Integrating the Social Value of the Benefits of Ecosystem Services into Sustainable Land Use Planning Process: Case Study in Nasugbu, Batangas, Philippines

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Abstract

The sprawl of urbanization in rural areas posed both opportunities for growth, and threats in terms of trade-offs among different uses of land and other resources. Decision makers in these areas are faced with the difficulty of achieving multiple goals of increased production, raised living standards, food self-sufficiency, and resource conservation. Land use planning is a policy instrument used to achieve the balance between environmental and socioeconomic goals particularly of areas which depend highly on the environment and natural resources. A shift to a more participative process was demanded after outputs of traditional land use planning processes failed to achieve its intended outcome because of the failure to address the legitimate goals of land users. It is assumed that conflicts on land and resource use can be sort out by incorporating the community's values of the environment into decision making. However, social values and perception on the environment still has a very minimal influence on local land use patterns compared to a more quantified data of the environment's economic and ecological value. In developing countries, particularly the Philippines, the current thrust of the national government is to disperse urbanization and industrialization to spread employment opportunities in the countryside. Peripheral areas outside Metro Manila, including the municipality of Nasugbu, Batangas, has started to experience growth in terms of economic demands and use of its resources. The local government has started to update and revise its development plan with different development schemes being suggested. On the proposed research, preference-based value will be applied in quantifying residents' perceived value of the benefits derived from the ecosystem services. Primary data will be collected using a survey questionnaire with sections on respondents (i) socio economic characteristics, (ii) perceived value on the benefits derived from the environment, (iii) mark areas for each valued types of benefits, and (iv) perceived changes once land use change is implemented. Also, a database containing raster information to characterize the area's physical environment will be developed. It will make use of statistical models and GIS application to assess, map, and quantify the social values of the benefits. The study will generate Value Index quantifying how the Nasugbu residents perceived its environment and its spatial distribution. It will determine which demographic characteristics play significant factors in the way benefits of ecosystem services are being valued. Also, the relationship of the area's physical characteristics and the perceived value to its services will be assessed. Considering the municipality's economic and environmental goals, these quantitative and spatial analysis of the

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social values will be used to determine a development scheme which will provide sustainable outcomes to the municipality. The study is expected to show how social value of the environment can be assessed and quantified to be integrated and considered significantly during the land use planning process. It is expected that periodic assessment on this subject will provide knowledge to decision makers for a well-informed policy and decision making.