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Understanding the Benefits of Multiple-Use Water Systems (MUS) for Smallholder Farmers in the Rural Hills of Nepal

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Abstract : There are tremendous opportunities to maximize smallholder farmers' income from small-scale water resource development through micro irrigation and multiple-use water systems (MUS). MUS are an improved water management approach, developed and tested successfully by iDE that pipes water to a community both for domestic use and for agriculture using efficient micro irrigation. Different MUS models address different landscape constraints, water demand, and users' preferences. MUS are complemented by micro irrigation kits, which were developed by iDE to enable farmers to grow high-value crops year-round and to use limited water resources efficiently. Over the last 15 years, iDE's promotion of the MUS approach has encouraged government and other key stakeholders to invest in MUS for better planning of scarce water resources. Currently, about 60% of the cost of MUS construction is covered by the government and community. Based on iDE's experience, a gravity-fed MUS costs approximately $125 USD per household to construct, and it can increase household income by $300 USD per year. A key element of the MUS approach is keeping farmers well linked to input supply systems and local produce collection centers, which helps to ensure that the farmers can produce a sufficient quantity of high-quality produce that earns a fair price. This process in turn creates an enabling environment for smallholders to invest in MUS and micro irrigation. Therefore, MUS should be seen as an integrated package of interventions –the end users, water sources, technologies, and the marketplace– that together enhance technical, financial, and institutional sustainability. Communities are trained to participate in sustainable water resource management as a part of the MUS planning and construction process. The MUS approach is cost-effective, improves community governance of scarce water resources, helps smallholder farmers to improve rural health and livelihoods, and promotes gender equity. MUS systems are simple to maintain and communities are trained to ensure that they can undertake minor maintenance procedures themselves. All in all, the iDE Nepal MUS offers multiple benefits and represents a practical and sustainable model of the MUS approach. Moreover, there is a growing national consensus that rural water supply systems should be designed for multiple uses, acknowledging that substantial work remains in developing national-level and local capacity and policies for scale-up.

Keywords : multiple-use water systems , small scale water resources, rural livelihoods, practical and sustainable model
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