

Material Flow and Stock Analysis to Support Sustainable Development Assessment In Palawan Philippines

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ABSTRACT

The analysis of material flow depicts the interaction between the natural environment, domestic economy and other economies. This study is among of the first attempts to relate the material flow to socio-economic growth and the consequent environmental pressures in the province of Palawan. The materials are categorized as biomass, construction minerals, fossil fuel carriers, and ore and industrial minerals. The materials extracted from domestic environment increased from 1.5 tonnes/capita in 2000 to 6.5tonnes/capita in 2012, 79% of which are comprised by ore and industrial minerals, construction minerals, and fossil fuel carriers. The domestic material consumption per capita is 3.4 tones in 2012, showing that half of extracted materials are exported and utilized in other socio-economic systems in the Philippines and other parts of the world. The materials extracted from environment processed and consumed in the socio-economic system would eventually revert to environment as solid wastes, wastewater or emissions to air. The amount of solid wastes generated in the province grew from 0.091 tonnes/capita in 2000 to 0.111 tonnes/capita in 2012. Despite of the increased extraction and consumption of natural resources in the province, the poverty incidence in Palawan remained higher than the national average. Development strategies and policies for Palawan to increase resource productivity should be geared towards economic activities that are less resource intensive, minimal environmental impacts and would provide livelihood opportunities and inclusive growth for all in the province. Strengthening the system of material accounting is also important to obtain a sustainable data for policy decision making towards sustainable resource management in the province of Palawan.

Keywords: material consumption, indicators, socio-economic growth, physical economy, natural resources