

## **Water Levy as Financing Scheme for Watershed Protection – A City Government Initiative to Rehabilitate the Baticulan Watershed, Philippines**

**Grace B. Villamor and Rodel D. Lasco**  
World Agroforestry Centre (ICRAF) – Philippines  
gvillamor@cgiar.org

### **Abstract**

Due to the government failures in conserving the environment in the past, the question of whether they could still play important roles in protecting the critical watersheds is a challenge. This paper presents a case study in the Philippines where city government played an important role in developing financing scheme to rehabilitate their denuded watershed through water levy. Its key actors and its roles are identified and described. A sample of a pilot utilization of the proceeds for watershed protection is presented. Lessons learned from the case study gives future perspective for the government to play major role in the watershed protection.

### **1. Introduction**

In the Philippines, the general public is aware of the problems on reduced water availability, severe shortages, or deteriorating water quality and uncertain future water supplies (Bautista, 2005). The watershed degradation poses threat to the country's economy, affecting livelihoods of the many rural households for their farming and forestry activities.

Watershed functions are considered to be the first environmental service functions that has been recognized for payments due to immediate relevance for the people (van Noordwijk, 2005). It is no doubt that markets for forest watershed services whilst not well documented are now widely used to improve forest management, reforestation and forest protection (Landell-Mills and Porras, 2002). This paper presents the city government initiative thru water ordinance to secure financing the watershed rehabilitation. This focuses the main actors and its roles in the development and financing the rehabilitation activities.

### **2. Study Site**

The Baticulan watershed is located within the boundary of San Carlos City at the northeastern side of Negros Island in the Philippines. It lies between the towns of Palampas and Rizal, covering a total of 428 hectares. Part of the main Mandalagan Watershed, it is one of the six main water sources that supplies for both domestic and agricultural use in and around the city.

Historically, the whole of Negros Island was naturally covered with rainforest, however due to massive logging during the 1950s and 60s, and continuous shifting cultivation, its original natural vegetation coverage has reached below five percent. Currently, the watershed is mostly farmed using shifting cultivation. Ten percent of the whole area is public land while the rest is privately owned. Both past and current land use practices have resulted in serious soil erosion, flooding particularly during the rainy seasons and degradation of agricultural land.

In spite of these conditions, San Carlos City is still a booming city with more than 120,000 inhabitants. Its strategic location in the region makes it an appropriate industrial and infrastructure development zone. Because of its growing population, domestic and industrial water demands are high. Inhabitants are concerned that water supply will be a scarce resource in the future. To meet the economic growth of the city, the City government developed a scheme to rehabilitate the denuded watershed.

### **3. Water Levy – Government Initiative**

The widespread degradation in the upland has urged the City Government of San Carlos to incorporate in the City Ordinance No.37 Series of 2004 “*An ordinance regulating the operation of the City Waterworks of the City of San Carlos, Negros Occidental and creating the Watershed Development and Protection Fund, and for other related purposes.*” It is a special levy for environmental fee of ₱ 0.75 on every cubic meter of water billed. The proceeds will go to a special account known as the “Watershed Development and Environmental Protection Fund” which supports the implementation of the Master Development Plan (MDP) of the City.

The concept of this fund is that inherent with the use of water are the negative externalities incurred in the production and consumption of water. The price of water should include the cost of externalities to address the negative impacts on the environment. It is estimated that the budget allocation per year for the project is approximately 1.2 million pesos. After a year, the ordinance took effect.

#### **Article X.**

#### **Watershed development & Environmental Protection Fund**

Section 1. *Environmental Fee.* A special levy of P.0.75 on every cubic meter of water billed shall be set aside as Environmental Fee. This amount shall already be included in the restructured water rates imposed on the consumers.

Other features of the Ordinance include the provision of drilling or construction of artesian well and deep well for domestic use as well as spring.

### **4. Key Actors**

The actors of a given landscape are the persons who have direct influence to the conditions in a certain landscape (van Noordwijk, 2005). It is really important to identify the key actors for possible replication in sites where similar conditions apply. There were four (4) major actors in the development of water levy till the implementation of rehabilitation and protection activities (Table 1). These actors have their specific roles and functions and success would rely on them.

### **5. The Implementation**

The local water consumers (include the households, local industrial firms, and small-scale farmers) are paying 0.75 pesos per cubic meter of water used. Then, the City waterworks department (CWD) automatically deducts the environmental fee and placed into the special account. Section 3 of the ordinance specify the disbursement of environmental fee that *funds accrued in the Watershed Development and Environmental Fund can only be disbursed in conformity with the Implementing Rules and Regulations governing the said funds to be*

*submitted by the City Waterworks Department and approved by the Sanggunian.*

Under the Memorandum of Understanding (MOU) between the City Government of San Carlos and the San Carlos Development Board, Inc (SCDBI), the SCDBI has the responsibility to leverage the said funds for watershed rehabilitation. Among the other obligations of the SCDBI are - to develop a detailed comprehensive plan on identified watersheds within the City; to negotiate with the stakeholders and establish a legal framework that will be mutually beneficial; and to provide a multi-year watershed rehabilitation and conservation plan as well as its responsibility of realization of the plans.

Table 1. Actors and roles or functions in the ES transfer of rewards in Baticulan Watershed.

Actors	Roles
Upland communities	<ul style="list-style-type: none"> <li>- Tenants of the private lands around the Baticulan Watershed; most of them are migrants from neighboring provinces. Cultivating the land through planting root crops and bananas.</li> </ul>
Private land owners	<ul style="list-style-type: none"> <li>- Own around 90% of the whole watershed. Allow their tenants to oversee and/or cultivate their respective lands. Most of the landowners are living in the downstream of the watersheds.</li> </ul>
City Government or Local Government Units (LGUs)	<ul style="list-style-type: none"> <li>- Government body whose activities are towards the welfare of the local people and the policy and decision makers in the area.</li> <li>- Initiated the policy framework (Ordinance) that will allow financing the watershed rehabilitation through water levy.</li> </ul>
San Carlos Development Board Inc. (SCDBI)	<ul style="list-style-type: none"> <li>- A multi-sector-represented non-stock, non-profit, and non-government business organization that was given the task to utilize the special fund for watershed protection activities.</li> </ul>
Households, domestic water users, private individuals	<ul style="list-style-type: none"> <li>- Water users who pays environmental fee (0.75 pesos/cubic meter of water bill) for clean / regular water used for hygiene, drinking, domestic activities and recreation.</li> </ul>

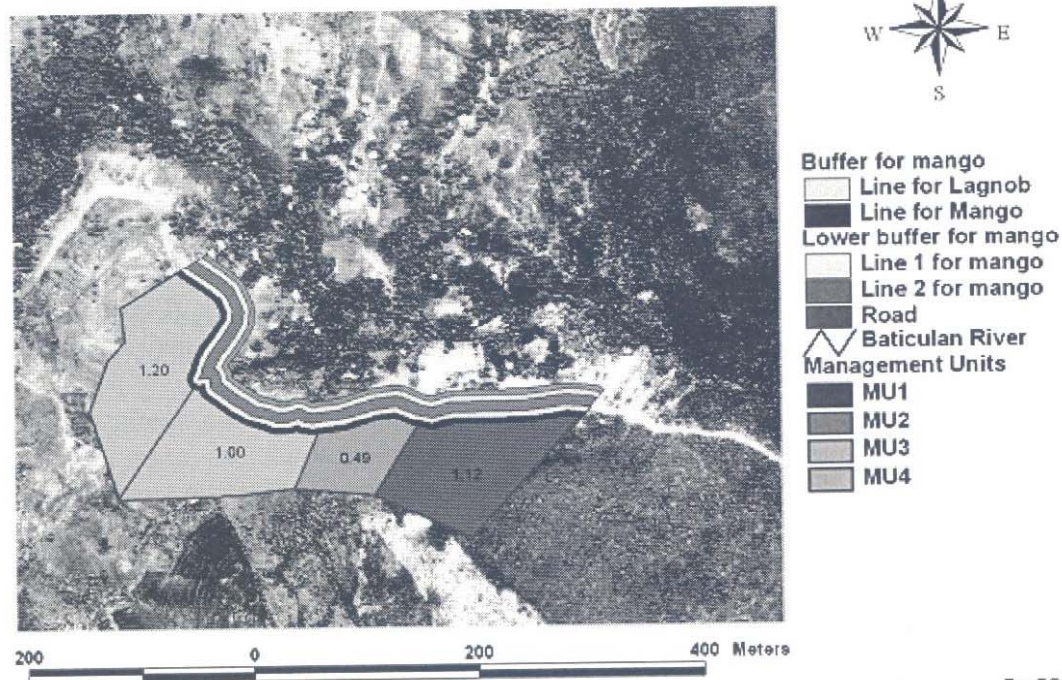
The SCDBI currently prepares development plans that establish protection forest, and vegetable and mango orchards on the degraded private lots. Because of the upland people living in the watershed areas, additional activities include community organizing, landuse mapping and zoning. Their target is to have at least 40% reforestation.

The upland farmers in the watershed are the laborers in the watershed rehabilitation activities. For a period of three (3) years, they are hired by the landowner to plant and maintain trees. Depending on the negotiation, the landowner will set a portion of his land to be cultivated by the upland farmer for his own cash crops. Because of this, the SCDBI provides assistance to landowners to prepare an agroforestry management plan, where upland farmers could continue to apply agricultural cropping systems.

## Box 2. The Pilot Test

Recently, the SCBDI accomplished the reforestation of the watershed of one lot owner (Figure 1). The lot, which has a total area of 3.81 ha, was divided into 4 management units. Each unit has its own respective development plans depending on the area, slope, soil type and existing structures and vegetation. There are at 3 management types implemented in the said site including protection forest, production forest and belt areas where strips of fruit trees are planted. As of 2005, a total of 7,014 seedlings of indigenous and fast growing species were planted. During the reforestation activity, the upland communities were given the priority to work as laborers.

## Management Units



By: SCDBI

Figure 1. Management map of a landowner to be rehabilitated.

To better utilize the fund generated from the water levy, through the leadership of the City Government, a Rapid Hydrological Assessment (RHA) training of the local agencies was conducted. It was participated by different stakeholders of the watershed. With this, the stakeholders would better understand the characteristic of their own watershed.

With the City Government and SCBDI, the Genesys Foundation, a local non-government organization in the area, nominated the Baticulan Watershed to be a learning site of the Rewarding Upland Poor for Environmental Services programme (RUPES). In 2005, it was granted and become a learning site for the institutional study on enabling conditions for payment for environmental services (PES).

## 6. Lessons learned and Challenges:

The following are the lessons learned from the case study presented:

- The initiative shown by the government attracted other players in this case the SCBDI and the Genesys Foundation to come in and do their part. Basically, the government could not do everything alone, but with its initiative especially when the one taking the lead has the mandate to protect the environment then others will take part. The leadership and openness of the government could be seen as political investment for this case.
- The upland people living in the watershed have no rights to the land since they are tenants. This situation could be traced back during the Spanish colonialization in the country. The landlord-tenants relationship is prevalently operating till today. They are poor in terms of human capital such as no political voice and no employment available. Because of this, the role of the government is seen significant.
- Financing schemes to rehabilitate the denuded watersheds like water levy are crafted to address critical threats on the scarce resources. The government used their authority and position to develop new financing not previously availed for conservation.

This financing scheme is now being replicated in some other parts of the country. It is imperative to identify the different actors and its roles for future studies. In this case study, the government initiative has an important role in the development of financing scheme for the rehabilitation of the watershed. This is just one of the approaches on watershed protection and is at an infantile stage. The questions such as “*are all the water consumers/users properly consulted and well informed? Is there a monitoring body in placed to make sure the funds are wisely used? Is watershed rehabilitation the best solution to address water scarcity?*” are yet to be answered.

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