Forest Domain Conservation Management Practices and Beliefs of the Indigenous Peoples of the Cordillera Region, Philippines

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ABSTRACT

Conservation and preservation of the forest is the primary concern of the cordillera folks for the future generation's support of their basic needs. The study aimed at documenting the forest conservation management practices and beliefs of the Indigenous Peoples (IPs) of the Cordillera Region of the Philippines and the role they play as stewards of the forest. This is a qualitative research. The data were gathered through interview and empirical experiences of the old folks of the IPs of Cordillera. The IPs have very good conservation management practices, and the Imong, lapat and muyung are some of the many indigenous and environmental friendly ways. Cordillera has very good propagation technique of trees native to the place, land utilization and hunting practices. When fire-woods are needed, the tree trunks are not cut instead the upper branches are cut, resulting to eventual pruning of the trees. There are also tribal laws that punish destruction of the forest. For the IPs beliefs, wanton destruction of the environment is a taboo. Burning trees in the mountain, using poisonous substances to catch fish and cutting trees without real use are two of the many acts punishable by the community. Indigenous practices of the IPs in forest protection, conservation, and management are very environment friendly and costless. These practices are results of the concerted efforts of the whole community. Obedience, commitment, and concern to the future generation are the only rules that are understood by everyone in the IP communities. The forest conservation management practices, and beliefs should be finely identified by government agencies so that these shall serve as inputs in formulating future environmental policies.

Keywords: forest domain, Indigenous Peoples, indigenous practices, conservation management, imong, lapat

INTRODUCTION

The forest is the source of life for many indigenous peoples of the country. Eighteen to 20 million Filipinos live in uplands that are surrounded with forests (Erni and Tugendhat, 2010). Though these people live in the forest that is very rich in natural resources they still live in abject poverty.

The Indigenous Peoples (IPs) since time beyond recall have already institutionalized and even internalized the love, care, protection and conservation of their community forest because it is everything to them, a source of life sustaining materials or resources, shelter against the force of nature and its scenic beauty. The forest has direct and indirect benefits to them. Their forest domain has aesthetics, spiritual and ethical values and serves as their recreational natural playground.

The continuously unabated wanton environmental destructions which lead to dangerous climate change prodded these researchers to revisit indigenous practices as alternative ways for the protection of the already dwindling forest resources. The Philippines has promulgated several laws and policies directly or indirectly dealing with conservation, protection and sustainable use of its natural resources, one of which is on forests.

The Philippine constitution has the following provisions relating to forest conservation stated as follows; Support and protection by the State for the right of all Filipino people to a balanced and healthy ecology in accordance with the rhythm and harmony of nature (Sec. 16, Art. II); Framework of national unity and development (Sec. 22, Art. II); State ownership of all natural resources, except for agricultural lands (Sec. 2, Art. XII); Full control and supervision by the State of exploration, development and use of natural resources either by directly undertaking such activities or by entering into co-production, joint ventures or production-sharing agreements with Filipino citizens or Filipino-owned or controlled corporations or associations (Sec. 2, Art. XII). Stated further that, Small-scale utilization of natural resources (Sec. 2, Art. XIII); Determination by Congress of the specific limits of forest lands by marking their boundaries on the ground (Sec. 4, Art. XIII); State protection of the rights of indigenous cultural communities to their ancestral lands to ensure their economic, social and cultural well-being (Sec. 5, Art. XII). The principal law governing forest management in the country is PD 705 (1975) otherwise known as the "Revised Forestry Code of the Philippines". The Code contains basic forestry standards and practices such as areas needed for forestry, multiple use, forest utilization and management, and criminal offenses and penalties. PD 705 has been amended by PD 865, PD 1559, PD 1775, BP 83, RA 7161 and EO 277.

Another important law in forestry is RA 7586 (1992) or the "National Integrated Protected Area System" (NIPAS). This is the principal law governing protected areas. NIPAS encompasses outstanding remarkable areas and biologically important public lands that are habitats of rare and endangered species of plants and animals, bio-geographic zones and related ecosystems, all of which are designated as protected areas. The protected areas include strict and nature reserve, natural monument, wildlife sanctuary, protected landscapes and seascapes, resource reserve and natural biotic areas.

RA 8371 (1997) or the "Indigenous People's Rights Act" (IPRA) has also a great impact on forest management. Other laws include RA 9072 (2001) or the "National Cave and Resources Management and Protection Act", RA 9147 (2001) "Wildlife Resources Conservation and Protection Act", and RA 9175 "The Chainsaw Act." Recent initiatives seek to complement the spirit of devolution and promote the empowerment of all stakeholders to enhance their involvement in the development of the sector. EO 263 titled "Adoption of the Community-Based Forest Management Scheme" encourages more participation from upland communities in forest management. In addition, the Indigenous Peoples Rights Act (IPRA) provides IPs with a legal mandate to utilize and manage resources within their ancestral lands and domains. It also provides IPs with an opportunity to forge partnerships with the government in programs and projects on natural resources management (NRM), particularly in areas within their ancestral domains.

This research is significant to the researchers since it enhanced their understanding about the necessity of practical system to avert or control abuses of the natural resources which maybe called crimes against the environment. To the policy makers, this study will serve as a foundational reference for their policy promulgation for the protection of the already dwindling resources such that the coming generations may have something to enjoy. This study will also serve as a reference for coming up with responsive programs that may respond to the dreaded effects of climate change, as an eye opener to other communities so that they may be endowed with consciousness about the impacts of climate change on the environment and Mother Earth as a whole, and its conservation and protection. If these practices are adopted by the public, the country may be saved from the wrath of disasters brought about by climate change. As for the cause-oriented group of students, results of this study could serve as their baseline information in coming up with a more comprehensive research to further the cause to fight abuses of the Earth's natural resources. The study aimed at documenting conservation management practices and beliefs of the IPs of the Cordillera Region of the Philippines and the role they play as stewards of their forest domains.

Paculdar and Parreno (2008) quoted the definition of climate change of Atty. Casis which he lifted from the United Nations Framework Convention on Climate Change (UNFCCC): "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to the natural climate variability observed over comparable time periods." A major evidence of climate change today is global warming. Global warming is the accumulation of greenhouse gases (GHG)—carbon dioxide, methane and nitrous oxides in the atmosphere; these trap the sun's heat energy resulting to increases in the average global temperature. GHG-emissions come mostly from human activities

such as excessive burning of fossil fuels, deforestation, and growing waste dumps. Other effects of climate change are increase in sea levels, increase in temperature and acidity of oceans, melting of ice caps, widespread of climate-related diseases such as malaria, higher incidence of hurricane and forest fires, and destruction of crops. In the Philippines, according to Atty. Casis, the most affected sectors are agriculture, food security, and health. Some of these include changes in agricultural yields for crops such as rice and maize (Rincon and Virtucio Jr., 2008). Changes in land use, as a consequence of changes in rainfall pattern, will also push people to migrate to higher elevations where soil is less fertile causing increase rate of conversion of forests to agricultural lands to increase in greenhouse emissions. Forests are essential for the survival of people everywhere, they nurture, inspire, and shelter. They can also, incidentally, provide a sustainable path for achieving difficult development goals, like eradicating global poverty or increasing food security in the world's most vulnerable regions (Media advisory, 2014). Nowadays, it is a known fact that the forest natural resources are becoming depleted. The underlying causes of forest problems are poverty, over-population, inequitable land tenure regimes, misguided policies, weak governments and debt burdens. Based on records five decades ago forests of Southeast Asia including those of the Philippines are the most biodiverse terrestrial ecosystems on Earth. These forests, however, face serious threats from social and economic development. The factors that contribute to forest loss and degradation include shifting cultivation, cash cropping, firewood collection, livestock grazing, unsustainable logging and anthropogenic fires intensified by exceptional droughts (Aguda, 2005).

As reported in the Philippine Daily Inquirer (Alave and Burgonio, 2011), the country has not yet seen the last of extreme weather events. Climate projections for 2020 and 2050 by the weather bureau are even grimmer. The dry season would be drier and the wet season would be wetter, and the damage to crops and water source would be far reaching. Conservation and environmentalism has become a hot topic in the Philippines as the populace has experienced first-hand the ramification of devastated ecosystems (Hance, 2008). Though some sectors and even nations still dispute the contention that industrial pollution is a major contributory factor to what's happening to the natural environment and are still in denial about global warming and climate change, there is no escaping the fact that there has to be a profound paradigm shift in the thinking and behaviour and action vis-à-vis nature and the environment (Magpantay et al., 2013). In addition to this, Albano Jr. reported in *Tabuk Life* (2011) that the tribes Banatao and other bewildered Dupag residents fear that if they heed, the campaign of the Department of Agriculture of the Aquino Administration's Upland Rice Based Cropping Systems for Indigenous Peoples, might disturb the fragile balance between agriculture and sustainable forest management prevalent in the domain. In the Philippines, the Indigenous Peoples are empowering themselves to provide a justice system that has meaning to the people they serve and the power to perpetuate

what was preserved by their ancestors and passed on by the elders as testimony of their commitment to the future of their tribe (Melton, 2004). Historical records of the different tribes of the Philippines show that the Indigenous Peoples have rules and policies regarding the management of the natural resources of their forest domains. In the IPs rules and policies, there are many acts that are strictly prohibited and severely punishable, some of the many include indiscriminate cutting of trees, stealing farm or orchard products of others, and catching different species of birds (Sarmiento and Halaman, 2002).

METHODOLOGY

This is a qualitative research which documented the traditional practices of the Cordilleran tribes in their forest conservation and management systems. The data were gathered through interview and empirical experiences from the old folks of the IPs of Cordillera. Actual visits were done in selected places like those where corporate mining operations are ongoing which contribute to the fast denudation of the forest and to those places where issues of ancestral domain are under disputes to see the method of delineating and parcelling of the ancestral domains to their specific use or uses.

Reports on the conditions of the forest resources and other environmental issues of Kalingas and Ifugaos, issues on land utilization as well as production, and reviews on the different territorial boundaries (*bugis/piglis*) published in the city magazine "Tabuk Life," and/or in the "Greenfields," the Philippines longest running agricultural and agribusiness magazines were also searched. This is to put in proper perspective the direction of the research on territorial boundaries. Likewise, reviews of the "*pagta*" (agreement) of each locality as embodied in the *Bodong/pechen or pochon* of the IP communities were also done.

Tribal leaders and other respected members of visited barangays were made as primary respondents of the study who provided the necessary information regarding this research. This research was conducted for almost two years from 2011 to 2013.

RESULTS AND DISCUSSION

TRADITIONAL ENVIRONMENTAL MANAGEMENT PRACTICES

Hereunder are the results of the extensive interviews conducted by the researchers with the primary respondents and from their reviews of related magazines on the IPs' territorial boundaries.

The IPs are the real guardians of the forests. They know pretty well each tree species, its uses, characteristics, and propagation. They know whether a fruit or a flower is edible or not. Knowing the use of each tree prevents them from indiscriminate cutting, and gives them the knowledge when a certain tree is old enough to be harvested. For the IPs, the forest is their playground, recreation area, and training ground for forest survival.

The IPs have their own traditional practices in conserving and protecting natural resources. Their concept of conservation is integrated with their indigenous knowledge, systems, and practices. There are many distinct ways in their daily lives that indicate their traditional practices of conserving the environment especially the forest.

ESTABLISHMENT OF OWNERSHIP OF PROPERTY

Imong System

There are well-defined property boundaries among the IPs. In their *Imong System,* the boundaries are marked by planting trees like palm trees or placing big stones or using natural boundaries such as creeks, mountain ranges, mountain saddles and rivers. This system of indigenous ownership starts with small clearings called *ba-ang*. Iniatially the place is planted with vegetables and tree seedlings. After the vegetables have been harvested and when the trees mature, the area will be owned by the vegetable-cultivator. *Ba-ang* is one of the indigenous ways of owning a particular area not previously owned by another.

FOREST CONSERVATION PRACTICES

Among the IPs, gathering of firewood or any forest product from the *imong* is strictly prohibited unless with the acquiescence of the owner. It is a taboo to them to enter it without proper permission. Even upland farming with kaingin activities is strictly prohibited. The forest trees in the *imong* are reserved for building houses of light materials and firewood. The trees are not even cut down; only their branches are pruned for firewood. Stealing in the *imong* area is severely punishable by the village folks. The perpetrator of the crime can be identified by the *sapata* (swearing). All suspects will undergo the *sapata* by swearing that one's eyes will be blinded like a coin or his stomach will become as large as a big jar if he is the culprit.

Lapat

This is an interdiction of the cutting of wood or grazing of a particular area in honor of the dead. The interdiction will take a year. When an area is declared as *lapat* every one is prohibited to enter in that area. Gathering of fruits and fire-woods are strictly prohibited and violation is severely penalized by the village folks. This is

practiced in Apayao of the Cordillera Region in the Northern Philippines. *Lapat* is also practiced in the house. A particular part of the house can be declared as *lapat*.

Muyung

This is a forest conservation practice among the Ifugaos of the Cordillera Region of Northern Philippines. This practice of forest conservation identifies a particular area in the forest of which cutting of trees is strictly prohibited. The *muyung* is usually found near springs or creeks which serve as the sources of potable water and irrigation water for the rice fields. The importance of the *muyung* is noteworthy because it has multi-functions and purposes aside from being an indigenous way of forest conservation and protection.

***Apa* system of Mountain Province**

This system is similar with the *imong* but the *apa* system entails a wider area. It may cover a whole mountain, hills or wide plains. Variety of farm products can be planted in it. It can be used as grazing land, *kaingin* area, vegetable production or even an area for planting of fruit bearing trees. Like the *imong,* entry in the *apa* is prohibited unless with the expressed permission from the owner.

***Lakun* System**

The *lakun* system refers to selected parts of the forest that are cleared for special purposes like planting of fruit bearing trees which is likened to an orchard. A part of it is reserved for growing cogon grasses which are used as roofing materials for houses. Other areas are planted with bamboos of different varieties. The bamboos are very important because they have countless purposes. They can be used for fencing, walling, flooring, as materials for house construction. Dried bamboos are also used in cooking, as storage of rice, beans, water, and others. Vegetables like legumes and root crops are also planted in the *lakun*. It is usually enclosed with a fence.

Tadaw

This is a practice of the IPs where bigger trees in the *kaingin* area are not cut instead they are pruned. This is so to make trees pliant and resilient to stand against strong winds of typhoons. After the harvest time or typhoon season the tree can easily rejuvenate or fallow.

Kalinkin

This is a practice among kaingineros (those practicing *kaingin*) that before clearing a forest for *kaingin*, all of them help one another to make a fire wall around the *kaingin* area. The clearing wall is about two meters surrounding the whole *kaingin* area. This will prevent the fire from going wild which may spread and create forest fire.

Selective kaingin

The community folks do not introduce *kaingin* anywhere in the forested area. There are identified areas good for *kaingin*. These areas are proven to be fertile, with less undergrowth, vines, and not stony. The folks only cultivate the soil twice, the *inagguma* and *gangan*. The *inagguma* is the first *kaingin* done in a certain area. After the harvest in the first clearing is done and the soil is still fertile, the farmers will cultivate the same area for the second time, the *gangan*. After the second cultivation, the area is left to fallow (*bol-as*) for five or more years.

FOREST MANAGEMENT SYSTEM

Indigenous Farming Calendar

Indigenous Peoples of Kalinga and Ifugao in the Cordillera have similar farming activities in the same months spread throughout the whole year. These indigenous farming activities are reflected in Table I. Each month of the year is slated for a particular farming activity. The distribution of the farming related activities has become a natural conservation practice. The folks do not go for hunting when it is not the appropriate season for it. Other activities such as *kaingin, ba-ang*, gathering fruits, and others have also their specific seasons.

Table 1
Calendar of Indigenous Farming Activities of the IPs of the Cordillera, Northern Philippines

Indigenous Farming Practices	Month	Environmental Condition	Farming Activity
Ladaw/Loya	January	*Loya*, ground is muddy	Farming activities are on hold waiting for the ground to get moist
Manaba/Ladaw	February	*Upuk*, warning oneself	Selection of swidden sites.
Gabgab/Adawoy	March	*Kiyang*, waters in rivers and creeks get low and one can walk across	Cutting growth in swidden (*manguma*) and hunting.
Acal/Manaba	April	Blooming of the *ladaw* tree	Debris in swidden permitted to dry, hunting and peace pact celebration.
Kitikiti/Adawoy	May	*Kiy-kit*, time for burning swiddens	Burning of swidden, hunting and peace-pact celebration.
Walu/Acal	June	*Panaba*, time to plant swiddens	Planting time for swiddens, harvest of unoy and preparation of sinawali.
Camaduyung/ Aladug	July	*Adawoy*, blooming of the *adawoy* tree	Land preparation in the rice-field
Malu/ Saldan	August	*Acal*, start of rainy season	Weeding rice-field. Planting in the field.
Abucao/ Buybuyag	September	*Mamagitong*, tyhoon time	Leisure before harvest and trading time.
Gabbok	October	*Walu*, time of hail	Lugam in the swidden
Bisbis or Banat/ Upuk	November	*Pabokao*, windy time	Start of harvesting.
Kiyang	December	*Kil-ing*, harvest time	Harvest completed.

Forest Management Activities

Dispersing forest tree seeds like birds. When the people of the upland hunt, they pick up seeds found in the forest and throw these away in other areas. This way, the natural diffusion of the diversity of plants takes place through human intervention. New tree species are introduced in areas in this scheme. Trees that grow in far forest area can grow near villages. It would be easier for the people to harvest when needed in their house construction or for other purposes.

Periodic hunting and gathering practices. Hunting wild pigs and deers is allowed only during rainy days. The indigenous peoples have perfected a way of

allowing the wild animals to reproduce and wean their young before the hunting. Another limiting pattern for the IPs to hunt is their continuous work in their farm and other activities done in between farming seasons. During harvest for instance, the whole human resources in the community or *ili* is utilized because the harvesting is done manually with the use of crude tools like the *lukom or gipan* (knife). Even during land preparation, whether upland farming or wet farming, the people are all pre-occupied because of the "*pappangu,*" a bayanihan farming system. Others take advantage of the season to earn money by working in the farms for a certain fee, "*tangdan*." Fishing is also slated in a particular season. During summer time the people go fishing called *sopnak or lagannay* in the river using the mosquito net to catch small fishes or catch big fish called *panilong* by means of a bamboo entrapment called *ubol* or catch various kinds of fishes by building stone-walls in the small streams using dried banana leaves and mud to cover the spaces in between stones. This activity called *salop* involves the whole village.

Selective Harvesting. The IPs harvest only what they need for a day. They do not harvest more than what they are able to consume or sell. They do not over-harvest. They only fell or cut adult trees for lumber when they are needed.

Land Utilization. The Kalingas and the Ifugaos have similar utilization of their land. Certain part of their ancestral domain is used for specific grazing land or pasture land for their beasts of burden. Other areas are specified for fetching drinking water (*chusik or bubus*), kaingin, paddies for planting rice, planting fruit trees, vegetables, legumes, root crops, and for offering, *sasaggangan*.

Selective Cutting or Branch Pruning for Firewood. The IPs prune the branches of trees leaving them standing and firm during typhoons. They also leave trees especially the straight ones that are good for house construction.

Cleaning the surrounding of each tree (*ga-at*). so that the tree will not be competing for sunlight and soil nutrients. Climbing vines are cut or uprooted so that these will not bend the tree. The tree will grow straight which is good for lumber, round post and material for constructing their house.

Strict implementation of Tribal laws. The strict implementation of tribal laws is one of the deterrent factors for tribal members or for would-be-violators who steal (*akaw*) any forest product and prevent indiscriminate cutting of trees or burning. The perpetrator cannot run away with the claws of the tribal laws. The perpetrator can be identified by the "*Sapata*" and once the perpetrator is identified the elders will meet together to discuss the most appropriate penalty or punishment.

BELIEF SYSTEMS RELATED TO FOREST CONSERVATION

Ngilin

The upland folks believed that there are certain acts that should not be done. Indiscriminate cutting of trees or burning the forest is *laweng* or *lawengan* (taboo) among the upland folks. The concept of *laweng* is attached to a punishment *dusa* from a super human or an *anito* (spirit). This belief deters someone to do the destruction or the prohibited act. They believe in the karmistic effect of any bad or unwanted actuation.

Paniyaw

This is a belief that doing something which does not conform with the norms or standards is self-demeaning. Intentionally, burning a cogonal area is *paniyaw* because the cogon can be used by all members of the community. Putting poisonous substance in a spring for drinking or in a river is *paniyaw* because of the danger it poses to human beings, animals and fishes and the extent of the destruction it brings.

CONCLUSIONS

There are still many indigenous practices in the protection and conservation of the forest. These practices and beliefs which have outlived time are still part of the consciousness of the people of the Kalinga and Ifugao, Mt. Province. These are also kept as part of their culture identity and social value. The practices and beliefs are unwritten but followed to the letter. They are passed-on to the next generation by words-of-mouth and actual practice and observation. There is no school, no pen, and not even a book or the benefits or advantages of the technologies of today that can transmit the marvellous ideas, beautiful practices and beliefs of the IPs from the elders to the younger ones except through story telling done during gatherings, *am-ammong,* or in *dap-ay* or *ato*r, done most especially during full-moon. The old and the young ones are gathered, seated in stones and converse. That very moment the transfer of ideas start – knowing-by-listening. The orally transmitted learning is ripened by experience and constant teaching and guidance of the old folks. Hence, the knowing-by-listening is transposed into learning-by-doing. This eventually led to the mastery of the practice. The once student will then become the carrier of the words to the generation in tow and to the generations yet unborn.

RECOMMENDATIONS

It cannot be denied that most indigenous practices in forest protection and conservation are very environmental friendly and cost less, even free. It is a concerted effort of the whole community, young or old, male or female, rich or poor. It is also a cooperative and coordinated action directed to a very specific goal. There are no

complicated rules of the game, no loop-holes because all are simple. Along this concept, it is recommended that the forest protection and conservation practices of the IPs should be finely identified by government agencies whose mandate is on environmental protection and ecological balance, so that it will be fully supported and encouraged and incorporated in future environmental policies. In this sense, the IPs are encouraged to continue protecting their forest domains and converting the same as source of commerce and progress without sacrificing the environment or disturbing the ecological balance. It is further recommended that in order to sustain forest protection all over the country, such practical practices should be widely disseminated and adapted by all levels and cultures. With these, the possible impact will mitigate the adverse effects of climate change.

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