



Report on Fieldwork in Adidaero Watershed in Enderta Wereda, Tigray Region

Fieldwork period: July-August 2005

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Introduction

- Background to MUS Project
- Overview of the fieldwork
 - Schedule
 - Methods used
 - Summary of Sample household
- MUS Framework
- Key findings
- Conclusion
- Fieldwork Plan 2006



Background to Multiple Water Use Services/ MUS

- MUS= Multiple Water Use Services
- Definition of MUS:
 - ... [M]ultiple use water services in the interests of the poor stand for: water services planning and design that take people's multiple water needs as a starting point and that searches for incremental improvements in access to water across the range of needs within informal settings and a highly variable water situation (van Koppen and others, 2006, p4).
- Project Goal: To identify framework for enabling MUS and Effective Management
- Strategy: Learning Alliance and Action Research
- Activities in Ethiopia: Legedini, Dire Dawa, **Ginchi** and Tigray



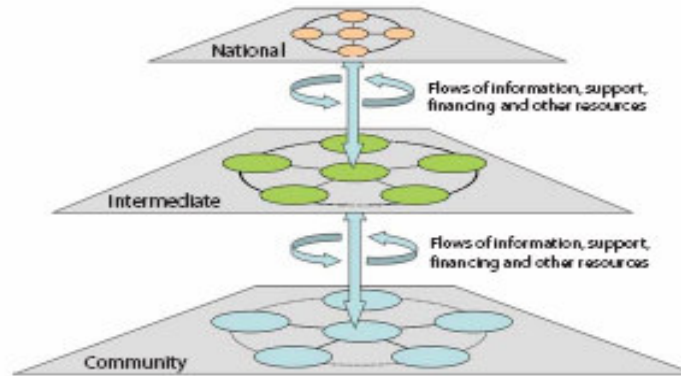
Principles for Enabling MUS

Principles	Principles	Stakeholder groups concerned (e.g.)
Community	<ul style="list-style-type: none"> • A thorough understanding of water – related livelihoods • Efficient, equitable and sustainable use of water resources • Appropriate technologies • Inclusive institutions • Adequate Financing 	<ul style="list-style-type: none"> • end users • communities irrespective of the administrative boundaries but share same water sources (watershed based)
Intermediate	<ul style="list-style-type: none"> • Participatory strategic management • Long-term support • Adaptive management • Adequate financing • Coordination 	<ul style="list-style-type: none"> • Service providers or project implementers (i.e. local government, sectoral line departments, local public and private service providers, irrigation committees or larger schemes, donors, financiers, local NGOs and CBOs)
National	<ul style="list-style-type: none"> • Coordination amongst sectors and actors: devolving decision making • Long-term support • Adequate financing • Enabling policy and legislation 	<ul style="list-style-type: none"> • Government departments • National program • Private sector companies • Banks • National NGOs • Universities • Research institutes • Media • Political parities • Country delegations of international governmental and nongovernmental organizations



Learning Wheel: Interaction of Factors

FIGURE 1.
Three-tiered action-research framework for implementing and upscaling mus approaches.



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5



Overview of the fieldwork

- Location:
 - Adidaero Watershed, Meignet Tabia, Enderta Wereda in Tigray Region
- Objectives:
 - To identify the facilitating and hindering factors to enable MUS implementation and O&M
 - To assess the current condition of the MUS and SUS in Adidaero Watershed for further monitoring
- Time Frame
 - 26th June, 2005 – 31st August, 2005
- Methods:
 - Key Informant Interviews, Focus Group Discussion, Participant Observation, Semi-Structured Interview

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6



Study Area: Adidaero Watershed

- 40 km away from Mekelle, capital of Tigray Region
- Average annual rain fall: 555mm
- Drought Prone/ Food Aid
- Crop production (Barley, Wheat, Tef) with limited scale of livestock rearing
- 3 Water pumps, 1 multiple use facility and 1 rehab/ extended irrigation facility

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7



Selection of Benchmark Households

- 5 Got?? of 474 households
- 133 FHHs (28%)
- 3 stages sampling: Stratified Random Sampling (Got and MHH/ FHH), Wealth Ranking, Purposive Sampling

Kushet	Adigogen	Atrona	Adiankelle	Adidaero
Got	Adigogen	Atrona/ Adignayesus	Adiankelle	Adidaero
Total Population	588	451	505	554
Ave HH size	4.0	4.6	4.2	5.1
Total No of Households	147	97	121	109
Total No of FHH	44 (29.9%)	28 (28.9%)	37 (30.6%)	22 (20.2%)
Total No of Landless	27 (8.4%)	8 (8.2%)	17 (14.0%)	13 (11.9%)
Male Landless	18	4	13	12
Female Landless	9	4	4.0	1

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8



Wealth Category and Sample Size

- "Wealthy": The households have more than one or two oxen and have sufficient family labor for both cultivation and to earn income through temporary employment.
- "Vulnerable": The households have no ox but have young family members who can work on the farm land or can work as casual labor to earn income.
 - Mobility of the households to wealthy
- "Most vulnerable": The households have no youth in the household or an elderly who have no means of earning income and who live alone

	MHH	FHH	Total
Most vulnerable	4	5	9
Vulnerable	21	10	31
Wealthy	11	0	11
Total	36	15	51

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9



Characteristics of Benchmark HHs: Family Size and Education

- Average Household Size: MHH= 4.8/
FHH= 2.1
- No Schooling: MHH 61.1%/ FHH 93.3%
- HH members: The rate of **no** schooling among female hh members are nearly double of that of male hh members.
- Number of still in school is very small compared to the population of school going age population (70 persons between age 7-15).

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10



Characteristics of the Benchmark HHs: Land Holding

- Total average land holding: upland 0.82 ha/ Irrigated land 0.03 ha
- The average size of the upland held by women-headed households was 0.57 ha which only accounts for 61% of that of male-headed households.
- There were 24 households (18 male-headed and 6 female-headed households) having plots under irrigation.
- Only MHH rented in lands while FHHs rented out.
- Most land is owned by MHH or husbands.

Table 6.6 Land registration

Land use	Household category	MHH/ husbands	FHH
Upland	MHH (n = 36)	32(88.9%)	0 (0.0%)
	FHH (n = 15)	2(13.3%)	11(73.3%)
Irrigated	MHH(n = 18)	17(94.4%)	0 (0.0%)
	FHH (n = 6)	1(16.7%)	3 (50%)



Farming

- Tef, wheat, barley and sorgam are the common crops cultivated in uplands.
- Gesho and vegetables are common in irrigated land though the yield data was not obtainable.
- Women usually do not plough but in the case of FHH having an ox, they will.
- Ploughing, Sowing Weeding, Harvesting and transporting are male tasks. (FHH-Tenant)
- FHH will sell the grain but less number of women in the MHHs doing the same.

	Total area Planted (ha)	Gross Yield (kg)	Productivity kg/ ha
Sorghum	7.50	2645.00	352.67
Tef	16.25	3869.00	238.09
Wheat	15.70	5995.00	381.85
Maize	3.43	50.00	14.60
Barley	12.19	5850.00	480.00
Gesho ¹¹	UKN	UKN	UKN
Vegetable	UKN	UKN	UKN
Telba ²¹	1.00	50.00	50.00
Chickpea	0.13	100.00	800.00



Food Security

- Better the wealth category, better food security though still high level of insecurity.

Wealth category Number of months	Wealthy	Vulnerable	Most Vulnerable
Average	8	9	9
Median	7	10	12

Table 6.10 Number of months experiencing food insufficiency (months)

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13



Livestock

- Better the wealth category, more number of livestock possessed.

	0	1	2 +
Most Vulnerable (n=9)	4 (44%)	5 (56%)	
Vulnerable (n=31)	15 (48%)	6 (19%)	10 (32%)
Wealthy (n=11)	0 (0%)	3 (27%)	8 (73%)
Donkey	0	1	2
Most Vulnerable (n=9)	6 (67%)	3 (33%)	0 (0%)
Vulnerable (n=31)	17 (55%)	10 (32%)	4 (13%)
Wealthy (n=11)	0 (0%)	7 (64%)	4 (36%)

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Table 6.11 No of Livestock Possessed by Welfare Category

14



Gender Roles in the Study Area

- Men- productive and community role
- Women-Reproductive role
- Attending Users' committees and paying fees: Responsibilities of both male and female heads of HHs.
- Decision making- Sales of produce: Heads of HH and joint decision making are common.
- Decision making- Domestic Consumption: Women in the households are influential.
- Decision making – Spending: heads of households are influential.

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15



Women's issues and Women's Association

- Women's problems: Heavy work load during pregnancy(38.89% of spouses/ 26.67% of FHH)
- Membership to the Women's association: 44.4% of women spouses and 33.3% of women heads of households
 - Not being recognized as a development partner
 - women do not see the benefit of joining the Women's Association
 - Lack of Women's capacity to work as a development partner

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16



Domestic Water

- Female members of the hhs fetch water (88.2%)
- Average Daily Water consumption per person: 7.9 Liter
- Estimated average water consumption: MHH (37.92 Liter)/ FHH (16.59 Liter)

Before construction

- Water Source: River
- Time Required to fetch water: 1-1.5 one way
- Amount of Water Used: i.e. 25 liters for 2 days per household



After construction:

- Water Source: Dug well
- Time Required: Much less Can get water when needed.
- "... can prepare meals when needed, can sleep longer and clean the house more often".

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17



Preference of Facilities

- Women showed slightly higher preferences for multi purpose facilities.
 - Reason: Many things can be done at the same time.
- Half of the respondents prefer Singly Purpose Facilities.
 - Drinking water from the Multi purpose facilities can be contaminated by animals and washing clothes.
 - Some respondents were afraid that the irrigation water can be contaminated by women washing clothes.

Respondents category	Prefers multi-purpose facilities	Prefers separate facilities for different purpose	Do not know
MHH (n = 36)	16 (44.4%)	19 (52.8%)	1 (2.8%)
Spouse (n=36)	19 (52.8%)	15 (41.7%)	2 (5.6%)
FHH (n = 15)	7 (46.7%)	6 (40.0%)	1 (6.7%)

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18



Ownership and O&M

Who owns the facilities?

- Irrigation by Irrigation Committee (68.2%) – Still 31.8% responded did not know.
- Water Pump by Water Committee (85.7%)
- MUS by Water Committee (94.7%)

Who is responsible for O&M?

- Irrigation by Irrigation Committee (47.6%) and All the users (23.8%)
- Water Pump by Water Committee (64.3%) and Do not know (17.9%)
- MUS: Do not know (83.3%)



Management of Water Points

- 3 water points for drinking water
- Committee members:
 - 3 Men
 - 3 Women
 - No Women Chair person
- Minor maintenance
- Collection of Fees





Management of MUS facilities

- ④ 1 irrigation with multi purpose facilities (cattle trough, water point and washing basin)
- ④ Committee members
 - irrigation facilities: 3 men
 - water point: 3 men and 3 women
- ④ Monitoring of the facility condition
- ④ Collection of users' fees
- ④ Conflict between irrigators and women washing clothes in the river



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Management of Rehabilitated/ Extended Irrigation Facilities

- ④ Committee members: 2 men
- ④ Solving conflicts between users
- ④ Deciding cropping calendar
- ④ Organizing maintenance activities



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22



Intermediate Level

- Planning: Flexibility based on the broad experience
- Adaptive Management
- Participatory Strategic Management
- Adequate Financing- Flexible Funding

Challenge
Long term support, field level decision making and flexible funding



End Remarks...

- Water committee:
 - Well gender balanced by the facilitation of project implementers. Shared understanding of having safe drinking water and the need for maintenance better management of facilities
- Irrigation committee:
 - Less gender balanced disputes not settled especially in MUS
- Capacity Building needed for Monitoring of the facilities.
- Few women leaders:
 - capacity (i.e. Literacy and Numeracy) needs to be developed.
- Plan for long term support needs to be developed. monitoring indicators (ref. slide 25)
- This survey provides a baseline data for the further impact assessment of the facilities.



Some Monitoring Indicators

Indicators		How
Condition of Facilities	Siltation	Observation Transect Walk
	Breakage of the canals/ pumps/ gates	
Use of Facilities	No of Users	Record kept by the Guard Group Discussion by the users
Operation	Gate Operation (Whether the gate is operated according to the schedule.)	Observation Record kept by the Guard Group Discussion
Maintenance	Date and Type of maintenance activities carried out by the users/ committee members	Record kept by the Committee
	No of users (men and women) participated in the maintenance activities	
Institution	Conflicts observed during the period (when and about what and between whom) how they are solved	Minutes of Meeting Group Discussion
	No of participants to the users' meeting	Minutes of Meeting
	Collection rate of Users' fees	Record kept by the Committee

Table 8.1 Examples of monitoring indicators

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25



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Thank you.