

ORL-EE&P-08**Aquatic Ecosystem Shared Value Services Assessment in Liyangan River, Munai Lanao Del Norte, Philippines: Focus on Regulating and Cultural Services**

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Ecosystem services are the benefits that people acquire from ecosystems and how people preserve these benefits for their perpetuation for the next generation. Crucial aquatic ecosystem services include fish production (Fig. 1), water provisioning, and recreation, and key ecosystem services connected to the hydrological cycle e.g. water purification, water retention and climate regulation. Understanding the connections between the natural and socio-economic systems can lead to improved and more sustainable management of ecosystems. In order to frame and craft appropriate policies and management plans that will address environmental problems and maintain ecosystem health, together with sustainable livelihood, ecosystem analysis should include aspects related to human behavior, activities, and perceptions.

This study was conducted to probe the stakeholders' perception of stress exerted to the regulating and cultural services provided by Liyangan River (Fig. 2) employing structured interview technique. Results of the assessment provided inputs to planners and policy makers for a more acceptable and effective strategies in the river's management and conservation. Moreover, these results provided feedbacks on the effectiveness and adequacies of the river fisheries conservation and management implemented in the studied water body. Effectiveness and adequacies feedbacks on implemented strategies entailed re-evaluation of schemes for the economic upliftment. The collected data were analysed using Systat version 13.0. Prior to the administration of the interview, a pre-test was conducted on 20 respondents (not part of the survey sample) amongst fisherfolks in Linamon, Lanao del Norte, situated 40 kilometers from Barangay Liyangan, Bacolod Lanao del Norte. This is to weed out ambiguous questions and statements in the questionnaire and to check its validity.

Study results showed that most of the respondents are young, having blue collar job (i.e. farmer or unemployed), and old-time residents in the municipality (15 to 25 years and above residency). Many are high school graduates, with low weekly income (US\$40-US\$50), and residing far from the river (i.e. 1.5 to 2.5km distance). Most perceived the aquatic ecosystem regulating and cultural services as moderately degraded. There existed a direct relationship between their period of residence and climate moderation perception, between occupation and educational attainment with their discernment on biodiversity, food chain, plant and animal habitats, and traditions and traditional practices with their ages and period of residence. Moreover, an indirect relationship is detected between the respondents' religious and spiritual values with their educational attainment and ages.



Figure 1. Backyard small-scale aquaculture venture e.g. fish pen installed in river bank stocked with *Tilapia Oreochromis spp*

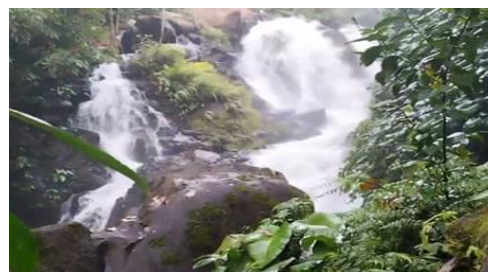


Figure 2. Figure 2. One of the waterfalls in Liyangan River as it emptied to the Pangil Bay