



REPORT II “**WATERMAN**” WORKSHOP 2

April 25. – 27. 2007, Awassa
Hawassa University



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6th Framework Programme

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Specific Support Action

Coordinator: Dr. Willibald Loiskandl, Universität für Bodenkultur Wien, Austria

Project Website: <http://waterman.boku.ac.at>

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1. Day 1 Workshop

1.1 Registration

Welcome note by Dr. Admasu Tsegaye, Vice President for Academic and Research Affairs of Hawassa University.

Your Excellency, Mr. Dobias, Ladies and Gentlemen,

Allow me to welcome you, on behalf of the project implementing group, and inform you about the project and provide some noted to the Water Supply Situation of Ethiopia and the Research into Use context. Thank you for Hawassa University to organize this workshop.



1.2 Introduction and Keynote by Dr. Seleshi Bekele, IWMI

Outline:

1. Project WATERMAN
2. Workshop
3. Water Supply and NRM Context in Ethiopia
4. Research in to Use

1. The Project WATERMAN

Today's workshop, "Water supply and Integrated Water Resources Management", which is one of the 4 workshops designed under the Waterman Project. The full title of the project is "Dissemination of research results in semi-arid and arid ecosystem with a focus on sustainable water resources management in Ethiopia".

The objective of the project is to disseminate state of the art research results in sustainable water management through a coherent series of workshops, a Scientific Project Plan Award.

The proposed specific Action will result in:

- A workshop held at each of the three Ethiopian universities on one of the key water management dealt with in the project.
- A scientific competition (project plan Award) to generate ideas for implementation of research and /or new research by motivated Ethiopian researchers
- Coaching and supervision (both remote and on-site) of the research implementation project planners during the project implementation period
- Submission of at least six project plans is targeted, but this will depend on the scale of the projects. It is anticipated that at least one sustainable water management project at river basin scale at each university should result from the project plan award.

- An international symposium to:
 - Discuss and disseminate findings of the project and priorities for future research, define innovation and management strategies for advance economic productivity in relation to rational use of water resources and
 - Present the awards for project plans
 - Create awareness of water management problems and potential solutions (especially in Eastern Africa) at national and international levels.

It is a model for improving international relations through joint research and technology transfer within Eastern Africa. The overall result of the Action should be technically and economically feasible project plans for implementation of research results or new research contributing to sustainable water management strategies for enhanced economic productivity.

This 18-month project has started last October, and this is the second workshop. The project is implemented by University of Bodenkultur Wien (BOKU), Austria, Cranfield University (CU) United Kingdom, Czech University of Agriculture in Prague (CUAP), Czech Rep., Mekelle University (MU) Ethiopia, Alemaya University (AU), Ethiopia, Hawassa University (HU) Ethiopia, International water Management Institute (IWMI), Ethiopia, Ethiopia Agricultural Research Organization (EARO) Ethiopia Also PELUM from Uganda, and Egereton University, Kenya. The project is supported by the European Union.

2. Workshop

The aim is to enable access and show ways of using hydrological data and information adequately to plan and implement integrated water supply and resource management. There is good baseline data (though partially scattered) and background information stemming from research projects, which is currently being underutilized. A good inventory and knowledge of water resources is a prerequisite of water management for irrigation and also for other and conflicting uses. Available data and information from various research project will be summarized for analysis and new projects planned that make use of this information repository, issues such as multi-purpose utilization, water harvesting technologies, competing demands and water re-use will dominate this sub-topic.

This particular topic is important, relevant and timely from sub-Saharan Africa in general and Ethiopian context in particular. Specially, this is a time where Ethiopia has crucially identified water is an important entry point for its socio-economic development and engaged in meeting the MDG and UAP.

Context of water supply can be understood as control and management of water resources for supplying as:

- Water for domestic use for house hold consumption and sanitation
- Water for agriculture, livestock and fisheries
- Water for industry, hydropower generation
- Water for environmental and ecosystem services

The supply could be made for various sources such as surface water sources ground and rainfall. Some of the key challenges are how to:

- provide safe and reliable water resources for various uses
- adequately allocate water under competing water use and needs
- how to integrate the management of natural resources including water

3. Water supply situation

Ladies and gentleman,

Allow me to look in to specifically the water use and supply situation of Ethiopia for few minutes. Ethiopia has 12 river basins from which 8 are basins with significant quantities of flow. One of the basins is a Lake Basin having number numerous lakes fed by a number of rivers and streams. The remaining 3 are dry basins receiving deficit rainfall that can not produce river and significant runoff overcoming evaporation. Overall, one may say Ethiopia is water endowed, while this may be true in physical terms, in economic terms Ethiopia is water scarce country. Even the physical endowment is erratic in distribution both in space and time. You may all know that the country's potential for irrigation development is untapped and at about 6% the water supply coverage is about 50% and hydropower exploitation is about 1.5% of potential. In addition to the low level of development and utilization of the resources, the country is challenged with a number of issues such as population growth, low productivity of agriculture, too much dependence on rain fed system under high rainfall variability, extreme degradation etc..

Water-related diseases are the greatest diseases burdens.

- annual global burden of water – related diseases is estimated at 82 Million Disability Adjusted life years (DALYs)
- burden of diarrhea alone in Sub-Saharan Africa (SSA) is 25 Million DALYs
- annual diarrhea cases in SSA: 1.2 Billion which leads to 769000 deaths of children under 5
- ninety percent of deaths are children under 5
- diarrhea and Malaria in SSA are a greater burden than HIV/ Aids
- most of the diseases, estimated at 70-80% are related to water borne disease

Research shows that the greatest impact on reducing water related diseases comes from a combination of (Rijsberman, F2006):

- improved water supply (standpipes) and
- improved sanitation (latrines), combined with
- improved hygiene education (hand washing)

The S & T is not challenging: community-managed, low-cost technologies work and are economically cost-effective. But sanitation, particularly, requires public investment & investment is lagging behind: progress is negative meeting MDG requires faster increase in access: tripling for supply: quadrupling for sanitation.

Ethiopia possesses substantial untapped water resources that could play significant role in reducing poverty, accelerating growth, and improve the supply conditions, provided that is utilized adequately.

According to PASDEP (Plan for Accelerated Socio-economic Development and Eradication of Poverty of Ethiopia) (PASDEP 2006) the main elements of the overall water sector strategy are to:

- Provide access to all of the population with clean potable water over the coming seven years;
- Promote enhanced irrigation development in an integrated manner to contribute to economic growth and alleviation of poverty and food insecurity;
- Emphasize and promote multipurpose development of water resources wherever applicable;
- Build capacity at different levels, particularly at sub-national level where actual implementation is taking place;

- focus on low-cost, affordable, and labor-intensive technologies;
- Improve sanitation outcome;
- Focus on gender consideration while designing projects and programs; and also provide high participation opportunities for females to benefit from construction work.

According to the MDG needs assessment report (MOFED, 2004) for the Ethiopian context especially for the existing conditions of rural water supply sources has been adopted and tailored to “availability of at least 15 to 20 liters a person a day for the first five years 2000-2005 and increasing to 20 l/person b/n 2005-2010 and 25l/person 2010-2015. For rural water supply access to an improved source (assumed to be 1Km) has significant implications on sustainable use of the sources as well as saving of time for the community.

According to the Millennium Development Goals Report, called Challenges and prospects for Ethiopia, MOFED, 2004 the following are the basic assumptions used for the coverage of year 2000:

Description	Access to clean water in %	
Year	2000	2005
Urban	72	82.5
Rural	24	31.4
National	30	39.4

As per the definition of MDG (target for water supply (Goal 7, Target 10) the aim is to halve the proportion of population without sustainable access to water supply by the year 2015.

Ethiopia has been implementing the water supply access projects and has been successful so far. Accordingly to the recent strategy document, the target during the PASDEP is to raise the rural population with access to potable water within 1.5 km from 44% to 80% and urban population from 80.6% to 92.5% within 0.5 km by the end 2009/10. In addition, irrigation coverage is planned to be raised from the current 5% to 8% by the end of the plan period. With respect to sanitation, PASDEP will see a major program to promote and support of the use of latrines including through the Health extension program with a target of increasing rural coverage from 17.5% to 79.8% and urban sanitation coverage from 50% to 89.4% of the population.

4. Research in to use

These targets in addition to securing the necessary resources and implanting them have additional challenges of ensuring the ongoing operations and maintenance of rural water supply schemes, and establishing the financial viability of urban systems. Important undertakings could also supported by research for putting in place appropriate community management structures for routine operations, and small-scale community financing mechanisms, to raise the funds for maintenance are needed.

1.2.1. Workshop Schedule

2 days Workshop + 1 field trip

April 25. 2007: Keynote speaker & dissemination groups
 April 26. 2007: Field trip
 April 27. 2007: Discussion on lessons learned

Introduction by facilitator - Explanation of WS process



- Strategies and actions for enhanced and sustainable, economic productivity
- Focus on dissemination of research results in sustainable integrated water resources management
- Water supply and Integrated Water resources management

Day 1:

1. Presentations
2. Shopping Stands
3. Discussion and Reflection
4. Problem analyses and solution

Day 2:

Field trip

Day 3:

Group work on

- Dissemination
- Gap analysis
- Action planning

Lessons learnt

Let's get to know each other

“Speed dating”

Meet as many people as you can in 5 minutes
Find out

- Name
- Favourite food

How many people have you meet?

1.3 Presentation – Morning Session

Chairman: Dr. Tilahun Hordofa

Rapporteur: W/o Yeshe Chiche

Design Considerations and Community Focused O&M measures for efficient and sustainable irrigation schemes development: the case of SNNPRS	Mitiku Bedru (SNNPRG Bureau of Water Resources Development; Irrigation Development Sector)
Spring development techniques, theory, challenges and Implementation	Berhanu Alemseged (South Water Works Construction Enterprise)
Discussion	

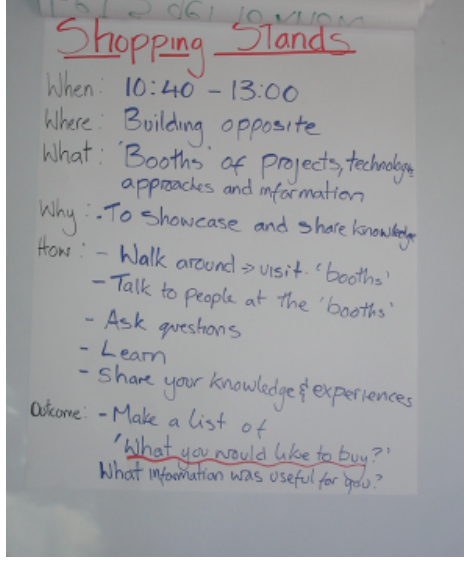
1.4 Interview

Prof. Matula - SELECTION of potential MSc students in CULSP– 5 staff members
Interview of the following candidates, all of them are staff of HU:

Miss Meron Teferi Taye	agricultural engineering
Mr. Tarekegn Kebede	agricultural engineering
Mr. Wosenu Lemma Legese	soil and water management
Mr. Elias Tedla Shiferaw	machinery eng. and soil mechanics/physics
Mr. Getu Bekere Mekonnen	soil and water , hydrology

Detailed applications were prepared and taken to Prague for final decision in June 2007.
Selected candidates will get the full scholarship for studies of the MSc. Programme NRE

1.5 Presentation – Shop around Booths and Poster Session

Shopping stands	
	<p>When? 10:40 – 13:00 Where? Building opposite What? Booths of Projects, technologies approaches and information Why? To showcase and share knowledge How?</p> <ul style="list-style-type: none"> • Walk around visit booth • Talk to people at the booths • Ask questions • Learn • Share your knowledge and experiences <p>Outcome Make a list “What do you like to buy?” “What information was useful for you?”</p>
Photo 2: Shopping stands	

The following Shopping stands were available

1. R-wash Program (TOLINGIYO consult)
2. Modified Sand Filter for Filtration of Drinking Water (Arbaminch University)
3. Distribution Florid in the Drinking Water Supply of the Rift Valley (SNNPRG Bureau of Water Resources Development)
4. Micro Tube Drip Irrigation System (Arbaminch University)
5. Community Participation; Gender; Learnings and Policy implication of Likimse Abeka Water Supply and Sanitation Project (World Vision Ethiopia, Awassa)

POSTER PRESENTATION & SHOPPING BOOTHS



1.6 Presentation – Afternoon Session

Chairman: Dr. Tilahun Hordofa

Rapporteur: W/o Yeshe Chiche

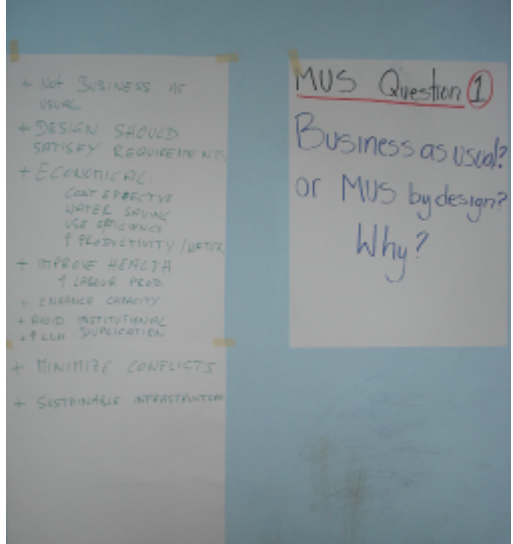
Taking Multiple Use Approach to Meeting the Water Needs of Poor Communities (presentation and interactive session in Plenary)	Dr. Eline Boele, IWMI
Ugandan NGO Experience in Water Conservation and Water Management (PELUM, Uganda)	PELUM
Discussion	

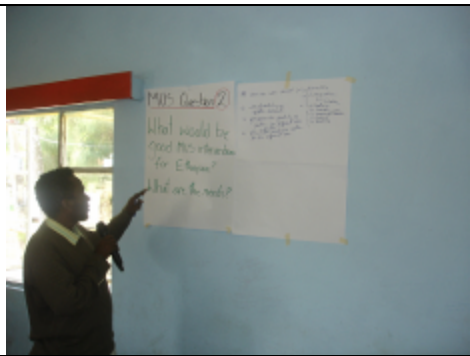
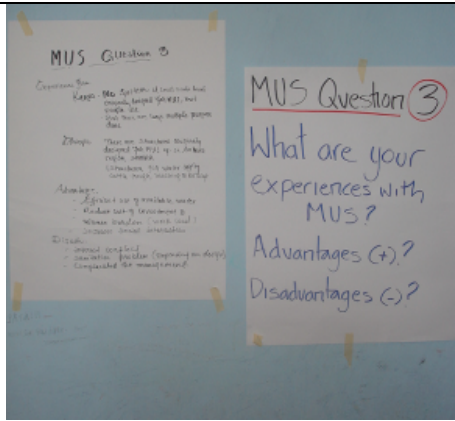
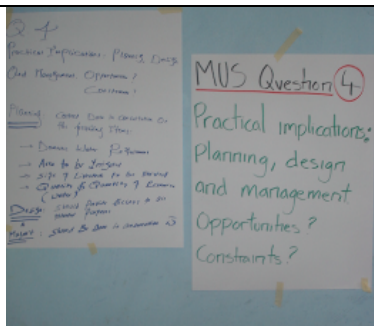
1.6.1 Group discussion on Multiple Use (MUS)

- If a multiple use approach is not the right way, then what alternatives do we have for incorporating multiple water needs in water resources development?
- If a multiple use approach is a good way forward, how can it be improved? Which issues have to be taken into account?
- Could you formulate arguments for or against the issue?
- Are important issues and arguments missing?
- Would the negative arguments outweigh the positive ones or inversely?
- What do we know? Is that available in the right format?
- What else do we need to know? How should this knowledge be generated?
- How should the required information be delivered?

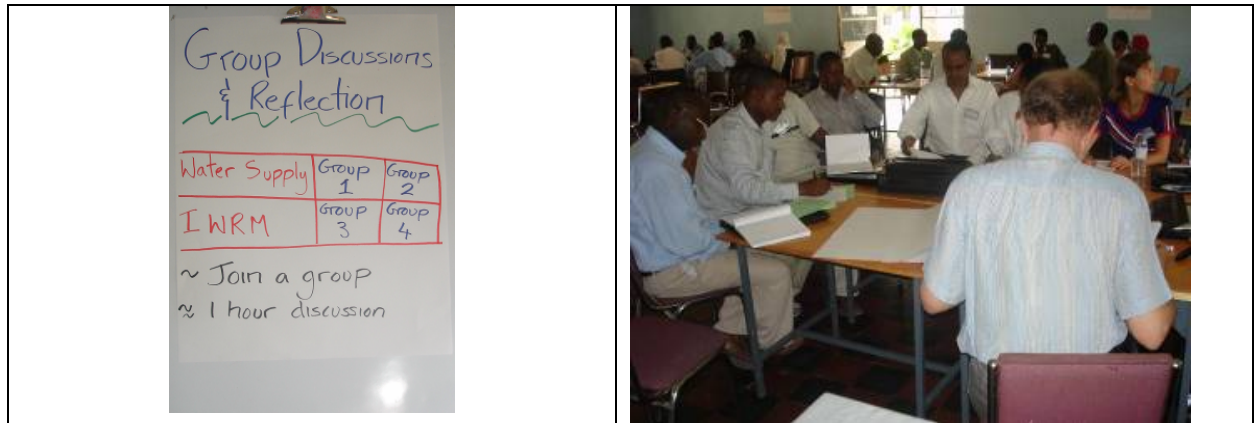
After the presentation on MUS 4 groups were formed to discuss different questions on MUS. The output is presented in 1.7 Output on Multiple Use – Group discussion

1.6.2 Output on Multiple Use - Group discussion (MUS)

MUS Question 1	Business as usual? Or MUS by design? Why?
	<ul style="list-style-type: none"> [1] Not business as usual [2] Design should satisfy requirements [3] Economical: <ul style="list-style-type: none"> - Cost effective - Water Saving - Use efficiency - Increase productivity of water [4] + Improve health via increase labor production [5] + Enhance Capacity [6] + Sustainable Infrastructure [7] Minimize Conflict

<p>MUS Question 2</p>	<p>What would be good MUS intervention for Ethiopia? What are the needs?</p>
	<p>Asses the water demand for</p> <ul style="list-style-type: none"> Domestic use Irrigation Livestock Bathing Cooking drinking <p>Availability of water resources The quality of water for different use Plan the availability of water for the different use</p>
<p>MUS Question 3</p>	<p>What are your experiences with MUS? Advantages (+)? Disadvantages (-)?</p>
	<p>Experiences of Kenya:</p> <ul style="list-style-type: none"> No system of small scale level originally designed for MUS, but people use the system traditionally But here are large multiples purpose dam <p>Experiences of Ethiopia:</p> <ul style="list-style-type: none"> There is structure originally design for MUS (Amhara region – SNNPR) ->Structure for water supply, cattle trough, washing and bathing) <p>Advantage:</p> <ul style="list-style-type: none"> Efficient use of available water Reduce cost of intervention Women burden (work load) Increases social interaction <p>Disadvantage:</p> <ul style="list-style-type: none"> Intercultural conflict Sanitation problem Complicated the management
<p>MUS Question 4</p>	<p>Practical Implication: Planning, Design and Management. Opportunities? Constraint?</p>
	<p>Planning: Collecting data consultation on the following items:</p> <ul style="list-style-type: none"> Domestic water requirement Area to be irrigated Size of livestock for be served Quality and Quantity of resource (water) <p>Design: should provide access to all intended purpose Management: should be done in consultation</p>

1.7 Group Discussion and Reflections



Questions on: Water Supply and IWRM

Water Supply	Group 1 [Local language]	Group 2 [English Media]
IWRM	Group 3 [English Media]	Group 4 [Local language]

The workshop participants were asked to join one of the four groups and discuss about one of the four questions for about 1 hour. The questions are listed below.

Water Supply:

- What are the major issues for water supply?
- What do you think are possible solutions?

IWRM:

- What are the major issues for Integrated Water Resources Management?
- What do you think are possible solutions?

Output of this Session: (from Dr. Nata Tadesse)

+ Issues

- Prevention of damage to canals and pipes by livestock, illegal connections
- Health benefits through more water for hygiene
- Household-based productive uses of water
- Home garden often more profitable than rice
- Increased livestock production
- Ability and willingness to pay
- Financial and environmental sustainability
- Water productivity

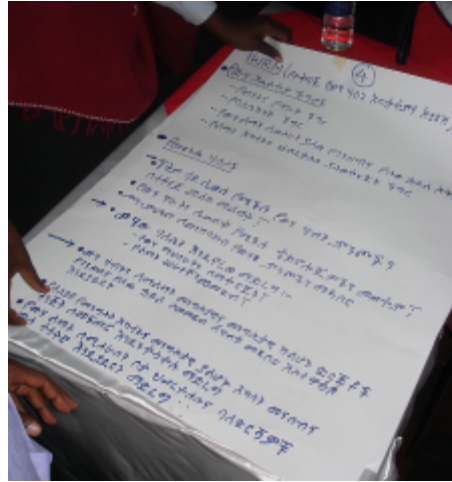
- Issues

- Water quality: surface water not suitable for drinking
- Water quantity: sufficient for all uses?
- Equity: upstream users use water for gardens and downstream users cannot drink
- Incremental cost of meeting multiple needs

1.8 Group Presentation and Plenary Session

Chairman: Dr Tena Alamirew

Rapoteur: Dr. Nata Tadesse



Question 1: Water Supply

The major issues that were pointed out by

Group 1:

- Available potential of water resources (both surface waters and groundwater)
- Groundwater quality
- Salinity and fluoride concentration
- Declining of water table
- Rapidly expanding demand due to increasing number of population
 1. Financial and technical matters
 2. Water resource data
 3. Institutional issues (including pricing of water)
 4. Lack of infrastructure and
 5. Sparse settlement

The possible solutions recommended by Group-1 were the following

- Conducting survey to determine the availability of water resources
- Capacity building (technical, technological and financial)
- Conservation of systems and
- Improving infrastructures

Group 2:

The discussion was held in Amharic

Raised issues on water supply

Question 2: Integrated Water Resources Management (IWRM)

The major issues that were raised by

Group 3:

- Water Resource Assessment
- Awareness creation
- Lack of law in water utilization
- Sustainability issues
- Technical issues
- Integration issues and
- Conflict in the upstream and down stream users

The possible solutions recommended by Group 3 were the following

- Introducing water use law
- Publicizing IWRM principles, policies and law
- Institutionalizing IWRM
- Conducting detail water resource assessment and
- Preparation of standards for water management structure

Group 4

The discussion was held in Amharic

Plenary Session

On the plenary session the only point that was raised was the viability of water harvesting technology as an option for water supply. In the discussion it was agreed that water harvesting technology can be taken as a viable option for water supply. In since the technique is highly site specific it should not be implemented every where as a copy paste.

2. Day 2 Field Trip

2.1 Destinations

1. Small Scale Irrigation Scheme for needy communities at Awassa Town (Urban Agriculture)
2. Yirgalem spring development project (45 KM from Awassa)
3. Tabor Fresh Herbs Plc (Awassa Town)
4. Abijata Lake 70 Km from Awassa on the Road to Addis (By Ato Rezenom)



2.2 Meeting with Czech Ambassador in Ethiopia

14:30 – 18:00

Prof. Matula:

- Meeting with Czech Ambassador in Ethiopia, Ing. Zdeněk Dobiáš
- Meeting with People in Need CR, Ing. Ondřej Nádvorník
- Opening ceremony of the exhibition “Capitals of Europe” in the Awassa College of Teacher Education – Centre of Modern Teaching Methods – the Czech activity in Awassa.

3. Day 3 Work Shop

Speech of Czech Ambassador Ing. Dobiáš. The ambassador participated in the workshop the whole day.



3.1 Introduction by facilitator

	<p>Group discussion on Gap analysis & Dissemination</p> <p>Groups should identify research gaps and problems and solution related to dissemination process of research results.</p>
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3.2 World Cafe

WORLD CAFÉ on Information Packaging and Gap Analysis

Two topics were generated for group discussions:

- Gap Analysis
- Dissemination

Way of accomplishing the discussion session was as follows:

⇒ The participants were grouped into four groups. Each group should discuss on the issues raised for about 30-minutes. Two groups were formed to discuss on “Gap Analysis” the other two on “Dissemination”. All groups should nominate a table host [chairman] and write the ideas which were raised on the ‘table cloth’.

⇒ After the 30-minutes, each group should move to another table with a different topic. Only the table host should remain at the same table.

Choices-

	1	2	3	4
Round 1	Table 1	Table 1	Table 2	Table 2
Round 2	Table 3	Table 4	Table 3	Table 4

Table 1 and 2 = Gap Analysis

Table 3 and 4 = Dissemination

Table 1:

From all of the information you have received during this workshop (presentations, shopping stands, field trip), if nothing was useful, what should research focus on to provide useful information?

Table 2:

What are the knowledge gaps?

What information do you need?

Table 3:

For you as a particular stakeholder, how would you like information to be communicated to or shared with you?

Table 4:

How should information/research results be shared with/communicated to different stakeholders?

OUT PUT OF WORLD CAFÉ:

TABLE -1

- Research should focus on supply of water (quality and quantity)
- Sectoral communication gap [horizontally]
- lack of reliable data
- lack of awareness (skill and knowledge)
- government involvement in major areas of development
- facilitating role
- resources degradation (forest, groundwater reserve)
- population growth related to water use
- absence of research centers specialized in water resources investigation and proper development
- development should be based on research results and objective reality

TABLE -2

Table cloth-1:

- Baseline data storage and management
 - ↳ lack of awareness about the national water policy
- Translating research results to the end users
 - ↳ appropriate technology
- Financial and human capacity
- Stakeholders participation and involvement
- Lack of historical data, monitoring data, evaluation data
- Lack of link (where to get the right information)
- Lack of reliable information

- Illiteracy
 - ↳ farmers want to know more about bore-holes
 - ↳ alternatives for different supplies to river/surface supply

Table cloth-2:

- The knowledge is not available for all of us. (base line information on research results)
- Research results available are not able to disseminate due to different logistic problem (capacity and capability)
- Poor capacity of researchers
- Poor coordination of development efforts in relation to water
- Ownership and accountability problem
- Lack of participatory approach
- Poor quantification of losses in water supply schemes
- Limited technological adaptation research
- Extent of problems not clearly known
- Lack of impact assessment (M & E) both for developed systems and research findings

TABLE -3:

Table cloth-1:

- should be disseminated/translated to local language
- through drama
- Demonstration plot (Amharic- bemasachen wesete meteto betegbare serto bemasayet bihone melkame new.)
- Training on new knowledge (adadis iwqtocene betmhirt melk biseten)
- Through development agents (kelmat sratgnoch gar bemeweyayetna bememamar enredalen.)
- Social gathering ; churches (idir)

Table cloth- 2:

- through world wide pages and internet
- written views from interviews in news papers articles
- through community gathering
- information to the concerned institution(centralized) – written documents
- through electronic media as well as through site observation
- through video, TV, radio documentaries compiled from on site visits and interviews
- project presentations at Universities or any other place
- group discussion
- field trip

TABLE -4:

Table cloth-1:

This group presented the output in to two parts:

- [1] Constraints in information dissemination
- [2] Solutions to constraints

[1] CONSTRAINS

- workshop fees for attendance
- communities demand monetary rewards to participate or receive knowledge
- communities give researchers distorted information
- some researchers donor always give feedback to communities on their findings

- sometimes extension workers disseminate wrong information to farmer- as the middle man
- top down approach – researcher to farmer
- support provided by government, researchers doesn't allow sustainability
- lack of communication
- solutions from research results have to be applicable locally at low cost.

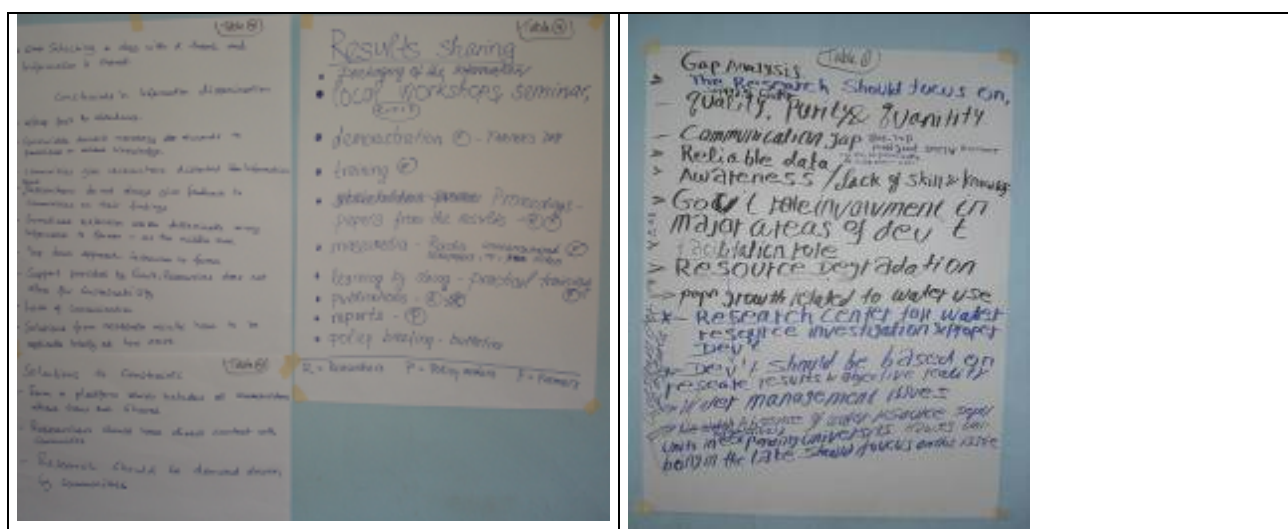
[2] SOLUTIONS TO CONSTRAINTS

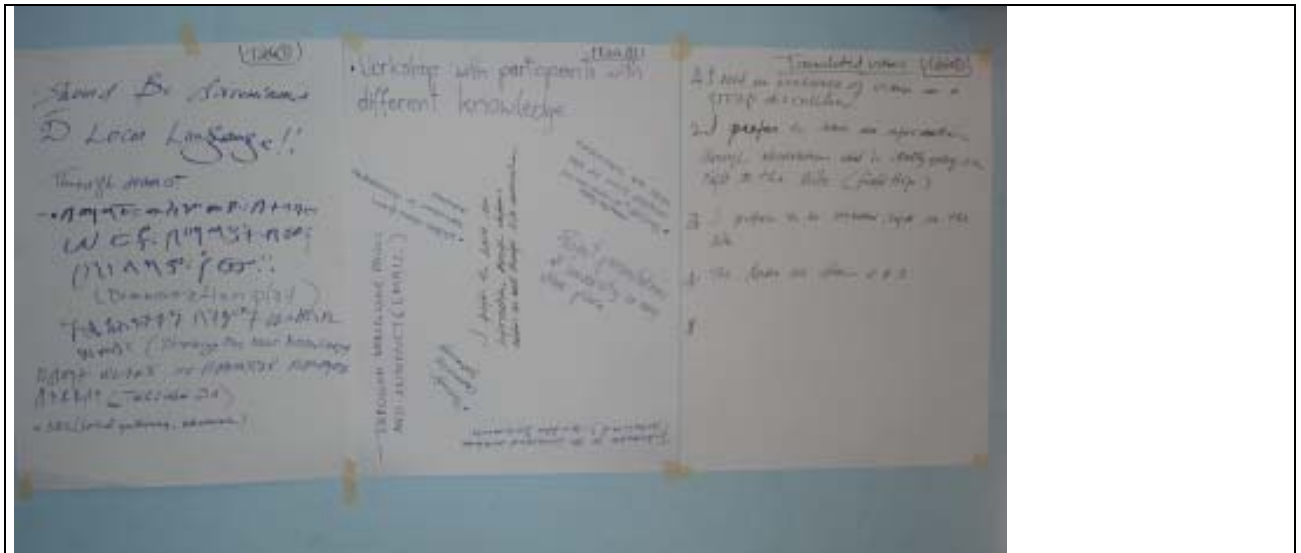
- form a platform which includes all stakeholders where views are shared
- researchers should have direct contact with communities
- research should be demand driven by communities

Table cloth-2:

Result sharing [R=researcher; P=policy makers; F=farmers]

- packaging of information
- local workshop, seminar (R + P + F)
- demonstration (F) – farmers' day
- training (F)
- proceedings- papers from the results (R + P)
- mass media – radio announcement (F), news papers, TV, video
- learning by doing-practical training (F)
- publications (R)
- reports (P)
- policy briefing-bulletin





3.3 Action Planning

On the first day of the workshop the facilitator gave the participants two tasks while visiting the poster presentations and the shopping booths: to

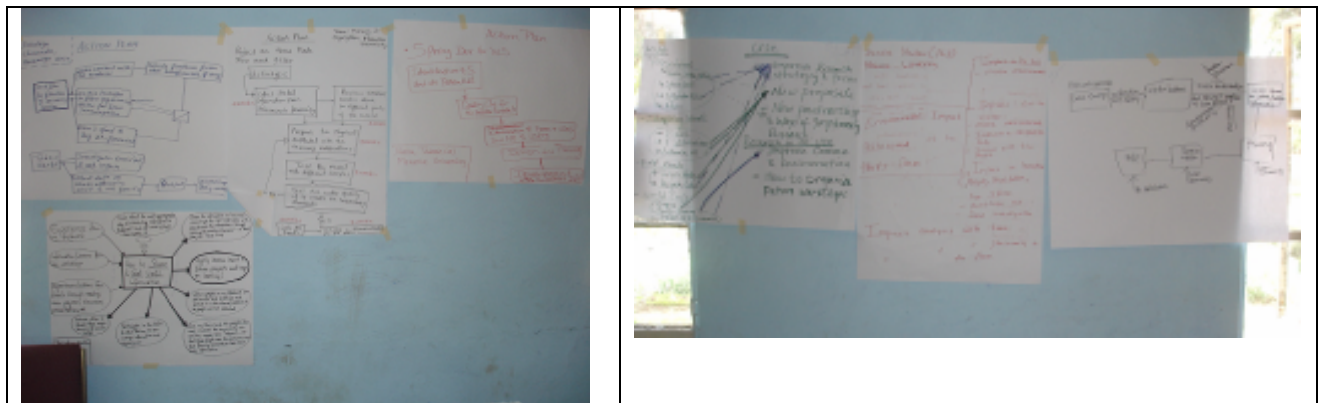
- Walk around and visit 'booths'
- talk to people at the 'booths'
- Ask questions
- Learn
- Share your knowledge and experiences

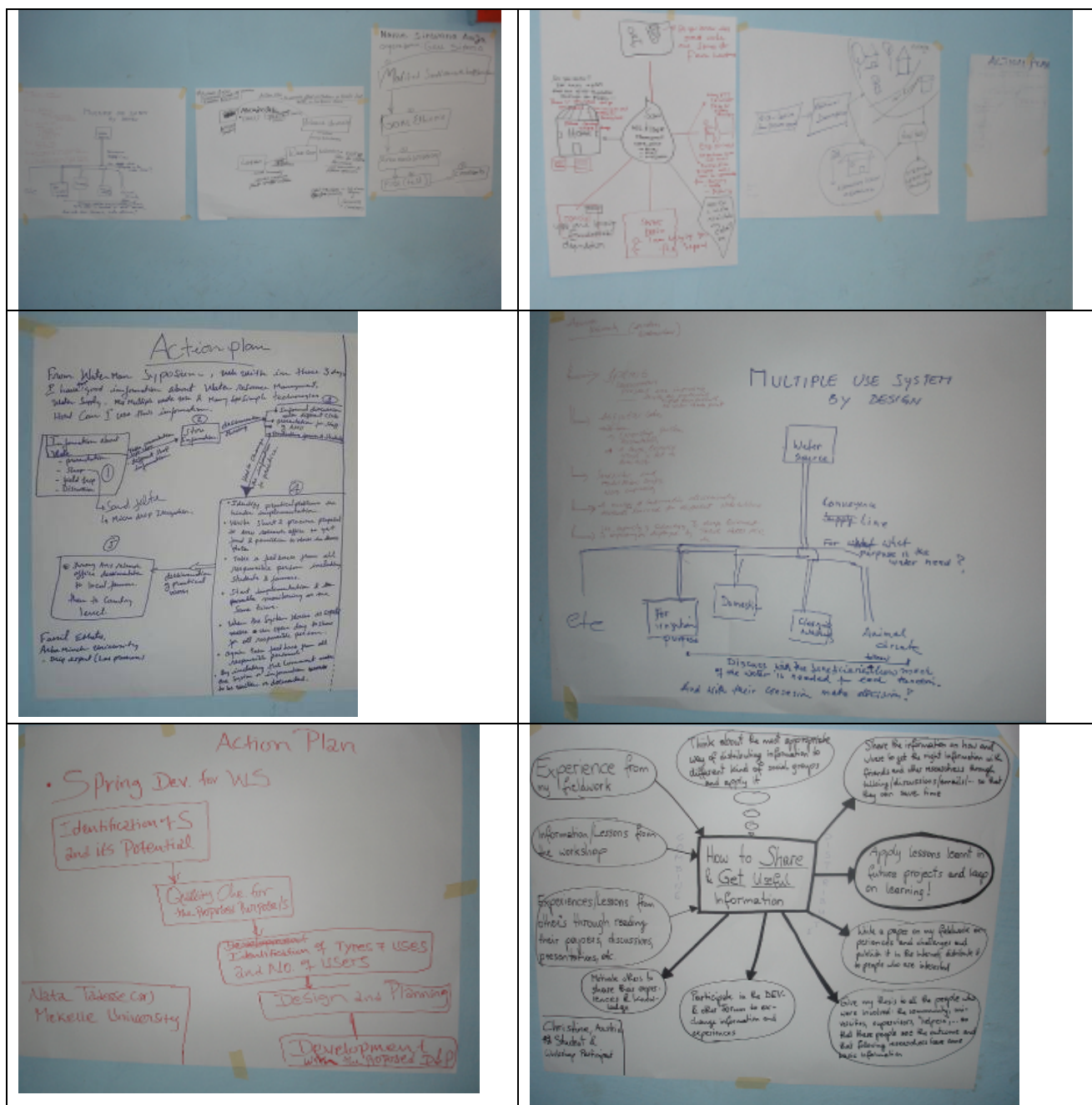
Secondly the facilitator asked the participants to ask themselves two questions:

- "What you would like to buy?"
- "What information was useful for you?"

Each participant should make sketches or simply display action plans how they would implement what they have "bought" at the shopping stands.

Samples of the output and presentations made are presented below:





3.4 Special Meeting

Ambassador Ing. Dobiáš and Prof. Matula – meeting with Vice-president for Academic Affairs and Research **Admasu Tsegaye, PhD** of the Hawassa University, discussion about Memorandum of Understanding between HU - College of Agriculture and Faculty of Technology and CULSP - Faculty of Agrobiological Food and Natural Resources, Dean FT - Fisiha Getachew, MSc, participated too. (10:45 – 11:30) Ambassador informed the participants about a planned visit of the Czech Prime Minister to Ethiopia and a potential visit to Awassa – HU in July 2007.

3.5 Evaluation of the Workshop

Chairman: Dr. Seleshi Bekele, Co-chairman: Prof. S. Matula

Rapporteurs: Ms. Nadia Manning, Mr. Dominik Ruffeis



(+) Positive	(-) Negative
<ul style="list-style-type: none"> • (good) structure • Group work • Well organized field trip • Good composition of participants • Excellent facilitator • Discipline of participants • Good time management • Different types of activities • Including farmers • Learning a lot-about finding solutions 	<ul style="list-style-type: none"> • The abstracts of the papers shall be sent to participants ahead of the workshop • The agenda shall also be given earlier • less number of policy makers • most mobiles were not switched off • no clear output/ goal • translation problem • implementation difficult (financial problem) • on-site problem analysis by farmers (lacks)

4. Final remarks

Closing Remark by Mr. Jemal Reshid, Head of Water resources Development Bureau, SNNPRS

Your Excellency the Ambassador of Czech Republic, Dear Participants of the Workshop, Ladies and Gentlemen!!

It gives me great pleasure to be here at this remarkable occasion of the International Workshop on: "Water Supply and Integrated Water Resources Management" organized at Hawassa University. As you all know, the issue of Integrated Water Resources Management is becoming a global concern to meet and/or to overcome the ever increasing and competing demand for different uses over the scarce water resources. The need for integrated water resources management is increasing from time to time since it has been recognized as a tool to ensure equitable, efficient and sustainable uses of the scarce water resources we have thereby meeting the different water supply demands. This is part of the in our case we can take this as part of NMDG & PASDEP. In line with this, you the scholars and also our useful stakeholders in water sector, have been brainstorming and discussing for the last 3 days in order to draft the ways and means of dissemination of research Results and technologies so that they reach the end users. The workshop mainly focused on topics such as water supply and integrated resources management issues, irrigation development and management, aspects of knowledge sharing, researching to use, knowledge gap, dissemination and action planning which are areas of the most attention to foster integrated water resources management. I am confident to say that workshop has met its higher objectives and to this end I do congratulate all of you for the successful completion of the workshop. I hope your outcomes will reach the beneficiaries including our water sector and will have a profound impact on the end users.

Lastly I feel much honored to have the chance to make this closing remark and I would like to take this opportunity to thank

BOKU-University of Austria - the initiator of this Water Project; The European Union - the funding organization for this project; The partners in this project: Namely; University of Hawassa, University of Haramaya, University of Mekelle, Ethiopian Institute of Agricultural Research, International Water management Institute, PELUM – Uganda, Egerton University of Kenya, Czech University of Agriculture, Prague, Czech Republic, Cranfield University of Technology, the UK and

The Participants, Namely; The Office of President: Hawassa University, SNNPRS Bureau of Agriculture and Natural Resources Development, SNNPRS Bureau of Water Resources Development, The Research Institute, Farmers, Consultants, NGOs for their invaluable participation for the successful completion of the workshop.

Last but not least, I would like to thank the hosting University and the organizing committee for the efforts made to make the workshop a success. Now we have come to last point of the workshop and I officially declare that the workshop has ended and I wish you a safe trip back home.

Thank you!

5. Annex I

WORKSHOP 2 Participants

Name	Institution
Svat Matula	Czech University of Life Sciences (formerly Agriculture).
Kamila Spongova	Czech University of Life Sciences.
Christine Judt	BOKU
Dominik Ruffeis	BOKU
Gayathree Jayasinghe	International Water Management Institute
Seleshi Bekele	International Water Management Institute
Nadia Manning	International Water Management Institute
Kaleb Kelemu	Ethiopian Institute of Agricultural Research
Yeshe Chiche	Ethiopian Institute of Agricultural Research
Gebreyes Shewangizaw	Ethiopian Institute of Agricultural Research
Tilahun Hordofa	Ethiopian Institute of Agricultural Research
Tena Alamirew	Haramaya University
Almaw Tadesse	Haramaya University
Dessalegne Chemed	Haramaya University
Dessie Nadew	Mekele University
Nata Tadesse	Mekele University
Daniel Messay	Mekele University
Ann Kyohairwe	Pelum Uganda
Benedict Mutua	Egerton University, Kenya
Fasil Eshetu	Arbaminch University
Admasu Tsegaye	Hawassa University
Adugna Tolera	Hawassa University
Abraham Woldemichael	Hawassa University
Yewelsew Abebe	Hawassa University
Fisiha Getachew	Hawassa University
Alemayehu Mulneh	Hawassa University
Melkamu Bezabih	Hawassa University
Adnew Mamo	Hawassa University
Gizachew Kebede	Hawassa University
Moltot Zewdie	Hawassa University
Mulugeta Dadi	Hawassa University
Gashaw Mitike	Hawassa University
Birhanu Biazin	Wondo-Genet College of Forestry
Samson Mengistu	South Water Works Construction Enterprise
Berhanu Alemseged	South Water Works Construction Enterprise
Mitiku Bediru	Regional Water Resource Development Bureau
Eyasu Mammo	Regional Water Resource Development Bureau
Adane Kifle	Regional Bureau of Natural Resources and Agriculture
Sirwana Amza	GOAL Ethiopia (NGO)
Irena Konečná	People in Need (NGO)
Ondrej Napravnik	People in Need (NGO)
Kagnaw Negash	Common Vision for Development (NGO)
Ashenafi Leka	Farmer

Birtukan Taye	Farmer
Dikale Digisso	Farmer
Abebe Legesse	Farmer
Almaz Shiferaw	Farmer
Hirbeto Tikemo	Farmer
Lemlem Endale	Translator for Farmers
Kifle Amaya	Farmer
Birhane Yimer	Farmer
Solomon Fisiha	Farmer
Fromsa Taye	World Vision Ethiopia (NGO)
Zerihun Alemayehu	Tolingyo Consult.
Aboset Mebratu	Tolingyo Consult.
Fantahun Getachew	Tolingyo Consult.
Eyasu Worku	Tabor Herbs Private Limited Company
Rezenom Almaw	Abijata and Shala Lakes National Park

Annex II



Workshop II – Awassa

HAWASSA UNIVERSITY

“Water Supply and Integrated Water Resource Management”

Date: 25th - 27th of April 2007

Venue: Hawassa University, Awassa, Ethiopia

Agenda:

Day 1: April 25 th Morning Session	
8:00 – 9:00	Registration
9:00 – 9:15	Welcome note by Dr Admasu Tsegaye
9:15 – 9:30	Keynote speaker: Dr. Seleshi Bekele, IWMI
9:30 – 9:40	Introduction by facilitator - Explanation of WS process
9:40 – 9:55	Presentations: <i>Chairman: Dr. Tilahun Hordofa</i> <i>Rapporteur: W/o Yeshi Chiche</i> Design Considerations and Community Focused O&M measures for efficient and sustainable irrigation schemes development: the case of SNNRS by Mr. Mitiku Bedru (SNNPRG Bureau of Water Resources Development; Irrigation Development Sector)
9:55 – 10:05	Spring development techniques, theory, challenges and Implementation by Berhanu Alemseged (South Water works Construction Enterprise)
10:05 – 10:20	Discussion
10:20 – 10:40	Break
10:40 – 13:00	Presentations – Shop around booths and poster session
13:00 – 14:00	Lunch break
1. Day 1: April 25 th Afternoon Session	
14:00 – 14:45	Taking Multiple Use Approach to Meeting the Water Needs of Poor Communities (presentation and interactive session in Plenary, IWMI, Dr.Eline, Option 2)
14:45 – 15:00	Ugandan NGO Experience in Water Conservation and Water Management (PELUM, Uganda)
15:00 – 15:20	Break
15:20 – 16:30	Group Discussion and Reflections (Two groups per choice)

16:30 – 18:00	Group Presentation and Plenary Session Chairman: Dr Tena Alamirew Rapoteur: Dr. Nata Tafesse
18:30	Reception

Day 2: April 26th Excursion (whole day)	
	Departure to excursion Travel Routes
8:00 – 9:30	Small Scale Irrigation Scheme for needy communities at Awassa Town (Urban Agriculture)
9:30 – 13:00	Yirgalem spring development project (45 KM from Awassa)
13: 00 – 14:00	Lunch at Awassa Tabor Fresh Herbs Plc (Awassa Town)
14: 00 – 15:30	Abijata Lake 70 Km from Awassa on the Road to Addis (By Ato Rezenom)
15: 30 – 18:00	
18:00	Return to Awassa

Day 3: April 27th Morning Session	
9:00 – 9:15	Introduction by facilitator (Ms Nadia Manning)
9:15 – 10:30	Group sessions – Outputs for e.g. gap analysis
10:30 – 10:45	Break
10:45 – 12:00	Group sessions – Outputs for e.g. Action Planning
12:00 – 13:00	Lunch break

2.Day 3: April 27th Afternoon Session	
13:00 – 15:00	Presentation of Groups and Plenary Chairman: Dr. Seleshi Bekele, Co-chairman: Prof. S. Matula Rapporteur: Ms. Nadia Manning, Mr. Dominik Ruffeis
15:00 – 15:15	Break
15:15 – 16:00	Conclusion – lessons learnt Chairman: Dr. Seleshi Bekele Rapporteur: W/o Yeshe Chiche
16:00	Closing Remark by Dr. Sheleme Beyene, Associate Vice President for Academic and Research, Hawassa University

Annex III



Minutes “*WATERMAN*” WS 2 (Awassa) - Preparation meeting March 12 2007, Addis Ababa ILRI Campus

Project number: INCO-CT-2006-031694

6th Framework Programme

Duration: 01/10/2006-30/09/2007 (18 months)

Specific Support Action

Coordinator: Dr. Willibald Loiskandl, Universität für Bodenkultur Wien, Austria

Project Website: <http://waterman.boku.ac.at>

List of Participants:

1. Abraham Wordemichael (Univ. of Hawassa)
2. Alemayehu Muluneh (Univ. of Hawassa)
3. Moltot Zewdie (Univ. of Hawassa)
4. Mulugeta Dadi (Univ. of Hawassa)
5. Tilahun Hordofa (EIAR)
6. Yeshi Chiche (EIAR)
7. Seleshi Bekele (IWMI)
8. Gayathree Jayasinghe (IWMI)
9. Dominik Ruffeis (BOKU)

Agenda:

1. Logistics – Invitation for project members, presenters and WS participants, planning of the workshop
2. Collection and preparation of research results and materials
3. Setup of the workshop using PPA tool

1. Aim of the meeting

The aim of the Meeting was:

- to report about progress
- to clarify potential constraints during the preparation phase for the workshop in Awassa
- to discuss details about the collection of results and presentable material and preparation for the workshop
- to inform the participants about the setup of the workshop using PPA tools and how to link this setup with the collected material
- to discuss about logistics related to the workshop

During a first general discussion about experiences that have been made since the kick-off meeting it became obvious that some clarifications are needed in terms of setup of the workshop and materials that need to be collected.

Dr. Abraham Wordemichael briefed the participants about the progress. A committee had been installed in order to organize the workshop and to collect presentable material. Dr. Abraham is the head of this committee of Hawassa University. As Dr. Abraham and his team did not attend the kick-off meeting in November 2006 they had some questions to be answered related to the material and results that need to be collected and prepared in order to be presented during the workshop. Additionally some clarifications were needed in relation to the program and setup of the workshop

Dr. Seleshi Bekele made the suggestion to discuss and identify potential topics and subtopics and presentable material first and then talk about the logistics of the workshop.

2. Collection of material and plan of action & what is needed:

Following useful course of action was determined in order to collect material and to prepare the workshop:

- Identification of subtopics
- Formulate an invitation letter to potential presenters
- Collect results and other useful presentable information (Committee of Hawassa University should be proactive in approaching the potential organisations; Incentives may be announced)
- Distribute collected material to project members; IWMI agreed to support the selection of material that should be presented
- Involve the facilitator
- Select the material for presentation; Focus on 4-5 key topics, include posters
- Preparation of the material, transform it into a presentable format in order to address all invited stakeholders
- Support from EIAR (Tilahun and Yeshe) to make arrangements for the setup of the workshop using PPA tools

Dr. Abraham promised to collect the material until **end of March** and then distribute it.

After a short discussion following decision about presentable material and results was made:

- Results and published data
- Useful and applicable information
- Results which are applicable in the region
- No technical format; material has to be transformed
- Results from all over Ethiopia or other areas with focus on applicability in the region of Awassa

The overall topic of the workshop is „**Integrated water supply and resource management**“

Following potential subtopics were identified which can be used as an orientation to collect results:

- Results related to environmental long term effects
- What are the issues of water supply in the regions
- Sufficient water is available but distribution is the major constraint
- Rural water supply
- Failure of water supply structures
- Lake Awassa watershed management
- Private farms in the area
- Gender issue should be included in the invitation letter
- ...

List of organisations that might be contacted for research results:

- Arba Minch University
- Melkassa Research Center
- Horticultural Department
- Horticultural Association
- Haramaya University
- Mekel University

- Water Resource Department
- NGOs
- Goal
- Plan Int.

3. Setup of the workshop:

Dominik Ruffeis briefed the participants about the previous meeting about setup of the workshop using PPA tools. The minutes of this meeting are attached in order to give indications for the possible operation of the workshop. After the collection of the material, EIAR (Tilahun Hordofa and Yeshe Chiche) will actively support Hawassa University with their experience and knowledge during the preparation phase of the workshop. The facilitator has also to be involved in the process. Dr. Seleshi proposed one facilitator from IWMI, Nadia Manning, who will join IWMI Addis office soon. It also was mentioned that a second local facilitator is needed and additionally translators.

Summary of the minutes of meeting from 24/01/2007 see Appendix 1

4. Logistics of the workshop:

Date: 25., 26., 27. April 2007

Place: Awassa

at least 20 participants

Day 1: Presentation of results & reflexions & group discussion

Day 2: Field trip

Day 3: Reflexion, discussion and lessons learned

What is needed?

- Official invitation to project members (necessary for travel arrangements, nominate representatives) – include request for acceptance
- Booking of hotels in Awassa
- Venue
- Material for the workshop – Support from Yeshe (EIAR)
- Arrange and organize field trip (selection of location, means of transport)
- Invite different stakeholders through local departments and institutions:

List of potential stakeholders:

- Staff of partner institution
- Students
- Local authority
- Key note speaker
- Civil society (e.g. NGOs, CBOs)
- Farmer communities
- Researcher (Hydrologist, Geologist, Irrigation engineers, etc.)
- Local agricultural and water bureaus

Appendix 1:

Waterman: Minutes of Brainstorming-Meeting

Topic: PPA setup of workshops

Participants: Gayathree Jayasinghe, Michiko Ebato, Dominik Ruffeis

Date: 24/01/2007

What is needed?

- Good facilitator – outsider, for WS and preparation phase
- CO-Facilitators
- Interpreters (local language, for farmers and Woreda staff)

Preparation phase before the workshop:

- Key informant interviews with stakeholders to identify the problem areas (might be too time consuming)
- Collection of research material related to identified topics
- Identification of a limited set of implementable research results that can be packaged for dissemination – based on the current knowledge of good fit between priority problem in the area and solution available from previous research results
- Preparation of dissemination material (formats, etc.) Repackaging the research results into appropriate dissemination formats accessible to the cross section of workshop participants expected
- Identify stakeholders (participants)
- Workshop

-> Important to identify key persons responsible for WS preparation

Workshop setup (3 days incl. field visit):

Process for stakeholders

- | | | |
|--|---|---|
| 1. Assess | } | Point 5 – Group discussion & Reflexion |
| 2. Chose | | |
| 3. Methods | | |
| 4. Action Plan for implementation | | |
| 5. Identify priority problems in the area that are not yet addressed by the research results presented and so identify the research gaps | | |

1. Key note speaker

2. Introduction by the facilitator -> Explanation of WS process and guidance

3. Presentation of the research topics (identified research findings)

-> Visual focused

Methods:

- Poster session
- Demonstrations

- Shop around – booths; e.g. 3 booths, lead scientist and 1 interpreter per booth to answer questions from participants and interact in an informal setting where participants are comfortable not using scientific language
 - for presentation of research topics
 - Participants walk around as they like
 - Flip charts for each booth with Matrix for ranking

For each implementable research result presented,

Participant	relevance	Technology easy to use?	Cost	...
A				
B				
C				
...				

4. Plenary -> further explanation by facilitator

5. Group sessions for reflexion of what participants have seen

Possible questions:

Did you see anything useful for you?

How can we use it to solve our problems?

What will you do next?

If nothing was useful, what should research focus on?

What kind of information do you need?

....

Methods: Group discussions

Material: Flip chart, Markers, Making tape or pins

6. Plenary -> each group presenting their outputs and answers to questions of point 5

7. Explanation by facilitator

8. Group discussion with the goal to find outputs for:

- Action planning process. How will you use what you learnt today?

Methods: Group discussion... needs clear instruction by the facilitator and the organiser should have clear idea how the participants should present the action plan.

9. Group discussion to identify the following

- Identification of knowledge gaps. What information do you really need?
- Project Proposals
- Find dissemination pathways, appropriate formats for stakeholders. How would you like this kind of information communicated to you?

Methods:

- Group discussions (Break up into groups)
- World Café (e.g. 3 stations with host; discussion for 20 min -> write down ideas; group shift to other station)

10. Plenary -> Presentation of results by hosts of e.g. World Café stations