

PAPER TITLE: MAKING SENSE OF ECOSYSTEM SERVICES THROUGH ECOSYSTEM ACCOUNTING AND VALUATION AS POTENTIAL INPUT TO INFORMED DEVELOPMENT DECISION IN SOUTHERN PALAWAN, PHILIPPINES

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The Province of Palawan is one of the most biodiverse and economically dynamic island province in the Philippines. The ecosystem approach to its management provides a platform to attain sustainable development for this resource rich province, a Man and Biosphere Reserve of UNESCO. The Wealth Accounting and Valuation of Ecosystem Services (WAVES) project funded by the World Bank selected Southern Palawan as a pilot area for the pilot testing of the System of Environment-Economic Accounting for its Ecosystem Accounting (SEEA-EA). The project focused on key/priority ecosystems and ecosystem services driven by key issues and economic activities in Southern Palawan.

The ridge-to-reef approach as applied to the island ecosystem of Southern Palawan calculated physical and monetary values of the subject ecosystems and ecosystem services provided by Southern Palawan natural capital using multiple data sources and approaches that include satellite images, primary and secondary data, modelling softwares and econometrics. The exercise was able to generate initial values for Land Account (land cover, land use, and changes in land cover), Carbon Account (carbon stored and sequestered by the forests), Ecosystem Condition Account (terrestrial and coastal condition), Ecosystem services supply account (flow of services for water regulation, crop production, and fisheries), and Ecosystem asset account (crop production).

The two period analysis for Land cover showed the changing landscape of Southern Palawan with significant decline in forest cover due to degradation and change to other land uses. Further analysis has shown decline in carbon stored and sequestered due to this change in forest cover. In the same manner the decline in forest quality has shown a decrease in sediment retention capacity of the forest with sediments deposited in the impounding portion of the diversion dam decreasing its water impounding capacity and thus the availability of water for irrigating rice paddies. The attempt to link the changing ecosystem condition and related services of the upper ecosystem of the area was not well defined for water regulation. However, calculation of resource rent as measure of Ecosystem support to crop production between two periods and between four cropping schemes showed negative value for oil palm compared to rain-feed rice, irrigated rice, and coconut.

The extent and condition of the coastal-marine ecosystems was also calculated with degradation noted between two time periods largely due to anthropogenic causes. While the fishery production service was calculated using resource rent the effect of the decline in ecosystem condition would require further analysis. While theoretically, there is the link between land-based and coastal-marine ecosystems

through the river system using water quality indicators, this was not established and would require continuous monitoring in the future.