivity, sustainability, and sense of wellbeing in the uplands. However, this only happens if financial mechanisms and appropriate crop development accompany such programs, along with reducing bureaucratic red tape and clarifying and aligning local government and line agency policies.

The Pulangiyan community of Bendum was among the many upland villages hard hit by the 1997-1998 El Niño. The drought left people without a corn crop and crop sharing as harvesters. People were very vulnerable and depended on the local store of cassava to get through the period. The one box of packed noodles that did arrive three months into the severe drought showed government's randomness in responding to people's needs. Although the Pulangiyan learned to adapt to shifts in their environment, the advanced knowledge of these climate shifts can help improve the quality of preparation and sense of wellbeing during difficult times.

The local government can, and should, have a critical role in strengthening local capacity to align resource-based abundance and market-driven livelihood opportunities. Much more can be done in terms of agricultural services with proper seed distribution to the margins and onsite training. Malaybalay City is developing a very efficient and hopefully extensive program in supporting farmers. Within the community, a common processing or work area can be a venue for strengthening relations and improving skills, and thereby getting better market engagement. Support for women's organizations is key in this effort.

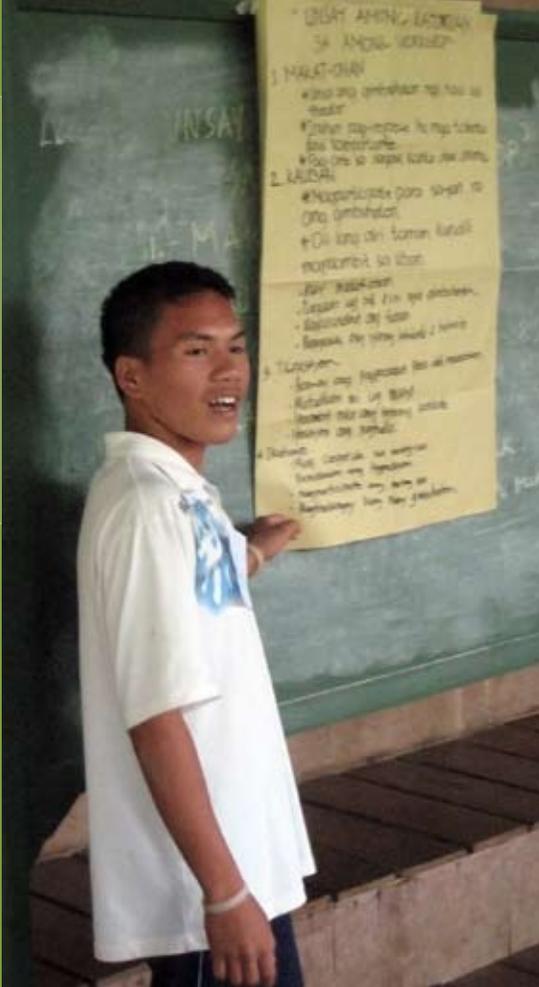
Limited livelihood opportunities essential to family and community are often compounded in the uplands by the unstable peace situation. Efforts need to go beyond constructing curfew checkpoints. A more critical need is to allow people to express and overcome their fear in the face of multiple armed groups along with the provision of basic services and communications. Communities need to be able to share how they are positioned in relation to all groups and need the social framework to express this clearly. Oftentimes, communities are caught between armed groups where they are always at the losing end.

With the presence of over a hundred children gathered daily, the school area can be made a "No Arms" area and this can be extended to the village area as a whole where there is honesty and commitment to keep lives of all safe. Overall, government services need to meet the concerns of families in these areas. The presence of a local government with just infrastructure and without provision of basic services is not enough.

All these concerns need to be integrated in education. If education only provides knowledge of the social ways in the lowlands and does not evoke thinking of real local options, then education remains as information without the power of action. Educational programs working with cultural communities have to share in the deepening of not only the necessary general environmental awareness but in the environmental circumstances, values and commitments of the community. Then the community can play a more sustainable role in the broader management of the environment and incorporating many of the broader basic needs.



# ENVIRONMENT



Cultural integrity involves getting the youth to gather information, discuss, and present their thoughts and options.

# 8 Developing a Model

The learning program started in a context of the communities' need for a sustainable way to develop, so it was evident early on that the model of education would be that of Sustainable Community Development. Without debating the word "development," the reality is more of sustainable livelihoods by which basic needs are met and the land is not impoverished.

Beyond using a multilingual approach in a culture-based curriculum, there is a need for an education model that pursues not only authentic learning and cultural integrity for indigenous communities, but also sustainable community development. The basic principle underlying this model is that for an indigenous community, education is not just a school where some individuals excel but also a way of life. Therefore, the school is a community resource and what children learn should be what impacts community life and sustains the environment.

## Elements of a Culture-Based Education

This education model for learning to live a sustainable life draws from the question being asked in the community: "What kind of community do we wish to build and how do we see this community relating with greater society and with the environment that is our domain?" What are drawn out from discussions are elements needed to develop a culture-based education model. For Bendum, a healthy community has the following characteristics:

- Cultural vitality and integrity, as evidenced by a strong cultural identity and active conduct of community events

- Sense of history and genealogy is part of this heritage
- Ability to meet basic needs, with health and nutrition being primary indicators
- Ability to secure a livelihood from the natural resources and sustain this both from the economic and resource management viewpoints
- Hopes and initiatives to reach such livelihood security
- Ability to communicate these capacities and responsibilities, hopes, and strategies to the coming generations
- Abilities in negotiation and resolution, not only for disputes with internal groups or those external to the community, but also for seeking recognition of rights from greater society and establishing new relationships and ventures.

Given Indigenous Peoples' natural relation to the land, a healthy community can yield a well-managed environment – meeting its needs, bringing about a life of diversity, and providing ecological services to broader society. Such a community can also help bring about greater social equity, as it demands recognition of its rights to its culture and domain, to peace, and to payments for ecological services provided.

If these then are the goals—healthy community, well-managed environment, and social equity—what values should children be learning in school? For cultural identity, children need to learn language, meaning, story, and history. To meet basic needs and sustain livelihood, children need to learn work, analysis, reflection, self-help, and value. To steer their future and live well in a community, children need to learn rules, roles, leadership, commitment, and the ability to engage with others. All these are required beyond the knowledge content that goes into a mainstream curriculum, to one that integrates community knowledge and addresses its needs and struggles.

Multilingual Education (MLE) is a good start for such a model of education. MLE begins in language and language occurs in the context of culture. Some critics of MLE felt that there would be a growing away from and rejection of traditional heritage and culture – but the opposite is the case. Within the culture, Indigenous Peoples have a natural relation to the land, and

thus environmental sustainability is easily taken up. MLE also bridges to mainstream languages and thus mainstream culture. This allows indigenous communities to engage the greater society and seek social equity.

### *How to Work Towards Culture-Based Education*

How then should we work with a community towards this kind of education? Community hopes and concerns can be drawn from the daily life of the people, as well as the ongoing discussions and negotiations within the community and with external groups. Much can be gleaned from interviewing elders and from children sharing their stories and visions in school. Time and venue also need to be set aside to allow people to reflect on community changes and issues, their responses to these, and the directions they wish to take. For example, people are made aware of ecological services through seeing the links between medicinal plants, forests, water, and electricity.

The need for environmental sustainability is commonly accepted but ways forward, hopes, and aims need more encouragement and commitment. Communities also need to be made aware of what can and cannot be expected of MLE teaching and where education sits within the broader purview of community life.

Coming from this background and putting together the reflections that occur over time with a community, a basic framework for community learning and sustainability has emerged (Table 3). The starting point is that of the centrality of livelihood and local culture. Second is the environment, its diversity as well as limits. Third, education is treated not as just the school but as learning in community. The balance and interrelation of the three columns shown – culture, environment, and education - is essential, and the whole is seen to lead to community security.

The approach in how the assisting group accompanies the community is by seeking to understand together culture, environment, and education. Slowly, conversations go deeper to a level of recognizing how the local knowledge is a resource that is initially captured in identity and spirituality, natural

**Table 3. Community Learning and Sustainability**

Basic starting context	Culture <i>Livelihood</i>	Environment <i>Life of Diversity</i>	Education <i>Learning in Community</i>
Knowledge resource A	Identity (9)*	Resource knowledge (10)*	Fear & peace (11)*
Knowledge resource B	Material needs and losses	Community practice	Story & history
Systems A	Rules and roles	Allocation	Active speakers
Systems B	Community events	Access & rights	Meaning
Sustainability skills A	Sustainable livelihood	Management plans	Value
Sustainability skills B	Negotiation and resolution	Resource management	Learning
Challenges A	Hopes and how to reach	Self-help & social equity	Engage to commit
Challenges B	Adaptation to climate & change (13)*	Ecological services (14*)	Social relations (15)*
Governing systems	Leadership	Domain / <i>gaup strategies</i>	Curriculum

resource knowledge, and shifting from fear to actively seeking peace (Knowledge Resource A).

The knowledge level goes further and is highly interrelated with land use change today, local education, and governance. Information sharing helps the community recognize the material needs of families so there is livelihood stability and adequate security in a household. The community resource practices that sustain this livelihood, their long history, their story of belonging and wisdom of their ancestors and elders on the land (Knowledge Resource B) are all part of what children can study.

Local knowledge contains inherent systems of communication and association, which include the basic rules and roles, the taboos in activities, practice of land allocation, as well as inclusion of settlers. In today's world, this again calls for key people in the community to be able to communicate and increasingly everyone is called to develop these communication skills (Systems A). Other systems that affirm this knowledge are the traditional and structured events of the community, public recognition of access and rights while returning to reflect on the deeper meaning for people of the life they live (Systems B).

*\* Broadly refer to chapters of the Table of Contents*



# 9 Culture and Identity

Perhaps it is better to speak of informal conversations, rather than discussions, about life in the hills along the Pulangi, where the forest is rich and the water flows. In these conversations, experiences and thoughts on different topics are shared, often related to the expanding reality and challenge around the triad of culture, environment and education (Table 3).

## *Emergence of Desire for Community Learning*

In quiet conversations, people share the experience of the hills far from the city. It is where human life is fragile and the daily condition of families quiet and humble. People have the wisdom to accept that the world does not value such a way of life. Life and death, doubt and trust, suffering and hope are tangible on a daily basis and everybody in the community is always part of the events that occur. People do not happen to be in another city when there are deaths, births, and marriages. The intensity of living life together is very detailed and known without any break in continuity. What are internal and external influences are very distinct. This is living beyond the municipality, the parish, the market; it is where the family is an extended series of relations with distinct persons holding a complex leadership. Life is spread out upon the known landscape and known for generations of ancestors.

Events and life down the valley and in the city of Malaybalay significantly affect upland communities in two ways. First there is the migration to the uplands by the landless migrants seeking a better opportunity for livelihood on the land, possibly buying land to plant maize, ginger, coffee, rubber, or make charcoal. At the same time, there are also traders who come to purchase a



harvest contract or sell various products. In the other direction, there is the lure of the city for Indigenous Peoples with limited financial capacity, and the dreamed-of work opportunity that in reality pays below the minimum wage with no security.

What is to happen as these dynamics unfold and continue to affect more and more Indigenous Peoples? What is happening within a culture? The community has its story of how it is connected with the land, the Creator and ancestors, events and the spirits, harvests, sickness, gatherings and rituals. People talk about the school and what is beyond the classroom, motorbikes, and visits to places and activities. Studying and working down the valley is good but there are problems of how hard it is to work anywhere else without constantly thinking of one's own people. The dreams and desires of communities and of individuals need to be shared and discussed as to what are the experiences of others and to what extent they can become a reality.

*Bendum children dancing in one of the community events*



This is how education as a formal reality grew out of conversations on the land, in the cultures, in an atmosphere of burning kerosene lamps.

The basic context of a culture is its livelihood, its “way of living.” Then looking at the landscape and land, there is a diversity of life found in this environment. It is in this context of continuous opportunities and challenges that the need for learning in a community emerges (Table 3). This often starts as adult literacy and basic child literacy but soon there is a recognized need for more full-time teachers, classrooms, and systems. Education as a formal recognition is partly sought to express the desired equality in society and for greater opportunity, and this formality comes from recognition by DepED and surrounding society at large.

*Students make time for traditional arts and crafts*



***Teaching Resources Relevant to Upland Environments***

When looking for the knowledge resources for teaching, there are three. First, the people themselves, their identity and relations; second, the knowledge of what they live by and the resources of the environment; and third, the context of this area in the uplands of Mindanao where social relations are dominated by fear and the desire for peace. It is vital that organizations and the relations with institutions of government, along with a continuing system of education, respond to the community context.

Deepening of culture-based education (CBE) leads to ownership and consciousness of land and culture. Reflecting on commitment, work, culture, language, and societal engagement can contribute to the sustainability of the people and environment. Learning from a framework of sustainable living gives an education that is grounded. All of this is what CBE and MLE encompass.

In Chapter 8, cultural vitality as well as integrity is identified as a key element to culture-based education. From the informal conversations, a deeper understanding of this element was drawn:

- Identity: Both personal and community identity allow for

greater local strength and recognition. Cultural identity needs genealogy and speakers of the language and knowledge of the practices. The traditional allocation of lands by leadership to families, the geographic importance of events, occasions, rituals, and burials are all intertwining with genealogy and landscape.

- Spiritual: The balance of what one wants to do, one’s health, misfortunes, and relations with others all relate to the minor spirits. These relations and the condition of one’s spirits are inseparable from the land and the community. All are operating under the Creator and the great epic of Creation and the ancestors. A spirituality connecting people and land where the story is basic to the actual management of resources is not a split but holistic dynamic.
- Integrity: Quality of relations, how one acts in relation to Creator and the spirits, neighbors and other communities, and to the land, water and life of the gaup as one. This is clearly established in the traditional systems including values and justice systems.
- Aesthetic: Not simply the pleasing nature of the landscape, sound and sight, but also the interwoven memories of people and events, dance and story, of welcoming others and a pervading sense of health and peace.

The reality of a fragile series of extended relations in what was previously a subsistence relation often recounted without the hardships, presents many of the values that are reaffirmed by experience. These values are never guaranteed or sustained though often assumed as prominent. Such reality is sometimes dislodged by external political and social movements and economic threats. Sometimes the community lives in denial and avoids speaking of the interactions. In today’s world we understand that education should bridge the relation, not just change for one way of life for another that is inevitable and with none of the past values and relations.

Indigenous identity and knowledge may not have power in broader society, but it presents some of the responses that modern culture must heed in its continuing re-evaluation of the world made in its own image.

# 10

## Resources and Security

Cultural presence and practice today have some of the answers to resource management and security of livelihood. A quick look at a map of culture and ecosystems (Map 1) shows how closely Indigenous Peoples are bound to natural resources of the land and sea, unlike the mainstream systems of society that unwittingly exhaust the natural resources upon which they ultimately depend.

Natural resources in Mindanao are shrinking with more demand of water, power, and land not just due to in-migration and displacement but also to intensive corporate agriculture. Forest cover that sustains the land water balances is reported as increasing, but in reality there is little difference over the last decade or so. The natural forest is getting thinner and the Philippines is now counting plantations of all kinds that are economically beneficial but do not strengthen ecological services in the same way as natural forests.<sup>3</sup>

In Mindanao, cultures from the Visayas have been dominant in many areas for the last century that brought along the use of Visayan languages and land use practices. With government programs for landless farmers, this dominance grew significantly in the last 50 years. The remaining strongholds of native languages to Mindanao are in the uplands, marshlands and coastal islands. Languages considered as mainstream are Cebuano (including Boholano) and Hiligaynon, along with Davawenyo and Chavacano. And with this mainstreaming of Visayan languages, the land use practices of the Visayans carved “pathways” through the landscape of Mindanao and lands of its Indigenous Peoples.

Broader Philippine society needs to learn to understand and relate with the cultures, languages and ecosystems of Mindanao in ways that sustain



*The youth clear bracken for planting abaca*



# Map 1. Mindanao Languages and Forest Cover

## Upland Languages

- atd Ata Manobo
- bgi Giangan
- bgs Tagabawa
- bkd Binukid
- bpr Koronadal Blaan
- bps Sarangani Blaan
- klg Tagakaulu Kalagan
- kli Kagan Kalagan
- kqe Kalagan
- kyk Kamayo
- laa Lapuyan Subanon
- mba Higaonon
- mbb Western Bukidnon Manobo
- mbd Dibabawon Manobo
- mbi Ilianen Manobo
- mbs Sarangani Manobo
- mbt Matigsalug Manobo
- mdh Maguindanao
- mkx Cinamiguin Manobo
- mmn Mamanwa
- mqq Rajah Kabunsuwan Manobo
- mrw Maranao
- mry Karaga Mandaya
- msk Mansaka
- msm Agusan Manobo
- mst Cataelano Mandaya
- mta Cotabato Manobo
- myt Sangab Mandaya
- obo Obo Manobo
- skn Kolibugan Subanon
- stb Northern Subanen
- suc Western Subanon
- sul Surigaonon
- syb Central Subanen
- tbi Tboli
- tiy Tiruray
- yka Yakan

## Sea-based Languages

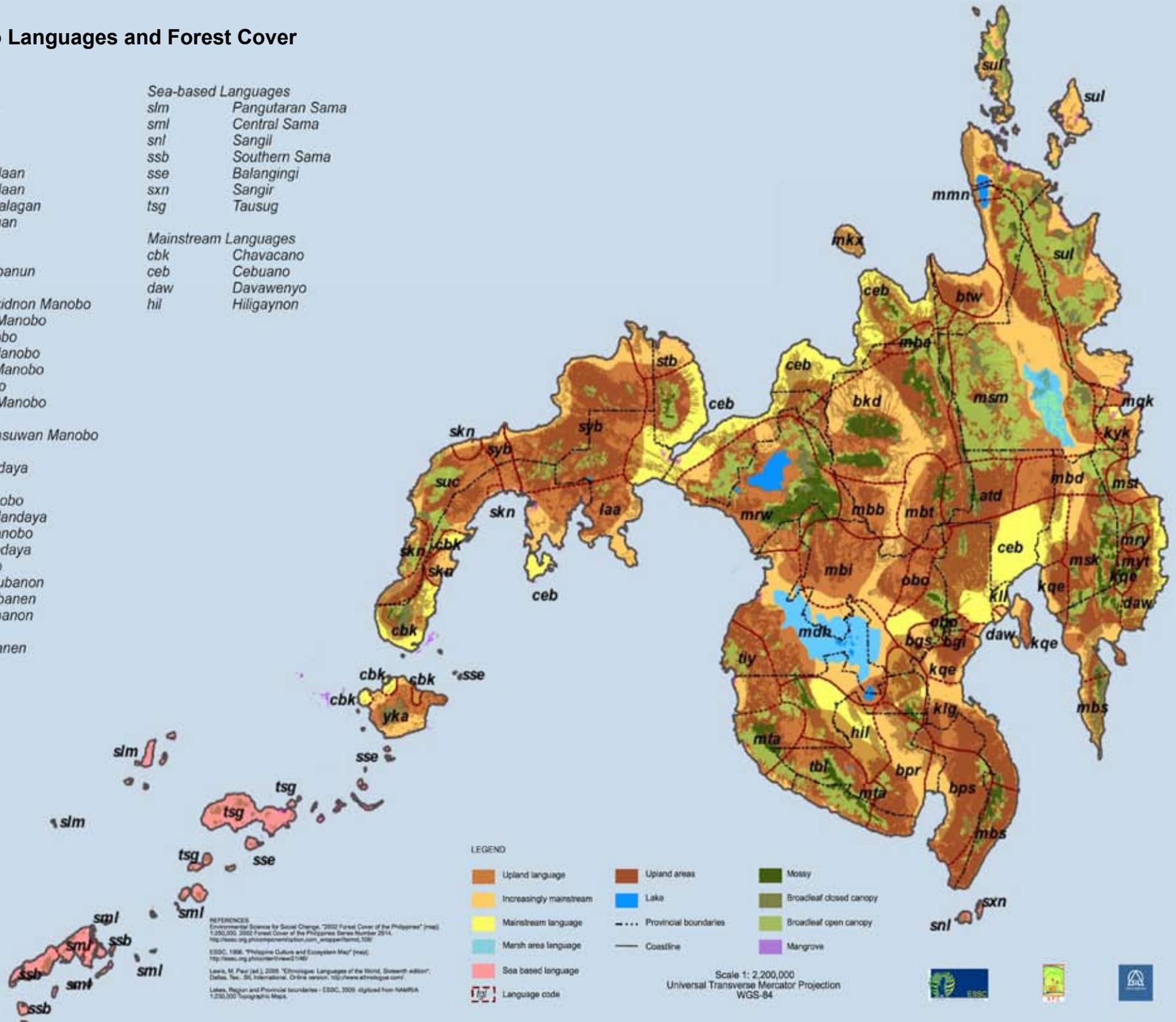
- slm Pangutaran Sama
- sml Central Sama
- snl Sangil
- ssb Southern Sama
- sse Balangingi
- sxn Sangir
- tsg Tausug

## Mainstream Languages

- cbk Chavacano
- ceb Cebuano
- daw Davawenyo
- hil Hiligaynon

## Extinct Language

- btw Butuanon



their livelihood and basic needs. These are the peoples who will make or break the ecological sustainability of Mindanao from its upland forests, riverine systems, marshes, coastline beach forests and mangroves, to the marine life of reefs, sea grasses and coastal waters, as far as the Philippine deep, the Coral Triangle, and the Spratly Islands.

In cultural practice, the dance, song, dream, artefacts and livelihood craft and knowledge, can be seen or expressed but need living roots. Education requires the documentation of the cultural identity with the land and practices. DepED now acknowledges these as important learning materials for all students in the different provinces in Mindanao. A culturally sensitive curriculum is based on everything around the culture (Chart 3).

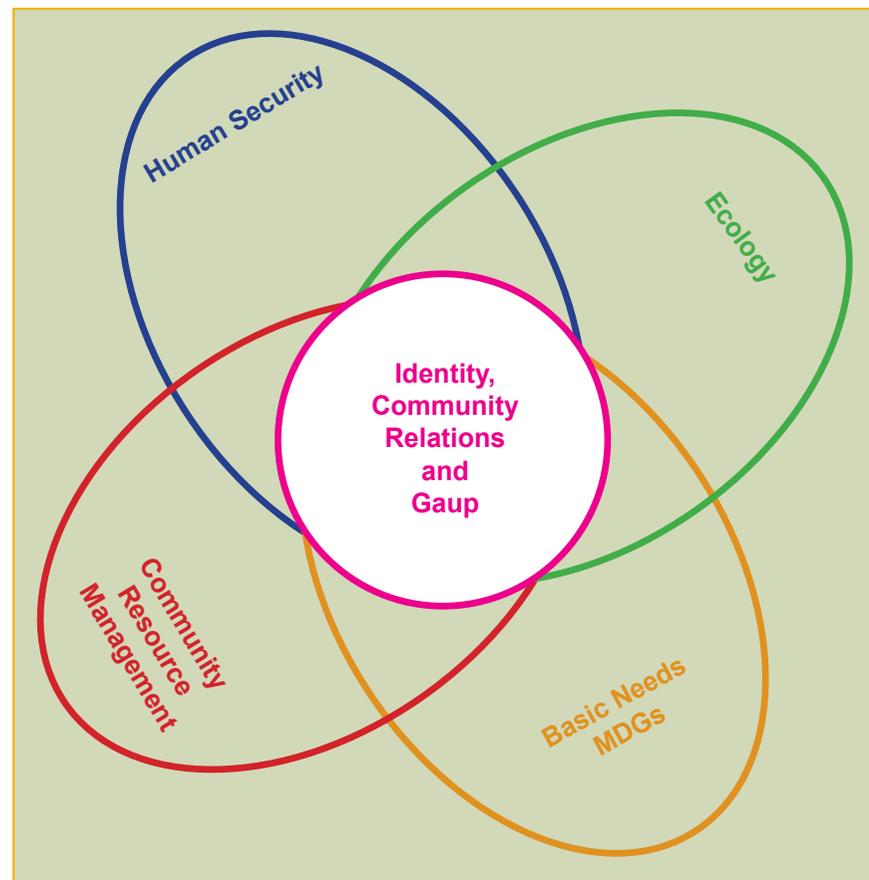
Sustainability and ecological services reflect the greater interrelation and awareness that exist in both the personal and communal. These are embodied in the local leadership. Equitable engagement in society becomes stronger whether on matters of governance or trade and work opportunities. Social learning is inclusive of relations at the social, political, and market levels.

In dealing with adaptation and change, problems from the watershed to the global scale may not be culturally expressed as scientific knowledge of atmospheric change due to elemental chemical change. Yet locally, the damage is understandable as the loss of integral human relations with the land. People see that respect is not paid to the environment and human relations suffer due to broad scale resource extraction. They understand that local disruption or degradation contributes to the overall imbalances that are talked of globally.

Change is sometimes beneficial but usually calls for adaptation in how people carry out their livelihood practices or construct their homes to meet basic needs. In many cases, changes are a source of suffering due to the lack of resources to meet the needed socio-economic demand involved. The Pulangiye often resort to selling their lands and lose their security on the land rather than fully understanding the possibility of renting out their land to migrants. This relates to the human security most needed so people can carry on with daily life and have a future for their children.

Many programs that relate to forestlands now allow communities to engage, though with differing levels of participation. Some programs provide

**Chart 3. Broadening the Forestry-Poverty Agenda**



forms of tenure certification such as the Certificate of Ancestral Domain Claims (CADC) or the Community-based forest management Agreement (CBFMA). Projects for reforestation and agroforestry provide temporary employment or a level of livelihood. However, these programs rarely work sustainably. Only a few connected to tourism continue beyond project life. While we struggle to make these programs more effective, the core assets of the community – its culture - must be strengthened. Working to provide basic needs and human security allows communities to maintain the local ecology. Feeling secure with the basics enable them to opt for resource management practices that are not competing with other land uses which compound the broader degradation and deforestation driving local, if not global climate change (Chart 3).



*The youth of Bendum organized a Peace Walk, a brief but significant activity expressing their thoughts for the future as threats emerge. The Peace Walk is an expression of hope in finding ways to peace.*

**B**ukidnon and Agusan del Sur are identified as areas of concern for Indigenous Peoples and needing special attention since the time of American rule. These areas have suffered the violence, from the resistance of revolutionary forces taking to the hills more than a century ago, and to the present conflicts where Indigenous Peoples are drawn in to the fighting among armed groups. In these remote areas where government services are slow to reach, people are always subject to different waves of conflict.

This is the context that Bendum finds itself in as the community struggles to be free from the fear and to continue seeking a lasting peace. Agusan del Sur, given the recent levels of violence, is still high on the list of provinces with armed encounters and low Human Development Index or HDI (Table 4).

# 11

## From Fear to Peace

### *Freedom from fear*

It is relieving to hear the phrase “freedom from fear”.<sup>4</sup> This has been the cry of many communities in the uplands caught between opposing forces. Armed encounters can lead loss of harvest, damage to property and home, delays in program implementation, and of course disruption of classes for children. During times of insecurity even without armed encounters, suspicion of collaboration feeds doubts in the community. This suspicion leads to loss of trust and growth of silence. In these circumstances erupting infrequently over recent decades, the word “peace” sounds so over-used. A scale of insecurity and fear between the extremes of war and the “normal” operations of the local economy continues inadequately addressed by government and society. We continue to live in a world where prosperity and comfort zones are more important than human freedom and what our heroes fought for.

The local situation for so many people is more of keeping quiet, trying to live daily lives and avoiding any meeting where there are points of conflict and power. However, there is an underlying sense of insecurity in anything beyond the immediate weeks or months. Everything is silently prefaced with a prayer and a hope that there will be no disruption.

Conflicts need to be understood in terms of the root causes and triggers, the encounters planned, the family feuds, and the political opportunism that pervades even in far-flung areas such as Bendum. Being at the margins, the suffering is more tragic. The body count after a recent encounter down the valley showed

**Table 4. Forests and Human Security<sup>5</sup>**

Provinces with the highest armed encounters (1986-2004) <sup>a</sup>	National HDI Rank <sup>a</sup>	Land Area ('000 hectares) <sup>b</sup>	% Land Area classified as government forest land <sup>b</sup>	Proportion of original settlers in present population <sup>a</sup>
<b>Low Human Development (&lt;0.500)</b>				
Sulu <sup>c</sup>	77	160	70%	95%
Maguindanao	76	505	39%	80%
Tawi-tawi	75	109	49%	26%
Basilan	74	133	36%	68%
Lanao del Sur <sup>c</sup>	68	387	66%	90%
Surigao del Sur <sup>c</sup>	65	455	71%	85%
Agusan del Sur <sup>c</sup>	61	897	75%	67%
Sultan Kudarat	59	471	49%	8%
<b>Medium Human Development (0.5 to 0.799)</b>				
Davao Oriental <sup>c</sup>	58	516	61%	68%
Cagayan <sup>c</sup>	45	900	61%	95%
Albay	44	255	19%	98%
Apayao <sup>c</sup>	43	705	89%	38%
Kalinga <sup>c</sup>	39			64%
Quezon	42	871	46%	93%
Lanao del Norte	36	309	49%	62%
Zamboanga del Sur	35	805	49%	55%
Camarines Sur	34	527	31%	95%
Davao del Norte <sup>c</sup>	31	813	63%	62%
North Cotabato <sup>c</sup>	30	657	77%	7%
Isabela <sup>c</sup>	29	1,066	57%	87%
Davao del Sur <sup>c</sup>	18	638	63%	39%
South Cotabato <sup>c</sup>	17	747	54%	12%
Metro Manila	-	64	24%	71%
Total for Provinces with Highest Armed Encounters		11,989		
National Total (77 Provinces)		30,000		
National Forest Cover (2003)		7,168	58%	

Sources: Philippine Human Development Report 2005 and DENR Forestry Statistics 2003

<sup>a</sup>Data from the Philippine Human Development Report 2005

<sup>b</sup>Data from the DENR Forestry Statistics 2003

<sup>c</sup>Provinces that have more than 50% of their land area classified as forestland.

*Eight of the 21 provinces with the highest armed encounters also have the lowest HDI and with large areas of public forestland under government control. The simple answer to this is not to destroy the forest to reduce the number of encounters but to increasingly address the basic needs of the people and their insecurity on the land.*

that more than 50% were youth. Youth at the margins have limited dignified work and engagement in society.

Without the power, how does a community extend peace? Communities know that physical power and enforcement are not the means to achieve community peace and the human development they seek. Communities have to be very astute in explaining to all sides and elements that “normal” life is what they seek most, with opportunity to grow. Sympathizers are a continuous concern and relatives of members of the armed groups are always suspected. Healing and unity in a community are difficult to process.

In its focus on providing education to the broader area, Bendum is persistent in asking different elements to stay away and to maintain a level of peace. This persistence on peace is reducing suspicion and possible encounters that would force an evacuation. Only on a few occasions has the school found it in the children’s best interest to suspend classes as a warning of the seriousness of the situation. A well-processed community forum to review experiences may allow communities put children first over any allegiance or commitment.

The children and youth in Bendum are very affected by the threat of violence. They need to be able to share their experiences and seek new ways. They have in recent times organized occasions to share their fears and hopes with other communities and undertook a Walk for Peace.

The youth group ask many questions to better understand how to achieve greater peace:

- How does fear enter a community and what are the elements or ways of fear?
- How can people talk, find trust, and build a response?
- Why did I join the walk for peace?
- What was my experience?
- What were other people’s responses?
- From the Walk for Peace, what did I learn about peace?
- How does my faith life deepen this sense of peace?
- How do I speak of peace now?
- How will the experience influence me when peace is again threatened?

- What does this allow us be as persons and community?

These discussions with the youth highlighted lessons learned and the truths of seeking peace that need to be shared, including:

- Fear is the primary internal feeling.
- People become frightened, and isolated; they stop talking.
- Peace is generated from within and through rightful action.
- Fear is not total if we have others to trust.
- Peace is the absence of external presence and conflicts between armed groups.
- Peace is the absence of personal threat.
- There is most talk about peace when it does not exist.
- The Peace Walk was brief but the expression is remembered.
- The Peace Walk sparked a thought for the future as other threats emerge and people want options or ways to express hope and find a different path.
- The Peace Walk has no power but a freshness and freedom for seeking peace.
- Peace is strength without power.
- Peace is shared without judging.

Freedom from fear is when mothers speak of their needs in maintaining daily family life. Mothers ask the military to stay out if they are carrying guns, move others along when they visit, and juggle the ever-insecure relations. Men sometimes want to take up arms to defend themselves but then families become vulnerable. Meanwhile, the death count among youth is high in armed encounters. A system that does not experience fear cannot teach how to live and overcome fear. For other areas in Mindanao, it has been clearly expressed that “Deprivation breeds discontent; a sense of injustice.”<sup>6</sup> In Bendum, it is most often an acceptance that “there is nothing we can do.” These limit self-help, effective delivery of basic services, and a broader peace. The gap remains, but the youth are now asking “What can we do?”

The elements of peace require equal emphasis on finding solutions and socio-economic assistance. These require good governance. Much of the talk is about the numbers of those who surrendered and the spread of informants on the ground, but little effort is made to establish peace zones.

People are not empowered to get away from fear and learn to trust again, which keeps them in a situation of exploitation and vulnerability. Disarmament programs presume that local people are deeply engaged in ideological orientation when they are not. To some people claiming or tagged as “surrenderees,” surrendering has become a temporary livelihood option, since surrendering means receiving a livelihood package. The need for disarmament is acknowledged, but what are successful approaches that could have lasting positive impact?

Development programs often presume that their implementation naturally leads to peace. This presumption needs to be reviewed, especially in terms of area-specific impact. Even well-intentioned projects of government and donors that identify priorities for accomplishment, impact, and outputs do not clearly articulate the link to a genuine peace. Project outputs need to be evaluated by their contribution to a longer peace and not just by performance targets and deadline achievement.

Major donors are not always respecting local knowledge and timeliness. Too often, much emphasis is on project timelines and not on the establishment of longer-term peace. Mini-livelihood programs are popular yet hugely unsustainable as they do not connect into the broader pattern of economic relations and opportunities. Linking small livelihoods to enterprises is not easily done. This is compounded by disparity with other government initiatives of mining, grazing leases, and private plantations. The local and national government agencies such as the Department of Environment and Natural Resources, the Mindanao Economic Development Council, the Regional Development Councils, churches, non-government assisting groups, DepED, and other organizations need to go after greater impact for peace. A better analysis of security, political, economic conditions is needed.

### ***Finding occasions for human development***

Ecological services are generally viewed from the perspective of urban needs and national economic development. This has led to a sustained poverty in the uplands because of lack of access rights, limited or no recognition of local needs, and the weak systems to

enhance and secure local rights and responsibilities. This is one of the basic concerns in not reaching the Millennium Development Goals in the Philippines as these are the very people whose circumstances are not improving (Table 5). Human development should not be overrun by economic development.

The Philippine Human Development Network Report states that “the HDI is a tool to measure the overall achievements in three basic dimensions of human development, namely, longevity, knowledge, and a decent standard of living. It is premised on the principle that human development cannot be measured by the yardstick of income alone since income is a means, not an end, and there is no automatic link between income growth and human progress.”<sup>7</sup> This highlights the basic context and need for focused change.

Choices and actions of the community need greater support. Government’s intentional incorporation of socio-economic opportunities for securing small livelihoods especially in the area of agroforestry needs renewed focus. These include supporting communities in securing upland tenure instruments such as Certificates of Ancestral Domain Titles (CADT) and Community Based Forest Management Agreements (CBFMA). Genuine processing with communities of Free Prior and Informed Consents (FPIC) and Environmental Compliance Certificates (ECC) for economic development projects need to be undertaken. Industrial Forest Management Agreements (IFMA) need to be reviewed so as to better incorporate community and upland rural development and not drive Indigenous Peoples to further margins. Security of livelihoods through rights of access and land utilization calls for efficient bureaucracy support. Basic raw materials can be locally processed to attain added value and better access to markets. More direct marketing with proper support is needed. Higher quality of wood, fibre and other resources needs to directly benefit and secure local communities. Health and nutrition can be pursued through the culture where a community may have 50 or more medicinal plants from the forest. The forest is also a source of protein and carbohydrate during poor harvests and is presently the entirety of an upland community’s social security system.



*Many children and families in Bendum are at risk not only with threats to peace but also to security of livelihood, basic needs such as health and nutrition, education and social relations. Government priority to urban needs and national economic development has led to sustained poverty in the uplands.*



**Table 5. MDGs when checked against Forest Issues can better focus actions in Mindanao**

	MDG	Forest Issue	Actions
1	Eradicate extreme poverty and hunger	Ineffective production, poor market access, profits captured by middlemen, lack of resource rights	Improve returns from livelihood activities, community titling and permits
2	Achieve universal primary education	Children compelled to work instead of study due to poor returns from production	Increase efficiency reduce child involvement in production and develop culturally appropriate programs
3	Promote gender equality and empower	Women do much of the labour	Accrue direct benefits from livelihood activities to women
4	Reduce child mortality	Waterborne diseases increase child mortality	Water management Access to better medical services
5	Improve maternal health	Long work hours for mothers to achieve needed income for the family	Improved returns from livelihood activities and develop community child care centers operated by mothers
6	Combat HIV/AIDS, and other major diseases	Far from health center, not enough income to avail of mainstream health services; Biodiversity loss means lost opportunity to discover plant-derived medicines to fight major diseases	Better income, improve nutrition and resistance to diseases Better services to deal with tuberculosis and malaria
7	Ensure environmental sustainability	Unaccounted returns from and/or poor pricing of ecological services	Establish equitable efficient and effective system for payment of ecological services, including for ecotourism and bio-prospecting
8	Develop a global partnership	Poor integration of rural development and economy Poor pricing for raw materials and capacity for processing	Set up international system for payment of ecological services, including for carbon, ecotourism, bioprospecting

Source: Adapted from KK Kaushal<sup>8</sup>

*Mindanao is rich in natural resources but has the greatest poverty. The people who seek least from society get even less than their basic needs. This is the irony for people who have traditionally lived close to the forests where others have made their fortunes. Relating the Millennium Development Goals to basic forest community issues helps us identify actions to take.*

Social relations of Indigenous Peoples and their right to close the forest from being accessed by others needs greater acknowledgement. Civic and government engagement in any biodiversity conservation initiative needs to be grounded with the community and not experienced by Indigenous Peoples as a further threat and resource reduction. The dependence of broader society on Indigenous Peoples for knowledge of forest areas needs to be explicitly recognized.

Combining cultural literacy and heritage with education contributes to community cultural strength since culture has a natural relation to sustainability. In sustainable development models that start from identity in language land and livelihood, leadership follows. MLE needs to contribute to: self-sufficiency and equity, clarifying basic needs and rights, and encouraging integrity, interrelation and diversity.

The culture-based MLE in Bendum can provide a context for greater grounding and integration of government institutions and programmes such as the Millennium Development Goals

(MDG), Human Development Index (HDI), Local Government Units (LGU), National Commission for Indigenous Peoples (NCIP), Department of Health (DOH), Department of Agriculture (DA) and Department of Education (DepED).

Greater focus is needed on adaptation by communities in resource management for better responses to climate change and disaster risk reduction. In the North, mitigation of sources of carbon production, particularly the energy sector, is the primary approach to addressing climate change. Climate change has the greatest impact on the poor in the South who have no social security and are on the most vulnerable land and have the most vulnerable livelihoods. Given that climate change is ongoing and any mitigation approach will not immediately change back the climate, adaptation approaches are very much needed. Communities that are vulnerable to flooding, drought, crop change and in their village location are already struggling to find ways to adapt. Support to adaptation approaches has to be given equal priority with mitigation in the global agenda.

# 12

## Land Use Change

In the tropics, how the land is used has the biggest impact on the environment and climate change. In the temperate zones with developed economies, efforts are more toward trying to mitigate high carbon production from energy sources and the consumerist culture that drives this. In the tropics, forests are being cleared and biodiversity is being lost. At the same time local livelihoods as well as soil and water patterns are rapidly changing. How can we understand these changes on a daily basis? If we do, we can begin to make meaningful adaptations.

When we move from the sun into the shade of a tree, we are “different” people. The cooler temperature does not sap so much of our energy, and so too for the land. If the shade is more than that of a tree but a forest, it is not simply the shelter from the direct sun but the active interrelation of many factors that then creates its own environment or microclimate. Each land use has a different capacity to create a microclimate and forest has the greatest.

Shifting land use from forest to maize production results in major shifts in the energy balance. Technically, this translates to measurable increases in net radiation, sensible heat fluxes, and albedo, and also a decrease in soil water retention. So, not only is the environment warmer, but this last factor of loss of water retained in the soil opens up a new problem with many other associated problems. Forest loss results in increased runoff and reduced local rainfall, with water and nutrient loss.

For the Bendum community where it has not cut its forest, the water is sufficient. Enough water moves slowly through the soil (not over the soil) sustaining the springs and streams. When there is heavy rain, water moves quickly through the soil without eroding and taking soil into the rivers. In measuring water flow during a storm, very quick discharge of the water without loss of soil is observed for a



small stream. The measure is that of a unit hydrograph and is found to be very rapid, the storm peak being 10 to 120 minutes, with flows rising from 40 to 400 litres per second. This indicates very good forest soil piping, which means that the soil is not compacted. Forest recycling of nutrients is a tight cycle. Nutrient dynamics are affected, such as potassium is held while magnesium weathering and sodium are determined by surface runoff.

Where forest is cut, clay and nutrients in the plant material are easily lost. The soils are generally only initially fertile once forest is cut and therefore not sustainable for agriculture unless there is good soil and water management and development of potential fertility. Scientifically, these soils are identified as ultra basic, with low cation exchange capacity and high base saturation.

The forest balances the water, which is the relationship between rainfall coming and water going out, either through the rivers or in evapotranspiration (also called green water) of the plants and the land surface. The water balance in the small catchments is that of 150-350mm per month rainfall and a discharge of 60-90mm per

*Grasslands or cogon areas are increasing in the hill areas of Mindanao between the shallow meandering rivers and mountain forest crowns. These areas may be planted to maize once in 10 years but often burn annually. Burning adds to the degradation of the environment.*

*Natural forest with a closed canopy of 40-45 meters tall is much more effective in creating a cool microclimate and natural ecosystem than plantation trees of 25-30 meters using alien species. Plantation species may be deciduous or light leaved such as *Swietenia macrophilia* (from Honduras and its relative *S. mahogany* from the West Indies, where the best mahogany comes from the term is derived as a class of timber), *Paraserianthes falcataria* (native of Mollucas Islands). During a lifecycle of 20 years or so, these species have limited impact on water infiltration.*



month, with evapotranspiration taking up the rest. The discharge dropped during the last El Niño in 1997 to 40mm/m, but this was enough to have water for the community. The surplus flow from this stream tapped by the community and five other streams in the area all add to the ecological services that down the Pulangi all incrementally contribute to sustaining Maramag Dam. Ironically when the dam was being built, major logging operations were ongoing in the upper watershed and have been the main force behind immigration to the area and the total clearing of forests of much of the watershed. These continue to contribute to more extreme seasonal flows. During the 2010 El Niño, fires rage in the valley. Hundreds of hectares of scrub and forest are burning in the Upper Pulangi. No serious assistance is being provided to give security to families and communities to strengthen their production capacity in agroforestry and protect the forest.

The highest demands for water are in regenerating forests, primary forests, mossy forests, and cloud forests due to growth and evapotranspiration rates. It is also in these forests where rainfall intensities are highest and the ecosystem is self-sustaining, but only if there is enough forest left with abundance of water to share. This green water maintains the high humidity and forest microclimate buffering the extremes. In relating rainfall patterns and forest water budgets, the upland areas are best as water production areas for the lowlands. However, no compensation is given for this ecological service and for efforts to reduce forest disturbance coming from communities and towns below. Forest cover is needed to sustain the necessary balances in the water distribution.

Forest boundary areas provide the best growth, higher humidity, and lower radiation. Land use change creates a wave line of temporary change with a microclimate of limited but clear growth advantage. This is the immediate reason for opening up new forest areas. However, land conversion in the uplands has increasing costs and decreasing sustainability. When the area is deforested, the upland characteristics of present land use deteriorate. Lower evapotranspiration in farmlands leads to greater potential water stress. Soil conditions have lesser clay and organic matter. Water infiltration is poorer due to reduced soil fauna and structure. Calcium and sodium levels increase as they go downstream reflecting disturbance.

Further down the slopes where the forest was opened and used for maize without high fertilizer input, the land is often abandoned and left for five or more years to cogon that may annually burn. This leads to a degeneration of the water flow and ecological services. Cogon has medium land use impact. It is commonly viewed as wasteland - unproductive and reflective of unsustainability.

Areas with cogon, coffee, and maize are less demanding of water. Maize is the least demanding as the planting season is selected to match the rains, yet maize is the most sensitive to moisture availability. Rainfall intensities lead to critical soil conductivity and erosive potential and translate potentially to higher runoff from farmland with low saturated hydraulic conductivities. Maize may demand least from the environment but is most vulnerable in drought.

The social and economic reference points of migrants are lowland agriculture and practices that drive soil and nutrient loss, and water fluxes. Society has not yet recognized that after logging, the primary destructive force amongst marginalized and landless migrants has been the growth of the maize industry for animal food. Coupled with the lack of security of land use in the uplands, costs of transportation, fertilizers and seeds, and the informal lending systems, maize production has resulted in granting minimal food and maximum exploitation of the poor. In Mindanao, maize production has sustained subsistence for the majority in the uplands but has done little in terms of livelihood security or environmental sustainability. There is a need to increase the community resource base, social stability, and sustainable microclimate. Security over the land through various government programs is essential along with technical support in developing agroforestry communities that help sustain soil and water conservation.

These needs can best be addressed through cultural land management and appropriate land utilization changes. Losses in nutrient, soil, and seed banks pose a serious challenge to successional vegetation dynamics and otherwise need high inputs. Critical adaptations will include Indigenous Peoples shifting to consolidated land use, reduced fallow, some specialized crops and food security through root crops. Their local knowledge is much needed in undertaking trials in terraced farming, fish ponds, abaca, and rattan.

In summarizing the land and water analysis, greater sustainability can be ensured through emphasizing the role of green water in the uplands and so in forests and agroforestry. Indigenous Peoples incorporate a greater sense of sustainability and thus are in the best position to ensure the sustained availability of green water. However, they need help in improving food production and coffee practices, also in rattan, abaca, and pulp processing. The importance of forests in providing ecological services to broader society should translate to direct monetary and social returns to Indigenous Peoples, but present technical evaluations of land cover are still poorly integrated with social processes, policy formulation and monitoring.

# 13

## Adaptation

The basic pattern of growing up and learning in life involves more complex aspects of the personal, social and environmental interrelations. As change is continuous, even if what we learned may work for a time, the circumstance is not going to remain the same for all times and so at some point we need to adapt to the changes. The major changes that communities face include increased rural population pressures, market shifts, and now the environment given changes in land cover and climate change. The result is that a community may need to adapt or change some of its land use practices.

It is important that community discusses the land use changes already occurring due to market forces, the impact of migrant occupation of the land and the history of corporate logging. They need to recall the different impacts and changes over time. They need this information in facing any change and in making the right adaptations. With the emergence of climate change, the experience is either prolonged rains and/or drought. The community needs greater awareness of food security and the importance of crop selection in relation to adapt to changes in climate as well as markets.

In discussions with the community, the following were drawn out as initially important:

### ***Abaca bank***

Abaca fiber processing remains a key crop for the culture. Abaca is the “bank” of the community. It can be cut at any given time of need. Another person’s standing crop can easily be “borrowed” if the stock of the family in need is not yet mature and can be given



as payment. The fiber can be processed and sold within a week. Traditionally, *alamay*, a wild variety of the *Musa sp* of the banana family is harvested, but is of poor quality. Presently, it is not worth the effort for the financial return. It is better to invest in new corms from distribution centers of the Fiber Industry Development Authority (FIDA) or other similar facilities. The children studying in school have areas they plant and manage as they stay in touch with this aspect of the culture.

The weaving of certain varieties of abaca for *kamuyut* cloth is important. *Kamuyut* is often given as a gift within the culture and a recognized token in conflict resolution. With the acclaim and commercial value of the popular *tinalak* of the Cotabato, other weaves

*Abaca is planted in previous agricultural land regenerating with 'andalungung labigti' and now with some 'lawaan' and 'salumayag'.*



can also have a value if developed with standards. Commercial dyes are substituted for the natural sources of color from roots, barks, and leaves. The skills are with many of the older women and families still have their unique patterns. The importance of inheriting this skill within a family is still recognized if there is opportunity for the children to learn.

The Bendum community is readjusting to new sources of corms and the market dynamics; this in turn affects land cover change and management of an area. Abaca is best grown away from crops such as maize that share the same aphid pest carrying the abaca mosaic virus that destroys the vascular system. Furthermore, the plants grow well with a degree of shade. This makes abaca ideal for planting in degraded forests, allowing the surviving natural vegetation to continue to grow. Planting abaca also reduces the risk of fire in the areas as people have the incentive to not put their crop at risk. The 1997 drought and fires of the time were controlled in abaca planted areas. In areas where land was cleared and nutrients exhausted, a dense bracken growth of two meters or more replaced the vegetation. Bracken is prone to burning in the summer like cogon but can be cleared and kept under control, especially where abaca is planted in the area.

Abaca planting has allowed for closer management of previously non-intensive areas being used. During the school year, students collect forest seedlings of useful species to plant in the abaca area. The tribal council's livelihood and water committees along with the youth want to establish more permanent cover on a neighbouring area to the water system. This area that was previously cleared for agriculture and left fallow can now be planted with abaca for better infiltration and protection of the water source. This development is allowing for discussions with the youth and adults on land management that never occurred before. The discussions are also allowing much knowledge exchange on both the traditional and scientific, enabling the children and youth to make sense of the science classes in the context of their land management and local climate.

### *Assisting natural regeneration*

The emerging 12-hectare consolidated land area, mapped by the youth, has now become a program of assisted natural regeneration in the community. Basic resources are seen as necessarily productive for livelihood and self-sustaining through abaca stocks and secure water. With assisted regeneration becoming important as a cultural approach, the area is a learning ground for the school and uses the language and culture to strengthen identity and negotiations involved. The practice of assisting natural regeneration is spreading across the valley to other sitios who want to secure at least their water sources with good vegetation.

### *Consolidating area and community*

The community faces many other resource questions. At this point, the diverse rattan stock of the forest has been depleted. People have little commitment to grow more rattan since others from outside come with arms to cut, and sometimes cut their timber. A few have successfully grown coffee. Rubber is now expanding though many need assistance in getting better pricing. People are asking if these are appropriate options for the community. The range of options needs to be developed and the potential sustainable scenarios investigated.

When a "successful project" is undertaken, development agencies that want to replicate the experience ask the costs of packaging and reproducing the effect. However, in the costing process, many of the social costs are never factored in. These social costs include a culture that belongs with the knowledge of the land, trees and crops. Access and physical security are crucial for a community who invests their time. Therefore, they must be assured of reaping the benefits and developing the livelihood base. Support of government policies and implementation would be of great assistance to achieve lasting positive impacts. Community collaboration and commitment need a way of life, not just a project. Youth vision and leadership are essential to sustaining this collaboration and commitment.

# 14

## Ecological Services

Ecological services are the result of complex relations within the environment that are conducive to public benefit, welfare, health, and safety. These services may be specified as fertile land, good quality of air and water, cultural landscapes, and rich biodiversity. The ecological functions of forests that are the core provider of services, along with the sustaining climate are presented below, after which these functions can be viewed by society as the services or benefits received. The forest functions include:

- Supporting natural processes: Nutrient cycling, Soil formation, Rainfall infiltration, Micro-climate provision, Biodiversity regeneration, Primary resource production
- Regulatory processes: Climate regulation, Food regulation, Disease regulation, Water purification, Air quality
- Provisioning of human needs: Food resources, Fresh water flows, Wood, fuel and fibre, Medicine, Nutrition

All these are the functions of the forest and result in services and benefits to community and society. These services cannot simply be used or extracted without consideration for other dependencies and impact on related ecological systems and local communities. Often these services are assumed to be always available and generally without cost. Now that there is increasing pressure on the environment and the negative impact of over-utilization or some activities, the use of resources must change along with the expectation of free services from the environment. Our management responses as a society today are many but the quality and integration of the management strategies leaves much to be worked out.



In taking greater responsibilities for the environmental relations and ensuring basic benefits to marginal communities, a greater knowledge of the land use management and location of basic needs for human well-being need to be integrated. Many Indigenous Peoples over the past centuries retreated to the uplands, given the aggressiveness of lowland agricultural communities. Now that the lowland economy and needs are extending to the uplands, the Indigenous Peoples are blamed for restricting the resource needs of the majority urban and agricultural populations without consideration of their needs, rights, and way of living. Mineral extraction is not seen as an ecological service but government fails to factor in the financial loss accruable to ecological services and take appropriate measures.

Management strategies already exist such as watershed protection, biodiversity conservation, community based forestry and ancestral management, and landscape protection and

*Low heavy clouds in the uplands release their rain over the cool forests. These allow soil infiltration and recharge of water tables, streams and rivers that are so needed in the plains. Protection of the uplands is where we must start in protecting the ecological services we need, which means supporting the people who traditionally manage the areas.*

ecotourism. However, their impacts are limited. Strategies needed with increased impact include:

- integrated watershed management
- assisted natural regeneration and indigenous forest cover
- knowledge of flood and landslide risk parameters
- improving river flood resilience
- relocation of disaster-vulnerable communities matched with livelihood access
- culturally integrated conservation
- focused attention on achieving MDGs and improving HDI
- payment for environmental services returning to community management efforts
- benefits from carbon sequestration returning to community management.

The experiences in Bendum provide valuable learning points for the social and environmental management that is needed.

In developing modules for sustainable development in education, DepED must have a response to ecological services and environmental management. Modules for sustainable development can start from identity in language and land and must seriously address and secure viable options for the uplands.

The economy does not warn us of environmental destruction, only of economic loss. “Rootedness” is needed to sustain ecological relations and to know the environmental risks. A cultural approach is very valuable since people already have an inherent relation to sustainability that is based on the land, and not solely on the economy. We must find equitable ways of working together and sustaining the country as a whole.



*The youth are now learning to plant 'lauan', a gift of creation that stands for many trees of great significance to local culture. 'Lauan' is a cultural engagement involving cultural knowledge and gift of the land. Cultural values are 'devalued' if the seedlings do not thrive. Planting 'lauan' takes great preparation, hope, humility and respect.*

# 15

## Global Social Relations

Climate change and market globalization are new areas for social justice. Deforestation and degradation, migration and urbanization of labor, insecurity of Indigenous Peoples and the extending poverty are factors driving the increasing negative trends at the margins. The social response to climate change and MDGs could achieve much more by incorporating the lessons learned so far and developing a greater sense of global justice.

Justice as equal opportunity, procedural justice, and justice of basic needs are critical areas in the advancement of Indigenous Peoples, along with the cultural interpretations and practices of traditional local justice (Chart 4). With these, greater intergenerational rights also have to be established particularly within the Climate Change Deal that failed in Copenhagen last December 2009.

Realities of present globalization trends need to be addressed. Injustices occur where large-scale operations or designs crowd out the small-scale initiatives. Vulnerability of the poor is always greater. They suffer the most from disasters as with floods and droughts, and so need the most immediate and lasting response. Ecological injustice is where the forest's multiple values are eroded without adequate consideration for the people living in these areas and the broader need of the environment. Subsidiarity is compromised by the greater power: local vs. national interest, national sovereignty vs. regional cooperation vs. global common good. Provision of land rights and basic needs have to be made preconditions for effective, efficient and equitable (3Es) response in further rounds of the climate deal. Sadly among the 3Es, equity is usually compromised along with procedural justice.



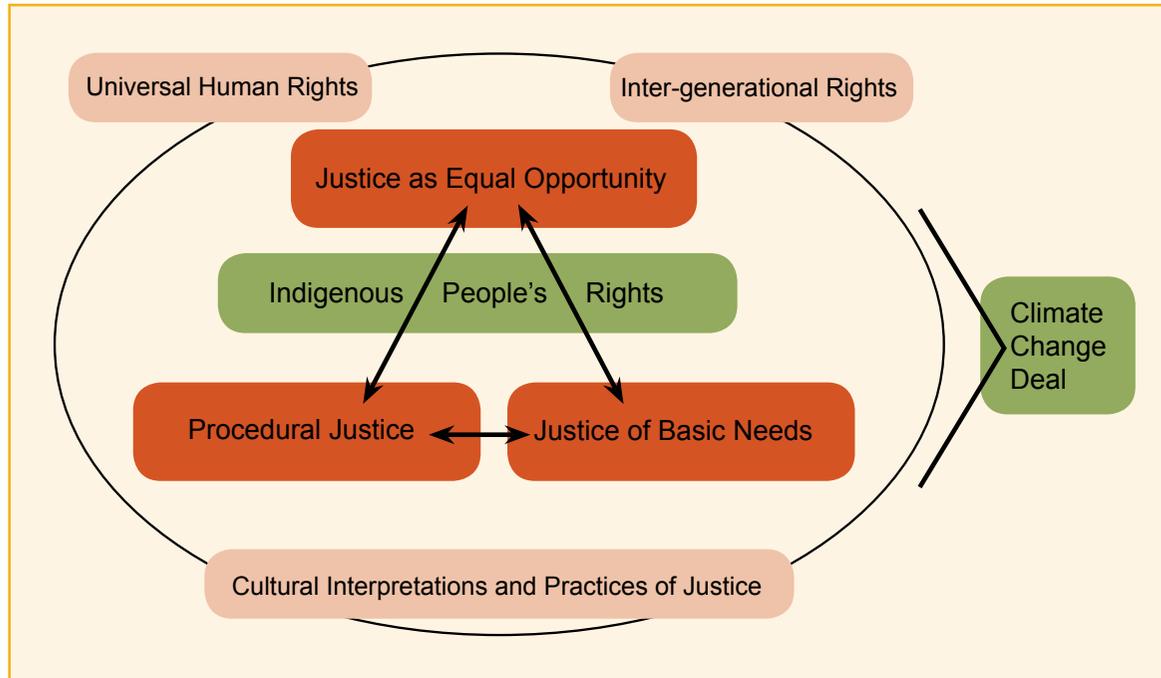
The figures for cultural diversity, social marginality, and forest dependence show the extent of the problem in Asia (Table 6). Asia-Pacific is culturally diverse but the greatest diversity of the population is at the margins of these national populations. This shows why it is crucial to incorporate local wisdom and address local needs in mitigation and adaptation actions.

Asia comes from a continuing history of deforestation that impact in particular on the life of Indigenous Peoples, their cultural continuity, and more broadly the poor. A simple scientific technical and economic response to climate change is inadequate. We need to understand and respond with justice as part of the human effort and engage cultural knowledge.

Summarizing the deal that was sought in Copenhagen, a few points can be made. The Deal is not simply establishing a carbon market for raising money to save the world. More importantly, the Deal must address the integral social conflicts in the global

*Forest fires in Upper Pulangi where there is little practice of traditional clearing and control of fires allowing the whole hillside to burn and in drier or El Niño periods, the primary forest itself can burn. If the mossy forest burns, there is little chance it will ever revive.*

## Chart 4. Areas of Justice



Source: Adapted from Johanns Muller<sup>9</sup>

society and sustaining local culture. As the poor suffer the most from disasters, the Global Deal needs to prioritize adaptation. Adaptation is needed both in terms of the poverty in poorer nations and changes in lifestyle where energy per capita is highest in richer nations.

In the meantime, while climate change debates continue, communities face another El Nino and delayed action in meeting their basic needs and livelihood security. As the community in Bendum awaits an Ancestral Title, the lack of a CADT has prevented them from selling the *falcata*. Meanwhile, the youth are actively identifying mother trees of several indigenous species for wider planting, such as:

- Lauan (*Shorea contorta*), known as White lauan
- Danguleg (*Shorea almon*), known as Philippine white mahogany or White lauan
- Kiwan (*Shorea negrosensis*), known as Red lauan

- Balakbakan (*Shorea polysperma*), known as tangile or Red lauan
- Dagang (*Anisoptera auria*)
- Ubanan (*Shorea palosapis*), known as Philippine mahogany or White lauan
- Kaliyaan (*Dipterocarpus validus*)
- Sabunan (*Podocarpus javanicus*) known as tiger wood
- Huwag (*Podocarpus nerifolius*)
- Upilen (*Nageia wallichianus*)
- Banglas (*Tristania decorticata*), known as malabayabas
- Salumayag or agatis (*Agathis philippinensis*), known as almaciga or dayungon

The youth see these 12 species and others as key to sustaining their forests and their cultural heritage. *Lauan* in general is viewed as a gift of creation and is of great significance to local culture. Planting lauan is a cultural engagement involving cultural knowledge and gift of the land and where cultural values are strengthened when the seedlings thrive. If the culture values the life of lauan, it values where it draws its own life.

The youth are now learning to plant lauan. They do this with great preparation, hope, humility, and respect. They know they must plant in areas where the trees can have a life of at least 60 years. They understand that protecting and safeguarding these trees as they grow is vital.

Tree planting and reforestation are popular environmental projects of schools, civic organizations, and governments. However, little thought is put in selecting the species that would be good to plant. “*Basta may puno*” (as long as there are trees) is the general attitude when an organization embarks on a tree planting project. This aided the spread of mahogany (*Swietenia sp*) in the Philippines, an alien species that American foresters brought in 1907 to the country.

The high school scholars do not just want a project of mere reforestation using easily obtained mahogany seedlings. They understand that it is not a matter of “*basta may puno*” that will make us environmentally sound. From the cultural and biodiversity standpoints, it is important to invest time and resources in planting our local species.

**Table 6. Cultural Diversity, Social Marginality and Forest Dependence**<sup>10,11,12,13,14,15</sup>

Country	Number of ethno-linguistic groups	% living in forestlands <sup>a</sup>	% of National population (%)	Regions where IPs are the 'majority'
Indonesia	737	nd	26%	Papua, Kalimantan, Sumatra, Sulawesi
India	635	nd	8.2%	Gujarat Central states Northeastern states
Australia <sup>b</sup>	>200	25%	2.5%	Northern Territory, New South Wales, Queensland Torres Straits, Tasmania, South Australia
Lao PDR	240	nd	70%	Across rugged mountains (79% of land area) including northwestern & central eastern region
Philippines	110	66%	13%	Cordillera (91%) Sierra Madre (31%) Mindanao (42%)
Malaysia	95	40%	12%	Sabah (66%) Sarawak (50%)
Thailand	23	nd	14%	Northern Thailand; borders with Burma and Laos
Vietnam	53	nd	13%	Northeast, northwest, central highlands
Taiwan, PRC	38	53%	2%	Eastern half
Asia Pacific	1,200++	nd	6%	200-260 million indigenous peoples of 4.1 billion regional population
World	4,000+	nd	5%	370 million indigenous peoples of 6.8 billion world population

Sources: IWGIA 2007, IWGIA 2009, ADB 2002, UN DESA 2009 and UN ESCAP 2008

<sup>a</sup>Many references (e.g. IWGIA, UNPFII) site the strong dependence of indigenous groups on forests, however no data or estimates can be found on how many indigenous peoples continue to live on forestlands in most countries. AFN and ESSC are currently working to extrapolate these figures from existing spatial datasets.

<sup>b</sup>Australia figure for percent living on forestlands refer to percent of total indigenous population living on homelands or traditional lands which may not be on forest landscapes

### *Challenges in the Community*

The education program with the Pulangiyan community continues to face these challenges.

- **Meeting Basic Needs:** The relevance of education for a community is more clearly seen when the basic needs of peace, water, land access, health, and livelihood resources are secured. Security in basic needs supports the community as they sustain an engagement in basic education. Even if a teacher is present, but the basic services are absent, there is not the physical and social ability to participate. With basic services present, the education is a source of integration for the community to come together. The school becomes a venue for all to meet and respond to concerns.
- **Peace needs to be a primary concern of society not in terms of force but by social incorporation and response to needs.** At the center of society, the lack of peace seems “sufferable” when it is marginalized and does not significantly affect the security of economic growth and overall prosperity.
- **Financial Sustainability:** Most cultural education efforts are under pressure due to limited financial assistance and inadequate official support. Sustainability is not yet within reach of supporting organizations, let alone communities. Further challenges include how to work with the demands of education vis-à-vis insecurity of community livelihood.
- **DepED Support:** The deeper cultural learning sourced from the community is often made possible with only limited resources from teachers and community. DepED is now beginning to talk of both the culturally relevant materials that need to be produced as well as the skills and resources needed for their production. Community-based education programs need DepED recognition and support for their efforts to develop a culturally integrated curriculum and accompanying materials. These programs also need assistance in aligning the DepED system to their needs so that student learning is authentically measured and recognized. At present, the national achievement exams written in Filipino

and English do not allow for reliable assessment of student learning in MLE programs with a culture-based curriculum.

- **Community Relations:** Like most other communities, the Pulangiyan community of Bendum is not a homogeneous group and therefore faces challenges in terms of participation, coordination, rivalries, organizations, and accountability. Integrated efforts in the school to address these concerns and build a more unified community contribute to strengthening of school and community life.
- **National Environmental Perception:** Philippine society supports forest protection in principle while pursuing agricultural intensification and expansion. Politically, society is neither able to overcome negative forest exploitation nor curb drivers of unsustainable land use. Indigenous communities are caught in the economic and political uncertainty of the use of natural resources and their place in society.

To summarize, educational models for sustainable development require a cultural perspective that can only be provided by an engaged community. Unfortunately, such models receive limited attention. These models begin from an identity in language and land, needing a rootedness to reach ecological relations and land management.

The economy is an indicator of an area’s growth, but does not warn of environmental destruction, only economic loss. The use of MLE strengthens a cultural approach to sustainable development that is confirmed by Indigenous Peoples’ natural relation that can still be sustainable based on the land, not just on the economy. A cultural community that continuously learns and progresses through a culturally integrated education brings about sustainable development. The community is engaged with a very real sense of what is sustainable that needs to be acknowledged and not undermined by what is development from the world around.

What children need to learn, families should be practicing, and the environment should be benefiting.

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