

## Tayabas, Philippines Green Currency: Bringing Lights and Income to Poor Coconut Farmers<sup>1</sup>

**Name of the policy:** River, Fiber and Power Project

**Start date:** 2007

**Completion date:** Ongoing

### CONTEXT

#### GOVERNMENTAL CONTEXT

##### City context

The City of Tayabas is located in the province of Quezon, Philippines: It was the former capital of the country (1948-1976) and is the largest city in Metro Manila in both population and land area. It hosts the House of Representatives of the Philippines at Batasan Hills and the metropolis' largest source of water, the Novaliches Reservoir.

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<sup>1</sup> The **Inclusive Cities Observatory** is a space for analysis and reflection on local social inclusion policies. It contains over sixty case studies on innovative policies for community development, access to basic services, gender equality, environmental protection and the eradication of poverty, among others. The initiative has been developed with the scientific support of Prof. Yves Cabannes from the University College of London (15 case studies) and a team of researchers from the Centre for Social Studies (CES) at the University of Coimbra, which has worked under the supervision of Prof. Boaventura de Sousa Santos (50 study cases). This Observatory aims to identify and investigate successful experiences that might inspire other cities to design and implement their own social inclusion policies.

The **Inclusive Cities Observatory** has been created by the Committee on Social Inclusion, Participatory Democracy and Human Rights of UCLG. United Cities and Local Governments (UCLG) is the global platform that represents and defends the interests of local governments before the international community and works to give cities more political influence on global governance. The **Committee on Social Inclusion, Participatory Democracy and Human Rights** aims to contribute to building a common voice for the cities of UCLG in the areas of social inclusion, participatory democracy and human rights. It also aims to guide local governments in designing these policies and to that end, fosters political debates, the exchange of experiences and peer learning among cities around the world.

For more information: [www.uclg.org/cisdpo/observatory](http://www.uclg.org/cisdpo/observatory)

The City of Tayabas is a component<sup>2</sup> city in the province of Quezon, with a population of over 87,000 (NSO 2010). It is led by a Mayor, a Vice Mayor, and 10 Councillors and it is subdivided into 66 *barangays* (the smallest administrative division in the Philippines), 19 of which are within the Poblacion, 47 are classified as rural with areas ranging from a mere 10 hectares to an enormous 3002.41 hectares. The compact urban core measures only 82.15 hectares, which is less than 1% of the total land area (City of Tayabas 2010).

Mount Banahaw is one of the active volcanoes in the Philippines and is located at the boundary of Laguna and Quezon provinces. The beneficiaries of this project are the communities living in Mount Banahaw area.

### Governmental decentralization context

The 1987 Philippine Constitution has strong decentralist features. The functions, powers, and responsibilities concerning the provision and financing of health, welfare, and education services were among those devolved from the national government to local governments in 1992. One of the gains from this decentralization has been greater experimentation and innovation in providing local public services, with several innovative practices documented since this devolution of functions.<sup>3</sup>

Since this time, the Philippines has restored its traditional system of governance known as *barangays*, integrating this institutional level into the formal system of local government. Each municipality or city in Philippines is composed of a number of villages or *barangays*. The state guarantees and promotes the autonomy of cities and *barangays* to ensure their fullest development as self-reliant communities.

**Institutional level of policy development:** Municipal and Submunicipal

### SOCIAL CONTEXT

About 30% of the coconut-growing lands (about 1 million ha.) in the Philippines lie in mountainous areas where the poorest among the coconut farmers are settled and earn an average income of less than U.S.\$200 per year. These areas are located at significant distances from electric transmission infrastructures, which means that the farmers' households are not supplied with electric power and lighting. There are approximately 200,000 such households in the Philippines, including the project's beneficiaries living in the vicinity of Mount Banahaw in the Province of Quezon, on the Island of Luzon.

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2 The Local Government Code of 1991 (Republic Act No. 7160) defines a *component city* as one located within the boundaries of two or more provinces. Such a city is considered a component of the province within which it used to be a municipality.

3 Some of these innovations are intended to enhance access to health services in remote *barangays* by constructing satellite clinics, strategically deploying health personnel, and partnering with the private sector and individual volunteers (Capuno 2008-09).

## **COMPREHENSIVE NARRATIVE**

### **Description of the policy**

The policy developed in the city of Tayabas aims to reduce poverty through generating income and creating jobs, while providing access to electricity (especially lighting) for coconut farmers living on the slopes of Mount Banahaw, within the Province of Quezon. It focuses on the implementation of an alternative and innovative pay-scheme that allows marginalized coconut farmers (approximately 200,000 in the mountain areas of the country) to access electricity. This scheme uses a technology that processes coconut fruit and converts their husk into fibre that can be used as currency to pay electricity and any surplus to be sold.

The territories in which the upland coconut farmers dwell are rich in hydric resources such as rivers and creeks. The project uses the river currents to generate clean electricity through a micro dam installed on Mount Banahaw that, in turn, provides energy to a battery recharging facility. Lighting systems and batteries have been distributed to provide lighting to the households scattered throughout the mountain. Fibre twinning and looming machines have also been distributed and installed, the beneficiaries have been trained on how to process coconut fibre and produce coconut fibre nets. Previously, large amounts of coconut husks were typically discarded, leaving them to rot, or used as burning fuel.

The project also sought to arrest environmental damage caused by the communities. Given the physical and financial constraints experienced by the coconut farmers – remoteness and poverty – they had often conducted environmentally harmful activities (e.g., slash-and-burn farming, charcoal making, and illegal logging) in order to survive.

Following positive feedback from the initial beneficiaries, the project has been expanded to other farmers.

### **Background / Origins**

The mountainous coconut-growing region contained four key assets: river currents for generating electricity, discarded coconut husks, a potential market, and farmers willing to participate in the project. However, before implementing the project and considering the coconut fibre as an alternative livelihood and source of income for the coconut farming communities, the project's business viability had to be assessed. The project conducted a thorough study of the coconut fibre's uses, demand, prices, and economics to ensure that the coconut fibre industry had stable markets and could provide a long-lasting and viable livelihood for the communities.

### **Policy objectives**

The policy aims to transform the living conditions of disadvantaged coconut farmers located in physically isolated, mountainous areas through using the assets of local production (coconuts) and the availability of natural resources (river and creeks). The project objectives, identified and prioritized during general consultations and discussion meetings with the coconut farming community, are threefold: (1) to provide lighting, (2) to provide livelihood, and (3) to prevent the environmental destruction of the coconut forest (the income source of the impoverished farming communities).

The first objective – to obtain lighting and thus enhance the quality of living standards – was raised by the coconut farming community. During SWOT and 'problem-cause and effect'

analysis sessions involving the farmers and their families, the community people in general, and individuals from academia and NGOs, the community formulated the second and third objectives, and came to agree that sustainable livelihood activities will ensure the continuity of operation of their lighting systems and will enable them to gradually abandon the environmentally destructive livelihood activities in which they previously engaged.

### **Chronological development and implementation of the practice**

In 2004 and 2005, research and consultation meetings were held with the potential beneficiaries. These meetings were initially funded by the University of the Philippines at Los Baños, and later on received some financial support from a private company, LAMBS Agrimechanical Inc. The University and LAMBS then conducted the research on equipment and manufactured the prototypes using their own funds.

In 2006, the World Bank provided an initial fund to pilot and test the project idea. The fund was administratively managed by the university and the local government and was used to provide the materials, install the equipment, and train the residents. The local government mobilized the local village organization and encouraged local leaders to participate in and support the project. The local government and LABB also agreed to promote the project's continuity and to expand it.

Later on, the congressman covering the fourth district of the Province of Quezon supported the project and provided initial equipment sufficient to supply at least three more towns near Tayabas.

Because this project was jointly conceptualized and implemented by the university, the partner organizations, the World Bank, the local government, and the beneficiaries themselves, there were few problems in its implementation. LABB, a locally based NGO trusted by the community, led the efforts to organize the residents of the community and to resolve issues that might need to be addressed. During both the conceptualization and the implementation stages, the views of all residents – men, women, elders, and children – were consulted and considered through a series of regular meetings and consultations.

LABB also supervised and monitored the project. The community members elected a trustworthy person among themselves, putting him/her in charge of managing and monitoring progress. For example, this included discovering and documenting some practical aspects of the initiative, such as how many times one could charge the batteries, how much fibre one would have to produce, how much the production would be worth, and so forth.

### **Agents involved**

The leadership role for this policy was assumed by The Farming Systems and Soil Resources Institute at the University of the Philippines at Los Baños, in partnership with other local and the World Bank. The Philippine Coconut Authority, an agency of the Philippine government under the Department of Agriculture, is an important partner in this policy, supporting the project and its replication in coconut fibre programs in other five provinces under its jurisdiction. The congressman covering the fourth district of the Province of Quezon has supported the project and provided the initial equipment for at least three more towns near Tayabas. The local government of the City of Tayabas played a key role in the implementation of the project and

has expressed, through its Mayor, its strong intent to mobilize efforts to implement this project throughout the city. Other agents involved in the policy are local farmers, local citizens (wives and children), LAMBS Agrimechanical, and the local village administration.

### **Beneficiaries**

The beneficiaries were the local coconut farming communities who were able to obtain access to a commodity (lighting) and ensure their livelihood, while preventing the destruction of the very same resources they need to do so, namely, the coconut groves. The families are able to use batteries charged by a clean source of energy (from the river hydropower equipment), replacing kerosene gas lamps which were used to light their homes prior to the project. As well, the coconut fibre livelihood has provided the people an alternate livelihood and enabled them to stop environmentally destructive practices. The project is expected to reduce the illegal logging that farmers carry out in the nearby forests in order to supplement their meagre incomes. It is estimated that the project will potentially save as many as 24 trees a year for each household that joins the project (Manalo 2008).

In terms of social benefits, the project emphasized from the beginning that the livelihood and environmental conservation was the responsibility of every member of the community. The poorest sections of the community were prioritized to receive the lighting devices in their homes. The lighting provided to the household was to benefit all its members, regardless of income, age, or gender. The livelihood activities were open to both sexes, and even young or older people were given the opportunity to work in fibre processing.

The project considers the existing culture and norms in the community, harnessing them in favour of the project and subsequently to benefit the people, since the latter are willingly and freely giving their labour as their support. The project also respects the local village organization, and allows the community to consult its leaders and elders in every activity of the project.

### **Participation processes implemented**

The proactive participation of the front-line group, the coconut farmers, is a defining element of the 'River, Fiber and Power' case where the involvement was structured to lead farmers and their families to develop productive capacities and avoid an aid-dependent approach. From the outset, community participation was used to identify and design the community demand-driven project. All people – men, women, elders, and children<sup>4</sup> – were consulted and considered through a series of regular meetings and consultations.

The project was initially conceptualized by going to the people and consulting the communities in order to identify their needs and the sort of project that could help solve them. Meetings with all interested groups (elderly, women, and children) were organised in each village in consultation with community leaders. Through this series of meetings, the residents forged agreements among themselves, and thus agreed on the design and the purposes of the project.

The people themselves discerned that the root problem in their community was poverty and a lack of alternative livelihood. Just providing them with lighting or teaching them about

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<sup>4</sup> The children could participate in the operational aspects of the project, not the decision-making components.

environmental conservation would not have given them a long-lasting sustainable solution if not also provided with an alternative livelihood. During SWOT and 'problem-cause-and-effect analysis' sessions, the people themselves formulated the objectives and agreed that sustainable livelihood activities will sustain their lights and will enable them to be weaned from their environmentally destructive livelihood activities. Thus, the strategy of a coconut husk-processing livelihood was identified and approved by the people.

Project priorities were also set through series of meetings and consultations with the beneficiaries who discussed among themselves to identify their needs. An important problem faced was prioritizing who would be the first to receive the lighting system. This was solved by allowing the community to decide on the issue: they set their own criteria (the poorest will be the first to receive) and approved the criteria through voting.

After setting priorities, the leaders who were elected by the beneficiaries also participated in the planning of the details of project implementation. This project ensures that residents of the communities are always part of its planning and implementation: the people's representatives are members of the project management team that plans and executes the project's activities.

LABB, an NGO, was chosen to lead in organizing people and in providing suggestions. The partner NGO, LABB, organized the people in the communities, whose participation occurred through the provision of free labour for constructing and setting up the equipment. Additionally, all interested individuals were trained in the locale by the technicians and LABB, including men, women, and children. It was emphasized that the livelihood activities should be for both men and women and to ensure these principles, LABB provided the necessary supervision and monitoring of the activities, and is responsible for managing the project until it is completely turned over to the community.

Further community participation processes were set up to support the project's aim to be a community demand-driven initiative. As such, the project was conceptualized and implemented with the help of partner organizations, that is, the local government, private organizations (LAMBS), a grassroots NGO (LABB), the local people's organization, and academics, and was funded by the World Bank. The partnership allowed the project to harness the strength of each organization. Each organization had previous experiences with their own initiatives, which informed and advised this project.

### **Institutionalization processes**

While no by-laws or standard rules formally addressing the policy have been specifically formulated at the local level in Tayabas during the years of first experimentation, the local government and the office of the provincial congressman are now supporting the replication of the project also through more formal instruments which consolidate its role within the general development strategies.

In addition, it is also worth to underline that the national governmental line agency, the Philippine Coconut Authority, also started to replicate the project in its coconut fibre development programs. Other NGO and international development agencies (for example, the Peace and Equity Foundation; Conservation International, etc.) are visiting the project site to see whether they can replicate the project elsewhere in the Philippines.

### Financing

From 2004 to 2005, research and consultation meetings were funded by the University of the Philippines at Los Baños. Later on, additional financial support for this stage was received from LAMBS Agrimechanical Inc.

In 2006, the World Bank provided the initial fund to pilot test the project idea. The project was awarded \$20,000 (Manalo 2007). The fund was administratively managed by the university and was used to provide the materials, install the equipment, and train community participants.

In 2007, the project won the St. Andrews Prize for the Environment in the amount of \$50,000.

### Key results and achievements

Available project reports, which analyzed the case from different partners' perspectives, report very positive cultural, economic, and social impacts from the initiative policy on the city and the communities and groups targeted by the policy and its equality schemes.

As of May 2007, 25 households had been provided with lights and a total of 40 households had been provided with a coconut fibre livelihood. This livelihood has provided three times more income than previous incomes and many people have stopped their environmentally destructive livelihood activities. In 2007, the project ambitiously planned to expand to at least 100,000 more household beneficiaries over the next 10-15 years through two strategies: re-injecting money from the sale of fibres and looms back into project and doubling the number of beneficiaries every year and a half (Baroña-Cruz 2007). It also encourages other groups to replicate the project. The Philippine Coconut Authority in the region now adopts this project approach in its own fibre development programs.

With unanimous goals, and through participatory decision-making and joint implementation processes, the project was able to coordinate the efforts of the community people and the partner organizations.

The institutions that have gained improvements through this project are the village-level institutions like the village government and the beneficiaries organization. Aside from an increased awareness of environmental issues, they are now very particular in regards to participation and consultation in their decision-making processes and have learned to use common participatory assessment tools. Through participatory process, the local people have also learned how to assess their resources, problems, and opportunities and have learned how address them for their benefits.

The city government and the office of provincial congressman supported the project by providing machinery and equipment. Operational funding is generated through selling surplus fibres on the market.

The fibre products collected by the project are sold to contracted companies. Many companies are interested in buying coconut husk fibres and the demand is much higher than the supply. Coconut fibre is a popular material used in conservation projects and in making environmentally friendly products. The market for the coconut fibre generated by the project is assured through an arrangement made with the fibre buyer offering the best buying price. The price will give the

project sufficient profit margins to financially sustain the project, for example, to maintain the equipment, etc. Part of the profit will also be given to the local people's organization.

Working within local means allowed the project to sustain the project's activities since it did not need a lot of external input. The availability of resources and materials within the local areas were considered from the beginning to formulate the livelihood activities. The rivers on site were used as a source of clean electricity. The coconut husks used in coconut fibre processing provide the necessary livelihood opportunities for the coconut farmers.

The policy has, to some extent, attracted interest from a wide public related to coconut production and coconut businesses in other localities.

Coconut fibre and loom from coconut husk is commonly used in the production of furniture and other household items. It is also used, usually as some form of netting, in mountainsides to prevent soil erosion, to stabilize riverbanks, and to protect newly planted seedlings from being swept off by rainwater (Baroña-Cruz 2007). Coconut fibre mixed with concrete is now also used to fabricate low-cost houses in Zamboanga City (PCA-Zamboanga Research Center, no date). The potential uses of coconut fibre are, thus, varied and diversifying. In its own programs, the Philippine Coconut Authority has been involved in promoting the diversification of uses of coconut fibre (Philippine Coconut Authority 2000).

### **Main obstacles**

No particular difficulties were reported during project monitoring. Initial obstacles encountered were mainly due to the physical isolation and the poor infrastructure system of the site, which made the distribution of the necessary equipment and its installation challenging.

### **Replicability or adaptation of policy elsewhere**

The policy shows a very efficient mechanism of community involvement, economic production, and environmental sustainability that can be replicated only if its principles are adapted to the context. In this case, the coconut market chain determined the possibilities for farmers adopting these processes and for creating 'productive capacities' within the communities of Philippine coconut farmers. These possibilities and processes were identified and enabled through the support of researchers at the university and local government. The concepts on which the policy was built and implemented were wisely conceived and thought out with reference to several complementary aspects of the coconut production chain and its interlinkages. Thanks to the technology, the voluntary work, and the synergies between different sectors, this project was able to close (without waste or damage to the environment) the economic cycle of production in a spatially proximate context. If the conditions to reproduce a similar cycle are created, then the policy can be successfully replicated in other contexts.

## SUMMARY

This policy, developed in the city of Tayabas, aims to reduce poverty through income generation, job creation, and access to light provision for coconut farmers living in the slopes of Mount Banahaw of Quezon Province, a volcano located at the boundary of Laguna and Tayabas (Quezon province).

Due to the physical and financial constraints experienced by the coconut farmers, such as remoteness and poverty, environmentally harmful activities have been conducted by them in order to survive and great amounts of coconut husks get discarded, leaving them to rot, or are used as burning fuel. These communities are also deprived of basic commodities such as electric power and, consequently, lighting. Nevertheless, the territories in which these upland coconut farmers dwell are rich in hydric resources such as rivers and creeks.

The policy/project described here aimed to develop an alternative and innovative paying scheme, using the river currents to generate clean electricity through a micro dam installed on Mount Banahaw that, in turn, provides energy to a battery recharging facility. Batteries and light bulbs have been distributed to provide lighting to the households scattered throughout the mountain, thus improving the quality of life of the coconut farmers. Beneficiaries of the lighting systems and batteries have been trained on how to process coconut fibre. Fibre twinning and looming machines have been distributed and installed and the beneficiaries are already producing coconut fibre nets.

As of May 2007, 25 households had been provided with lights and a total of 40 households had been provided with a coconut fibre livelihood. This livelihood has provided three times more income than previous incomes and many people have stopped their environmentally destructive livelihood activities. In 2007, the project ambitiously planned to expand to at least 100,000 more household beneficiaries over the next 10-15 years (Baroña-Cruz 2007). The Philippine Coconut Authority in the region now adopts this project approach in its own fibre development programs.

The policy demonstrates a very efficient mechanism of community involvement, economic production, and environmental sustainability, which, nevertheless, can be replicated only if its principles are adapted to the context. The concepts on which the policy was built and implemented were wisely conceived and thought out with reference to several complementary aspects of the coconut production chain and its interlinkages, and available markets. Thanks to the technology, the voluntary work, and the synergies between different sectors a sustainable chain of coconut fibre was formed without waste nor damage to the environment, and with a spatially proximate economic cycle of production. The coconut market chain determined possibilities for farmers' adoption of these processes and for the creation of 'productive capacities' within the communities of Philippine coconut farms, identified and enabled through university-based research and the local government. If the ability to reproduce this cycle and this mechanism are created, then the policy can be successfully replicated in other contexts.

**For more information:**

Dr. David Manalo

Farming Systems and Soil Resources Institute, University of the Philippines at Los Baños

Address: Pili Drive, University of the Philippines at Los Baños

Email: [davemanalo@gmail.com](mailto:davemanalo@gmail.com)

**Committee on Social Inclusion, Participatory Democracy and Human Rights of United Cities and Local Governments (UCLG):**

Tlf: + 34 93 342 87 70 <http://www.uclg.org/cisd/p/>

**Official websites:**

City of Tayabas website: <http://philippinegovernment.org/tayabasph/> or <http://tayabas.ph/>

Philippine Coconut Authority: <http://www.pca.da.gov.ph/>

**Acknowledgements / Credits**

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