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Fish ladders, food for the poor and ecosystem services: unbundling benefits, costs and payment mechanisms

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Fish passages are often presented as a parsimonious way of assisting water infrastructure development in poorer countries whilst preserving some ecosystem values. Amongst those values, provisioning service associated with harvesting local fish and maintaining protein in the diet of the rural poor. More specifically, fish ladders help preserve migratory species which are often a main source of protein for many rural communities. However, understanding and capturing the wider benefits of fish ladders is no simple task. On the one hand, ecosystem values, like those related to existence and option values are notoriously difficult to measure in dollar terms making their inclusion in conventional benefit cost analyses complicated. On the other hand, the distribution of those values creates additional analytical challenge. More specifically, ecosystem services can accrue across nations and there is no compulsion for beneficiary countries to make payment to ecosystem providers. Establishing mechanisms for voluntary payments from rich nations to afford those services shows some promise but there are also serious concerns about free-rider effects and the impact on efficient provision. This paper considers the ecosystem benefits of fish passages constructed in Lao. The paper uses this case to highlight the technical challenges of measuring and appropriating the wider values of fish passages. The paper develops and uses a simple model to guide the deployment of different options for securing resources to support fish passage construction.

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