

An Integrated Reforestation, Conservation and Sustainable Livelihood Program for Kanawan Aytas in Morong, Bataan: A Science-Based Community Empowerment Model¹

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ABSTRACT

The Mabukún Aytas in Morong, Bataan is a semi-nomadic indigenous community whose livelihood is primarily dependent on the bounty of nature. Since time immemorial, the Aytas observed sustainable hunting and gathering practices. The conservation of nature is integrated in their culture. However, due to massive destruction of habitat caused by logging, unsustainable hunting methods by non-indigenous poachers, and politically backed conversion of forest land into mono-crop plantation, farm and grazing lands, their livelihoods become insufficient to their needs forcing them to eat only twice or once a day. Our previous studies showed that an Ayta earned only \$0.40/day, a value way below the \$2/day extreme poverty line.

This paper aims to share lessons learned in the implementation of the science-based community development program entitled “Establishment of Integrated Reforestation, Conservation and Sustainable Livelihood Program for Kanawan Aytas in Morong, Bataan-Philippines.” This program provides Ayta community the opportunity to demonstrate their traditional knowledge in preserving and conserving remaining resources and helps them to develop a culture-based sustainable livelihood program. Particularly, this paper is on the interplay of social science aspects and synergism of scientific and traditional knowledge in the implementation of the program. It also tackles the methods and processes developed and used by the community to nurture the sense of community ownership and the community-based management mechanisms as strategies to strengthen their capacity and to promote empowerment of the community.

Key words: Science-based community development, forest conservation and rehabilitation, synergism of scientific and traditional knowledge

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INTRODUCTION

In Philippine history, the Negritos are believed to be the first inhabitants of the country found in different areas all over the Philippines and the Aytas are among the Negrito group of indigenous people located in central Luzon provinces of Tarlac, Pampanga, and also in Bataan and Zambales.

Forest is the lifeblood of the Aytas. It is the main source of living that interlink with their culture, tradition and practices. Hunting and gathering are among the important economic activities and traditional practices that symbolize the Aytas' way-of-life. Conservation of natural resources is integrated in their culture as they only get need-for-the-day and conscientiously avoid to "salanta." *Salanta* means damaging of natural resources by over harvesting. This culture is evident in their daily subsistence lifestyle practiced thru seasonal hunting of wild pig and deer from June to December while fowl monitor lizard throughout the year. Honey, the most important forest product, is gathered only from December or January to May while hunting of wild pig and deer are conducted from June to December. Both traditional practices are strictly observed even by the younger generation.

The Aytas are keen in identifying the signs of nature. Collection of honey is started only when honey source plants bloom and is stopped when the beehives have formed a protective canal against rain which signifies that the rainy season is about to begin. Hunting is partly conducted only during rainy season because food such as nuts, fruits, grass and worm are abundant in the forest.

Despite their sustainable traditional utilization practices, the signs of over-harvesting are now manifested due to unsound methods by non-indigenous peoples and the destruction of forest. These practices affect the production of honey that beehives become more and more difficult to find and smaller in size while wild animals have declined in number.

METHODOLOGY

This research was accomplished based on the The United Nations Declaration on the Rights of Indigenous Peoples affirming that indigenous peoples are equals of all others in different Nations. They should be recognized with individual differences. This paper features the *sui generis* perspective on conservation and utilization of natural resources of the Aytas,

and the participation of migrant upland farmers and fishermen in Morong, Bataan.

This study was conducted with utmost respect to the Aytas' traditionally observed protocol. First, seek permission from tribal leaders and community members to conduct research. Second, presenting the topic with its procedure and activities to the leaders and for community assessment and evaluation.

Information in this paper is gathered over the span of a five-year (2004-2009) period. Borromeo B. Motin had voluntarily immersed with the Ayta community as social scientist and community development officer for the Center for BioMolecular Science Foundation and of the Bataan Center for Innovative Science and Technology, Inc., respectively.

The community permitted the gathering of data through participatory observation of the researcher who started as outsider of the community later as friend and advocate of Aytas' rights. They also approved the conduct of the following activities: 1) formal and informal interviews with tribal leaders, committee members, and workers; 2) focused group discussions; 3) and validation of data.

Other information was culled from workshop outputs, minutes of meetings, field notes/diaries, and results of project implementation. Bits of information were endorsed through the community consensus which is the most important and respected process. Agreements, though primarily oral, were treated as legally binding and final with all information cited in this study validated and allowed by the community leaders.

HISTORY OF THE AYTAS IN MORONG, BATAAN

Historical accounts handed down through generations highlighted the ordeals of the Magbukún tribe who started in their first encounter with non-indigenous settlers in Mabayo. Apo Alipon initially welcomes newcomers and treated his guest as friends. Suddenly, Apo Alipon discovered that newcomers had the tendency to be selfish and so they took advantage of their generosity. This did not please the Aytas so they decided to talk and tried to put up a set of rules to regulate the use of land in their territory. Talks between the two parties were not successful that resulted in a heated dispute until the new settlers drove the Aytas out of Mabayo.

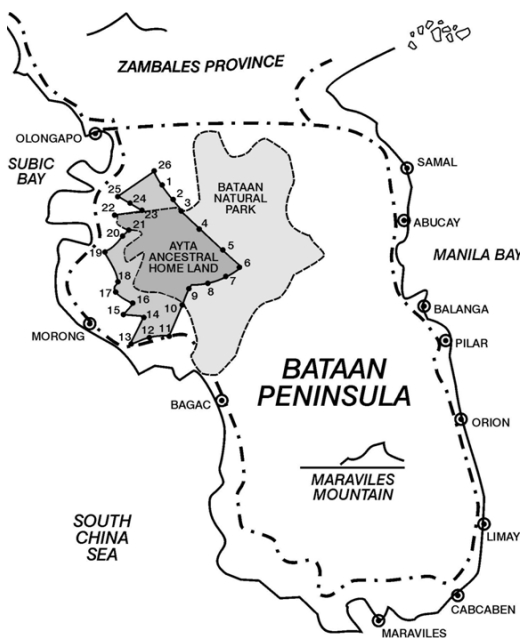


Figure 1. Map of Aytas' Ancestral Domain

Apo Alipon and Lola Moray moved far northward until they reached the bountiful areas around Boton, now located inside Subic Bay Freeport Zone (SBFZ). As a practice, the first time they reached the place a hut was built, cleared small piece of land, and planted crops. Apo Alipon continued their journey and trekked to the west and northwest side of Mt. Natib and established territorial boundary that now belongs to the ancestral domain of Kanawan Aytas.

Origin of Magbukún Tribe

In an interview with Aquino Malunic, a tribal leader, Apo Malu and Lola Unhik were the first Ayta couple to set foot in Bataan province while Apo Alipon and Lola Moray, blessed with six children, were the first Ayta couple to settle in Morong.

Apo Alipon and Lola Moray originally came from Zambales. They traveled to the coastal area of Morong to look for a better place to live in and settled in an uninhabited area now called Barangay Mabayo and never returned to Zambales. The term "Mabayo" was derived from the Ayta word "bayo" which means "new people arrived" and it was probably used to mark where they met new friends who are believed to be Moros.

The Kanawan Aytas belong to the Magbukún tribe, descendants of Apo Alipon and Lola Moray. The term “Magbukún” literally means “on his own.” Since Apo Alipon and Lola Moray never returned to Zambales they were considered to be on their own by the tribe from which they originated.

When Apo Alipon reached the ripe age of approximately 123 years and in preparation for his passing away, he decided to hold a gathering of all members of his clan including his children and grandchildren from different parts of Bataan. It was held along Kabuyaw River where he worshipped and gave thanks to *Anito* (god of nature). He counseled and admonished his descendants and blessed each of his children and grandchildren before sending them off. He asked them to make an oath to *Anito* and requested them to dip their hands in water called “kanaw” as a symbol of purity and to place their hands on their chests. He then said aloud in their language:

“You from my race, this is what you should do for all time. You should love one another, help one another, care for and respect the land I gave you, plant, take care and nurture it, and treat it as a community property.”

Settlement of Kanawan Aytas

The word “Kanawan” was derived from the place where Apo Alipon requested his descendants to dip their hands before they took their oath. It is located in Sitio Kanawan, Barangay Binaritan, Morong, Bataan.

In 1932, the Legislative Act No. 3915 entitled “An Act Providing for the Establishment of National Park Declaring such Park as Game Refuges and for other Purposes” was enacted. Old conservation philosophy prescribed that a protected area should be free from any human activity. Thus, the semi-nomadic indigenous communities all over the country were forced to live in one settlement.

The Aytas in Morong preferred to settle in Sitio Lemon in Barangay Sabang. According to tribal chieftain Rudy Tamundog, though they were ordered to select only one settlement, the Aytas furtively moved back and forth between Sitio Lemon and San Isidro for better sources of water.

But in 1972, they evacuated to a temporary settlement at the nearby town proper called “Timbungan” due to continued fighting between the government military forces and the New Peoples Army, the armed group of the Communist Party in Philippines. Years later, former First Lady Imelda

Marcos chose Sitio Lemon as suitable site for the Philippine Refugees Processing Center (PRPC). Aytas were evicted from their ancestral land to give way to the Vietnamese refugees. Their burial site was desecrated while the spring which served as water source was flattened to give way to the construction of cottages.

On 27 November 1987, former President Corazon C. Aquino signed a Presidential Proclamation No. 192 declaring 165 hectares of the Bataan National Park as Kanawan Negritos Reservation Area (KNRA). Engr. Alberto Mangalindan however claimed that the area of reservation was 227 hectares after a ground survey was conducted in January 2008.

The KNRA is now the home of Aytas and non-Aytas settlers. Today there are about 41 hectares of land occupied by 13 non-indigenous migrant families and 186 hectares are used by the Aytas with about 156 hectares for agricultural and agro-forestry use, two hectares for residential use, one hectare for the elementary school and 30 hectares protected, reforested and sloped areas that are not suitable for farming.

The Socio-Cultural Development Index (SCDI)

In one of the public forums, Berlinda Restum, an Ayta women organization president, asked this question: "How can you ensure protection of our culture from the development brought about by your project in our community?" This question led to the development of a "Modified Socio-Cultural Development Index for Kanawan Aytas in Bataan" to benchmark the present condition and assess the long-term impact of development intervention in their community."



Figure 2. The 4-Helix Model for Sustainable Development

Standard economic indicator like Human Development Index (HDI) is not applicable to a predominantly non-monetary economy and it does not include cultural indicator. For Kanawan Aytas, the most important factor in assessing development is the status of their cultural integrity and heritage that ensure communal ownership of the land, Magbukún language, traditional costume and tools. To address the deficiency, the researchers devised a modified socio-cultural development index (SCDI) to help assess the effect of future bio-diversity and other initiatives in Ayta community. The SCDI is a composite of four indicators that are weighted according to the Aytas' consensus: 40 percent cultural integrity, 30 percent education, 20 percent income and livelihood, and 10 percent health.

Using the formula, a relatively low value of SCDI (0.524) was obtained for the Kanawan Aytas despite the high value and indicator weight for cultural integrity (0.889 out of a possible 1.0). The low SCDI reflects the poor educational status (0.268), poor income and livelihood (0.230) and poor health statistics (0.425) of the community.

ANCESTRAL DOMAINS OF THE AYTAS IN MORONG, BATAAN

The Magbukún Aytas have an estimated 10,970 hectares ancestral domain (AD) out of 21,910 hectares land area of Morong town that covers part of the Subic Bay Freeport Zone (SBFZ), Bataan Technology Park, Inc. (BTPI) and Bataan Natural Park (BNP). The AD claim is located in the northwestern side of the province about 165 kilometers away from Manila.

Their ancestral domain is rich in natural resources. It is part of the 10th priority Key Bio-diversity Areas (KBA) in the Philippines with over 6,490 hectares forestland. There are several rivers and creeks that support the agricultural and domestic needs of the community downstream. There are no data on mineral resources to show because the Aytas strongly opposed the conduct of mineral analysis to discourage mining groups in their ancestral domain. The prevailing climate is characterized by pronounced dry and wet seasons that are categorized under type 1 of the Modified Corona's Classification with mean annual rainfall of 1,173 mm (2004).

However, this biodiversity-rich area is under threat. Illegal logging operations backed by politicians are continuously intruding into the protected area. The indiscriminate charcoal making, conversion of forest land into farm and grazing lands, and unregulated hunting by non-indigenous poachers even during off-season are conspicuously encroaching in all sides of their AD.

REFORESTATION AND CONSERVATION PROJECT

The Kanawan Aytas have been alarmed about the rapid degradation of bioresources in their ancestral domain. The Aytas appealed to loggers to spare the beautiful Bisay Falls area and its surrounding forest. Loggers obliged, at least for the time being, by moving operations farther away from Kanawan.

In 2004, the Ayta leaders composed of council of elders, tribal council, peoples' organization, women organization leaders, and youth representatives discussed a five-year development plan of forest conservation to be presented to government and non-government organization for assistance. The primary objective is to conserve and revive their traditional source of living.

Vision and Mission of the Ayta Community

The tribal leaders, with assistance of Borromeo B. Motin, the project's social scientist formulated their vision and mission to set a guide on the kind of development appropriate for their community and the mechanism to ensure respect for their rights and spur community empowerment. Their vision and mission state:

Vision

Respect the rights of indigenous peoples.

Revive, protect, and preserve the Ayta culture, language, tradition, and natural resources to provide and sustain the needs in sending children to school and assert the rights to roam freely in the forest, improve livelihood opportunities, ensure access to potable water, and other basic social services.

Mission

To inform all concerned about the rights of the indigenous peoples

To sustainably protect, preserve, and improve the traditional knowledge, culture, tradition, language, and skills to be able to assert the rights of indigenous peoples to ancestral domain, livelihood, and health

Objectives of the Project

1. To establish a partnership between the community and the Center for Bio-molecular Science Foundation (CBMSF) and Bataan Center for Innovative Science and Technology, Inc.
2. The (BCISTI) should cooperate and secure financial support from the Philippine Tropical Forest Foundation to implement the reforestation and conservation program of the community.
3. To motivate, empower, and mobilize the Aytas of Kanawan to rehabilitate and conserve two critical areas of their ancestral domain within the Bataan National Park (BNP).

Development of Sustainable Livelihood

In attaining the opportunity of receiving the fund for conservation, the establishment of sustainable livelihood project is a prerequisite for community-based forest rehabilitation program and conservation efforts; however, it must be borne in mind that among the major factors that contribute to the failure of many reforestation projects are the following:

1. Lack of community participation and ownership.
2. Local stakeholders may lose potential income and access to resources forcing them to bear an undue economic burden as the result of conservation activities.

Following are the livelihood systems identified by the communities:

First, the tribal leaders identified nature-based livelihood symbiotic with the philosophy of conservation program and among the priorities were the establishment of ecotourism, agro-forestry/perma-culture and utilization of non-wood forest products.

Second, the Aytas agreed to seek partnership with different specialized organizations to assist them in the development of identified livelihood projects.

Third, the University of the Philippines Asian Institute of Tourism (ATI) helped identify the tourism assets embedded in their indigenous culture and traditions. These were limited not only to cultural presentations and indigenous cuisine.

Fourth, the ATI also assisted in packaging interpretative trails to Bisay Falls, in hosting members of the Bird Watchers' Club, mountain hikers

and other associations and in training for the tourism managers in the community requiring the partnership to formulate the tourism management mechanism was installed. Its formulation urged the advocators to apply the principles of agro-forestry and perma-culture were integrated in planning and development of the community. Permaculture or “permanent agriculture”, the science and art of integrating indigenous resources with appropriate technology, an environment-friendly method for sustainable and intensive farming throughout the year. Agro-forestry and permaculture experts volunteered their services while marketing of excess agricultural products will be purchased by partner women organization engaged in food processing.

Non-wood forest products were explored as herbal teas, wines, fruit preserves and raw materials for handicrafts.

Indigenous Environmental Management

The tribal council (TC) is the main governing body of the Magbukún Ayta community while the Council of Elders (CE) serves as spiritual and cultural adviser. The TC is headed by the tribal chieftain who leads and represents the community in internal and external affairs. The leaders are selected from members of seven original families that have qualities to assume the position.

The philosophy of indigenous environment protection, conservation, and utilization is primarily based on Apo Alipon’s doctrine. Aytas conscientiously abide by the cycle of nature. Among the traditional practices that are unconsciously conducted are the following: (a) dispersing forest seeds like birds by picking seeds found along the way and throwing them in other areas, (b) periodic hunting and gathering practices, and (c) taking only what is needed for a day to prevent imbalance of nature (*salanta*).

Development Framework and Sustainability

The development framework is based on modified S&T economic model called the Four-Helix model. This model is a partnership between government, academe, industry, and community. The original Three-Helix Model, a partnership between government, academe and industry that had been successful in its technology incubator in developed countries like Silicon Valley in California, U.S. East Coast, Europe, Japan, Singapore, Taiwan and Korea but failed in the Philippines. It was proposed that the community be the fourth component of the S&T economic model included but it should be capacitated and empowered to be an active partner in development.

The researchers believe that real empowerment can happen only if there is a program for sustainable community development. A holistic approach was tested in Ayta community that included relevant education, culture-sensitive development, health, and livelihood appropriate to their culture, skills and resources.

Sustainability of project management was ensured through a transition model in which Ayta leaders suggested a five-year development scheme based on their learning and empowerment capability. In the first year of project implementation, management was ninety percent (90%) controlled by partner organizations while with the ten percent (10%) management was shared by the community. In the succeeding years, community management responsibility increases from 40 to 60, 80 and 90 percent while partner organization decreases from 80 then 60, 40 and 10 percent respectively. Community leaders appealed to CBMSF and BCISTI not to phase it out entirely after five years because they need advice from time to time.

In addition, the Aytas developed a mechanism to ensure financial capability to support the community conservation project. Earnings from projects and services will be taxed ten percent. They also developed benefit sharing mechanism for any project that develops commercial products from community resources.

CONCLUSIONS

The scientific basis for strategies used in eco-restoration is very important in ensuring the success of the bio-diversity and conservation program. The social science component is equally significant in terms of community preparation, training design, and study of culture in order to identify the community values and sensitivities. Innovation through science and technology is best accepted by the community when a good rapport is well established. Cooperation with neighboring communities is also indispensable in the success of the project.

Most of the Kanawan Aytas do not yet have a practical knowledge on nutrition, hygiene, and sanitation, a prerequisite to food processing as a livelihood activity. Development of livelihood opportunities should be made based on their ability, skills, and resources.

The holistic development approach had been successful because it responded to the condition and needs of the community. An ethically preferred process by the community should be respected to facilitate active

participation, trust, empowerment, and ownership. Respect the indigenous peoples rights, ideas and views, self determination and self governance, transparency, and sensitivity to differences of culture, tradition, knowledge, systems, and practices should strictly observed. Securing free and prior informed consent (FPIC) of the community is a precondition to program/project implementation.

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