



MUS Represent a Key Climate Change Adaption Mechanism - Nepal Experience

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Introduction

- Climate-smart approach
- Community-based climate change adaptation mechanism
- Key aspects of MUS:
 - Promotes efficient allocation of scarce water
 - Reliable piped irrigation source reduces dependence on rain-fed agriculture
 - Adoption of micro-irrigation technology saves water and increases income
 - Purchase and production of nutritious foods through dry seasons protects the nutrition of mothers and children during the critical 1,000-day window

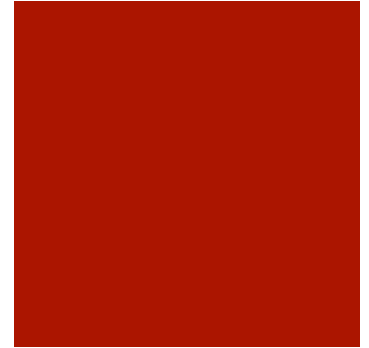


Presentation Question



- MUS as climate adaptation - Nepal experience:
 - Formalization with government is a key for the MUS approach to reach scale
 - In Nepal and in other countries, the MUS approach faces a critical challenge: separation of investments for drinking/ domestic water and irrigation/productive uses of water

Methods



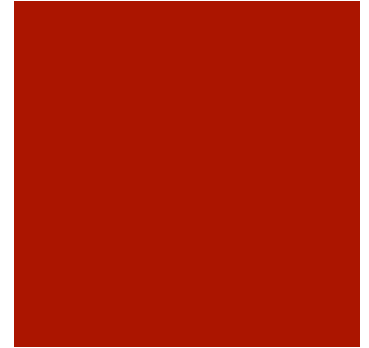
- This presentation relates to implementation of multiple projects:
 - ICCA and MAWTW funded by USAID
 - Anukulan funded by DFID
 - CALCNR funded by NWO/DFID
- Project evaluations/surveys (Baseline, Mid-term, and End-line studies)
- Case studies/Success stories

IDE's MUS Experience

- Over about the last 15 years developed 280 MUS serving about 65,000 people in 30 of Nepal's 75 Districts
- Includes lift MUS: 10 grid, 8 solar
- Major support: USAID, UKAID, the European Union, WFP, ADB, the Gates Foundation, foundations and the Government of Nepal (GON)
- GON has partially recognized MUS in local block grant guidelines. About 65% of MUS cost from local government and communities
- Other organizations are now starting to develop MUS in Nepal



iDE's MUS Experience...



- Infrastructure: sufficient water for multiple uses
 - MUS-by-design
- Finance: maintenance and operations fund
- Institution: users committee
 - enables local participation/planning
 - incorporates indigenous knowledge
 - promotes local ownership
 - leads to sustainability of impact

MUS Impacts

- Increases annual agriculture income by about \$200+/household
- High density of micro-irrigation use makes commercialization possible
- Protects water source from contamination during drought and flooding
- Diverse food production improves local food availability and diet quality
- Substantially reduces workload for water collection—more than offsets increased agriculture work for women
- Reduces community water conflict
- Encourages better planning for climate change adaptation



Impacts...

- Allows women to be involved in productive activities such as horticulture, staple food production, poultry and livestock rearing and fish farming with potentially significant livelihood benefits (van Koppen et al., 2009; IWMI 2015)

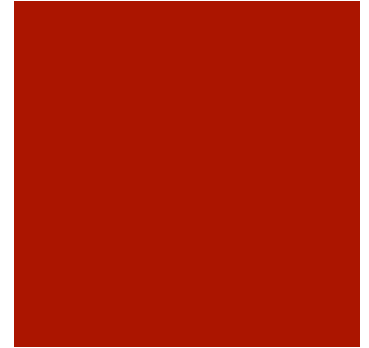


Tanke women in the potato field

MUS decreases vulnerability to climate change
(Anderson et. al., 2003; IWMI, 2006; Dahal et. al.,
2010; Adhikari, 2007; Dhakal et. al., 2010; IWMI, 2015)

- Water is available during dry seasons for irrigation, providing opportunity to diversify food production and improve food security.
- Access to clean water for domestic use contributes to health improvement by reducing diarrheal disease.
- Decreased water runoff in sensitive locations prevents flooding.
- Encourages decentralized, local water management.
- Participatory planning encourages integration of local and scientific knowledge.
- Closed water tanks prevent spread of vector-borne diseases including malaria, encephalitis, and dengue.
- Proper management contributes to soil and water conservation.
- Time saved from fetching water enables productive activities.

Case Study: Community Based Adaptive Learning in Management of Conflicts and Natural Resources (CALCNR)



- Research Objective:
Generate evidence-based knowledge on the gaps between community management of natural resources, local adaptation, innovation and national policy debates over climate change and conflict related to natural resources access
- Approaches :
Participatory Action Research (PAR), Adaptive Learning Network (ALN) and Policy Stakeholders' Forum (PSF)
- 3 MUS PAR sites, 1 MUS ALN (22 MUS committees), and 1 PLG
- Case Study 1: Maranchhe MUS



Maranchhe MUS, Participatory Planning Meeting



MUS ALN Network Meeting

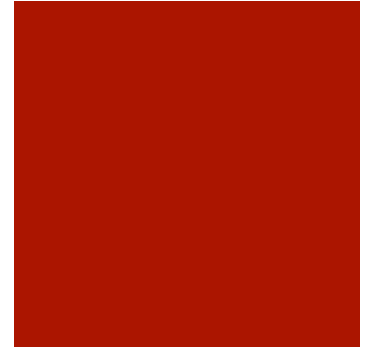
Challenges

- Two separate government entities exist, one of which is responsible for domestic systems and one for irrigation systems. This institutional arrangement serves to limit the consideration and funding of MUS.



Recommendations

- Climate change adaptation represents a key entry point for the MUS approach to be formalized within the government.
- Institutionalization will allow MUS to reach scale and be replicated nationally.
- Should be included in NAPA/LAPA as CCA activities.



Acknowledgements

- MUS presentations by iDE
- IWMI studies
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Thank You !

