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Knowledge gap in payments for environmental service, research challenges: Case of Koto Panjang Hydropower Plant Catchment Area, Sumatra, Indonesia

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Abstract

Ecosystem sustainability largely depends on how the benefits and costs are shared equally among stakeholders. Payment for environmental service (PES) was introduced to this aim and has been adopted in some places. However, PES is a relatively new concept to many societies and nationalities, as such, there is a large gap of PES knowledge among individuals, group, and organisations at all level. Non-market environmental valuation is a real challenge to introduce PES especially in areas where PES has yet to be introduced. On the other hand, research is needed to calculate these values. This paper reveals field experiences in carrying out environmental service valuation and PES research. We selected a case of Koto Panjang hydropower plant catchment areas and we surveyed upland households and lowlanders ones. The catchment has been degraded to a level of threatening operation of hydropower plant over time. It is predicted that this hydropower plant will follow the destiny of others shorter life hydropower plant in Indonesia. We found out several gaps if PES to be implemented. First, there is huge knowledge gap among stakeholder within the catchment especially between service provider in the upland and users in lowland on each other activities and the impact to the service. The majority of people in the upland do not know that they are located within the upland of a catchment where their activities would affect the quality of environmental service in the downstream. The same also hold true for the users in the downstream who do not what their counterpart do in the upland. Under such situation, the research found a difficulty in measuring the environmental valuation. We conclude that there is a huge challenge in promoting ecosystem sustainability unless the knowledge gap is closed.