



PUBLISHABLE FINAL ACTIVITY REPORT
“*WATERMAN*”

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 acronyms:

ARC	Austrian Research Centre Seibersdorf
BOKU	Universität für Bodenkultur Wien
CU	Cranfield University
CUAP	Czech University of Agriculture Prague
MU	Mekele University
AU	Alemaya University
DU	Debub University
IWMI	International Water Management Institute
EIAR	Ethiopian Institute of Agricultural Research
EU	Egerton University
PELUM	Participatory ecological land use management
IPE	Impact of Irrigation Development on Poverty and the Environment
ILRI	International Life Stock Research Institute
IRDI	Integrated Rural Development Initiatives
GO	Governmental organisation
NGO	Non governmental organisation
MDG	Millennium Development Goals
PA	participatory approach
SSA	Specific Support Action Programme
UNDP	United Nations Development Programme - Africa

Dissemination of research results in semi-arid and arid ecosystems with a focus on sustainable water resource management in Ethiopia

Foreword

WATERMAN has strengthened international relations through joint research and technology transfer within Eastern Africa. WATERMAN has also contributed to both implementation of the European Research Area and the sustainable development of Eastern Africa. The established network of universities, research institutions, national and regional offices and NGOs continues to serve as a relay for information exchange and the promotion of future project, research and innovation strategies. Emphasis was given to working together and to build links to water management stakeholders both nationally and to neighbouring countries.

1. Project execution

The 18-month project activities included a kick-off meeting and three workshops at different Ethiopian universities (Hawassa, Haramaya and Mekele) and an international symposium. Networking activities in compiling relevant research results for dissemination were an integral aspect along with a scientific Project Plan Award and a Gender Award. The latter aimed to motivate young scientists to present their ideas and share them with other stakeholders. For example, farmers at workshops. The project execution and communication were supported by a website <http://waterman.boku.ac.at/>. The site proved very valuable for raising awareness about the project to non members.



Through the coordinator WATERMAN was linked to the Development Forum BOKU (DEV-Forum), which is a multi-stakeholder initiative to promote pro-poor science, and training and capacity development in partner countries. (<http://www.boku.ac.at/dev-forum.html>)

1.1. Summary description of project objectives

As the name indicates this SSA focuses on analysis and dissemination of research results in sustainable, integrated water resource management at river-basin scale within Ethiopia. The WATERMAN-Project aims for bridging the gap between research results and use of these towards development outcomes on the ground (in Ethiopia in particular). The methodologies applied and experience of WATERMAN participants are relevant to other countries in Sub-Saharan Africa and other regions. All members contributed by supplying research results and ongoing investigations in a way communicable to all stakeholders. The setup of key workshops was undertaken in an interactive manner to ensure strong feedback. Hence the relevance of

research was tested on the ground and new research needs could be addressed. WATERMAN addressed the fact that knowledge is not always available or accessible – it sits in papers or in journals – and knowledge is often not in the right format, language or location. The need for addressing various stakeholders in an appropriate manner is reflected in the project objectives:

- Learn with and from farmers
- Share information between stakeholders
- Motivate through successful project experiences

To set the overall project objectives in a practical context the former were supported by the following strategic objectives:

1. Managing arid and semi-arid ecosystems
2. Management strategies for enhanced economic productivity
3. Sustainable water management at river-basin scale

1.2 Contractors involved

The **WATERMAN** consortium collectively offers a unique blend of expertise for creating solutions for sustainable water and ecosystem management both in semi-arid and arid ecosystems. The geographic regional focus was in Ethiopia, but supported by international partners from East Africa and Europe.

Partic. Role*	Partic. No.	Participant name	Participant short name	Country
CO	1	Universität für Bodenkultur Wien	BOKU	Austria
CR	2	Cranfield University	CU	United Kingdom
CR	3	Czech University of Agriculture Prague	CUAP	Czech Republic
CR	4	Mekele University	MU	Ethiopia
CR	5	Alemaya University	AU	Ethiopia
CR	6	Debu University	DU	Ethiopia
CR	7	International Water Management Institute	IWMI	Ethiopia
CR	8	Ethiopian Institute of Agricultural Research	EIAR	Ethiopia
CR	9	Egerton University	EU	Kenya
CR	10	Participatory ecological land use management	PELUM	Uganda

*CO = Coordinator CR = Contractor

2. Work performed and end results

A summary of the workshops and the symposium follows. Detailed information can be obtained from workshop and symposium reports and the summary of presentations, which are all available on the WATERMAN webpage.

2.1 Kick-off meeting and Workshop I

The Kick-off meeting was hosted by IWMI and the Workshop I by EIAR. The venue for both was the ILRI – Campus in Addis Ababa.

2.1.1 Kick-off meeting

The project activities commenced with the kick-off meeting in Ethiopia and the general framework for the Specific Support Action Programme (SSA) was established. A presentation of the project's management requirements, work packages, personal month assignments including timetables, deliverables and milestones was given to ensure a common understanding of tasks and duties. The concept of dissemination of research results and collaboration in sustainable water management in East Africa within the Specific Support Action was established. Contributions from neighbouring countries Kenya and Uganda which have comparable socio-economic and climatic conditions were discussed. The structure for the workshops at the Ethiopian partner universities was reviewed and adopted according to local needs. The formalities for the Scientific Project Plan Award and the Gender Award were defined and the planning of rules and conditions commenced.

Part of the kick-off meeting was a joint meeting with the members of the project IIPE-IWMI. The aim was to provide a link with the ongoing research project IIPE “Impact of Irrigation Development on Poverty and the Environment” which was implemented in Ethiopia in collaboration with IWMI, BOKU, ARC and Ethiopian Universities, governmental and research institutions. This project serves as an example of networking activities in research and creating links between research and dissemination activities. Hence the project “WATERMAN“ is directly supplied with highly relevant research results for dissemination.

Dr. Seleshi Bekele gave a comprehensive presentation on the IIPE project and highlighted possible dissemination activities, which could be extracted out of this research project.

2.1.2 Workshop I: “Use of participatory approaches to integrate socio-economic, ethical and gender issues into research and dissemination to shorten impact times and increase broad uptake”

Workshop I was held immediately after the kick-off meeting. The main purpose was to define details of participatory approach settings for the workshop. Partners were encouraged to ensure the participation of researchers and local stakeholders. Due to their past experiences IWMI, EIAR and PELUM were key contributors to the participatory workshop concepts. First the means and tools of participatory approach used within the group and appropriate tools for the project were explored. It was recognised that this task is not a single event, but an accompanying activity to other workshops.

Key questions for the application of the participatory approach (PA) discussed were:

- What?
- Who?

EIAR presents status of PA in a national research institute and how this can be integrated into a project.

Links are needed to: extension workers
other relevant stakeholders
policy makers

It was agreed that each of the following workshops must have as an integrated participatory approach aspect. This was reflected in two activities, namely;

- 1) Facilitating the workshops, ensuring that everyone feels that he/she has the right to be heard, to speak and to be an equal partner.
- 2) Participatory topics and participatory methodology are included in discussions and presentations.

Each workshop organizer was reminded to link up with members of WATERMAN institutions for workshop planning support. Ideas were finalized during follow-up meeting at 24/01/2007 by a nominated small working group (Participants: Gayathree Jayasinghe (IWMI), Michiko Ebato (IWMI), Dominik Ruffeis (BOKU)). As this is a vital element and applicable to other projects the concept is outlined below.

First the question of what is needed was raised. The preparation phase and the workshop set up were worked out.

What is needed?

- Good facilitator – outsider, for Workshop and preparation phase
- Co-facilitators
- Interpreters (Amharic, local languages e.g Tigrinya in Mekele, 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 research results into appropriate dissemination formats accessible to the cross section of workshop participants expected
- Identify stakeholders (participants)
- For the workshop it is important to identify key persons responsible for workshop preparation

Workshop setup (3 days incl. field visit):

10 Topics were addressed and respective concepts proposed:

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 an interpreter per booth to answer questions from participants and interact in an informal setting. Participants should be enabled to present research topics using the language they are most comfortable with.
- 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 reflection on 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 a clear idea on how 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

2.2 Workshop II: “Water Supply and Integrated Water Resource Management”

Date: 25th - 27th of April 2007

Venue: Hawassa University, Awassa, Ethiopia

The aim of workshop II was to 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 underutilised. A good inventory and knowledge of water resources is a prerequisite of water management for not only irrigation but other potentially conflicting uses. Hence Issues such as multi-purpose utilization, water harvesting technologies, competing demands and water re-use that dominate this sub-topic were addressed.

Integrated water resource management is of particular importance and relevance and timely in Sub-Saharan Africa in general and the Ethiopian context in particular. Crucially, this is a time when Ethiopia has identified water as an important entry point for its socio-economic development and in meeting the MDG and UNDP.

Key challenges addressed at the workshop II were 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

After the welcome address the workshop started with an introduction by the facilitator to explain the concept and to raise participants' awareness of their specific role. Shop around Booths and a Poster Session were introduced. This was the first workshop set up in this way within the project and moreover it was also a new concept for most participants. The facilitators were challenged to run the workshop successfully. The consortium was able to supply appropriate people and most comments about the workshop were very positive.

The workshop schedule was:

Day 1:

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



Communication specialist Nadia Manning



Poster: Drawing of sanitation

The plenary session was very intensive and additional topics were added to the workshop. For example, sanitation (picture above) and viability of water harvesting technology as an option for all water needs, like domestic use, irrigation etc.. In the discussion it was agreed that water harvesting technology could be a viable option for water supply. It was concluded that the technique is highly site specific and it should not be implemented everywhere as a copy paste.

Day 2: Field trip

A field trip in the workshop vicinity was proposed for all workshops an integral part of the programme (see below).

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)

An example of a low cost set up for drip irrigation for example for vegetable production is shown in the picture below (left). The other site visited was a community water supply spring (right).



Farmer and bucket irrigation



Tapping of a spring for communal water supply

Day 3:**WORLD CAFÉ on Information Packaging and Gap Analysis**

Two topics were generated for group discussions: Group work on

- Gap Analysis
- Dissemination
-

This activity involved all workshop participants equally in an interactive way to find out about the feeling of the groups on missing issues and better ways of disseminating information. The following action plan activity served to show ways forward.

Final Evaluation of workshop:

The final evaluation of the workshop is presented here to show feed back on the first experiences from the technical workshops.

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)

The final evaluation served as lessons learned for the next workshops. In particular, some logistical recommendations could be drawn from the workshop. The organizers were delighted that the interaction between participants was excellent. This was also due to excellent facilitation. The WATERMAN co-ordinators also acknowledged this.

2.2 Workshop III: “Soil Salinity and Fertility”

Date: September 19. – 21. 2007, Haramaya

Venue place: Haramaya University

The problem of soil degradation is a serious threat to the welfare of mankind. Soil salinity are among the major land degradation problems worldwide as well as in Ethiopia. Salt affected soils and associated problems are most pronounced in arid and semi arid regions of the earth which offer considerable promise for development as major food producing regions, because of their frequent potential for multiple cropping. Dr. Fantahun Abegaz addressed in his opening speech the issue of soil salinity very clearly as a nationwide problem and emphasized the importance of the workshop at the Haramaya University.

The workshop organizers and participants agreed that research programs in dry land ecosystems must address five main themes

- indigenous systems with a focus on the human dimension,
- methods for appraisal of water harvesting
- optimization of the use of harvested water,
- prevention, management, and reclamation of salt affected soils, and
- dissemination of new technologic to land users.

The time schedule for this event was 2 days workshop and 1day field trip.

September 19th 2007: Opening, keynote speeches, presentations and group discussions.

September 20th 2007: Presentations,
Summaries of the results of the group discussions,
Presentation and demonstration of biofertilizer and mushroom production
methods

September 21st 2007: Field trip (Metahara Sugar Plantation)



Group discussion on salinisation



Presentation of bio fertilizer



Presentation of mushroom production

Major outcomes of the workshop are:

- **Communication**
Communication needs to be established between all stakeholders – researchers, policy makers, and farmers
- **For farmers**
The scientific results are presented in too complicated a format; also the language used is problematic.
Not enough information reaches the farmers
Research should be more farmer and demand-oriented.
- **Management**
Watershed management and also small scale management should be connected to regulate the upstream and downstream water resources conflicts.
- **Governmental programs**
Programs exist, the dissemination issue is also discussed, but dissemination does not occur.

For an improvement of the present situation suggestions of “WHAT NEEDS TO BE DONE” were worked out by the different working groups. The following are a summary of this activity:

- To simplify the research results to an understandable form (also in local languages versions, include demonstration...)
- To present a simple and low cost technology
- To respect the local farmers and their knowledge
- To build up a connection and start to communicate

2.3 Workshop IV: “Water Management and Irrigation - Focus on Groundwater”

Date: December 3rd – 5th, 2007

Venue place: Mekele University, Mekele

The focus on groundwater will contribute a lot to understanding of water utilization and management particularly for the Tigray region and the country as a whole. The other critical problem is neglecting the importance of watershed management in relation to surface water harvesting and groundwater development. Specifically the challenges and opportunities in the utilization of groundwater for irrigation purposes were given a priority at this workshop.

Workshop Schedule

Again this workshop was running for 2 days indoors with one day reserved for a field trip to farms of participating farmers.

December 3rd 2007:

- Opening and Registration
- Keynote speeches
- Presentations
- Group work: *Challenges and opportunities in the utilization of groundwater for irrigation purpose?*

December 4th 2007:

- Field Trip

December 5th 2007:

- Presentations
- Group work: *Evaluating dissemination I:
Knowledge gaps / Information needs
Evaluating dissemination II:
Dissemination formats
After Action review*

During the workshop the participants were divided into five groups. Each group was formed from representatives of local action groups (Farmers, NGOs, Extension Workers, and Local Government); bridging groups (Extension Workers, Local Government, and Water Bureau); and strategy groups (Academics, Policy Makers, Water Bureau, Extension Workers, and Local government).

Each group had the task to present their discussions on Flip charts. Parallel to this there was a room for traditional presentations and a chart and photo exhibition. The later was provided by farmers to show their working environment and demonstrate success stories.

A room was also set aside for specific student discussion. At the workshop students from Mekele University, but also from BOKU, Cranfield and CUA discussed different issues and furthermore about the unique opportunity these kinds of workshops could provided for local students. The students exchanged ideas on education and related problems with students from partner universities.



Presentation of success stories by farmers

Farmer group discussion



Field trip: Drip irrigation and treadle pump

Catchment management, water retention pond

The field trip was a good way of gaining insight into the importance of proper catchment management activities. After visiting different structures, the team visited irrigated farm lands cultivated using groundwater from shallow hand dug wells. Water is pumped using a treadle pump to an overhead tank from which it is supplied to the field through rubber tube pipes. In some case these tubes are perforated to carry out drip irrigation. Since the farm lands are small in size varying from approximately 0.5 to 2 ha, the water available from shallow wells appears sufficient to grow vegetables, fruits and other cash crops. Crops grown for income and home consumption include; cabbage, green leaves, green chilli, tomato; papaya, orange, avocado, ground nuts, pulses etc.

The water conservation program started 3 to 4 years ago and local farmers report benefits from irrigation that they did not experience prior to the initiative. Local farmers are enthusiastic about the technologies demonstrated and the returns they appear to offer and look forward to improving the system further so as to increase their returns and drive away the problem of food insecurity forever.

Evaluation of the Workshop**Topics covered**

- Appropriate water conservation technologies and management.
- Experiences of PELUM members, St. Jude and IRDI from Uganda particularly on runoff water tanks, spring water wells, rainwater harvesting tanks and jars, rope pumps and ecosan toilets and on women participation
- Sustainable management of groundwater resources and related national policy issues on surface water and groundwater
- Some of the successfully adopted recharge practices such as percolation ponds, house hold ponds, trenches, grazing land improvement, plantations etc and impact on socio-economic conditions.
- Groundwater resource assessment and quality issues related to irrigation and other purposes.
- Soil quality in relation to runoff pond water and groundwater and soil salinity increment and possible impact on crop production
- Characterization, technical and economic evaluation of treadle pump and its use in small scale irrigation/ for farm holders
- Treadle pump spray head and hand watering can irrigation systems, their comparison with production rates e.g. potato production
- Farmer managed irrigation and food insecurity in Ethiopia
- Water conservation, food insecurity reduction and traditional irrigation strategies
- Irrigation technologies, livelihood strategies and marketing

2.4 Symposium: “Mobilizing water research for development: *Thinking differently about dissemination*”

Date: 12th & 13th February 2008

Venue place: ILRI Campus, Addis Ababa

Documents prepared and available

Symposium participant-target groups:

The target groups for participation in the symposium focuses on 'next users'. Next users may be described as those groups or people who do or would play a 'bridging' or facilitation role in getting research or knowledge into the hands of various groups who can make use of such knowledge to improve their activities and lives. The symposium aims to involve and work with NEXT USERS—those who will actually be thinking about, planning and undertaking dissemination and sharing of research results and knowledge, to strengthen their efforts. The aim of the symposium with regards to this target group of 'next users' is to engage in discussions of how we can together with them undertake a better suite of dissemination approaches to reach the various target groups in effective ways.

The Symposium is meant to serve the following:

- Synthesize efforts done on a regional level during the three University workshops to explore dissemination of state of the art research results long three main thematic lines
- Facilitate a gathering of interested and appropriate persons to share experiences, discuss issues, develop ideas, and think-and hopefully start to act- differently about dissemination
- Create a space for groups to plan activities, network and possibly negotiate ways to take this forward

Objectives and concept details of the Waterman project which include:

- Discovering new ideas on how to put research into practice
- Improving the means of disseminating knowledge which already exists
- Good research is done but there is a narrow focus on dissemination
- Dissemination is only limited to academic outputs
- Research sits on the shelf: it needs to get off the shelf
- Dissemination should not be 'Top Down', but rather an invitation for participation
- It is necessary to learn from indigenous knowledge
- It is important to bring together people from various stakeholder groups.

In order to achieve these objectives several innovative approaches have been applied to discuss about effective dissemination mechanisms and presentation about ways of locally applicable knowledge transfer given. Besides the *Open Market* approach, *Booth*, *Demonstrations* and *Plenary Discussions* one of these applied innovative approaches which have been used during the Symposium was the so called *Open Space* or *the World café*. This is a new approach to facilitating discussion among participants in workshops and symposia. It is based on the recognition that people most often and most effectively 'chat' and share information when in informal situations such as sitting in a café with their friends. The World Café approach tries to mimic this by setting up tables with 'paper table cloths' for people to write, draw and express themselves, and to document the discussions.

Presentations were related to following topics:

Innovative print materials	Innovative Interactions	Innovative media
use of visual displays	Top to bottom approach to link research with policy in water and sanitation sector by Mark Harvey	A water balance model for teaching and learning
poster	Disseminating Information to development practitioners and rural communities	The use of maps, databases and information networks for dissemination
		Use of Documentary Film in Promoting Water and Sanitation Practices

Projects related to gender issues was given special attention.

As a result of the World Café discussions several “effective” approaches, examples and positive lessons of dissemination have been discussed and summarized. The most important ones are listed in the table below.

- Demonstration and pilot sites
- Demonstration plots
- End user participation and integration in the process of knowledge generation
- Visual display
- Publications
- Articles, books, leaflets, manuals
- Media, Radio, TV, Educational radios, Local Radios
- Drama/Theatre
- Workshops/conference/symposium
- Films, video
- Exchange visit
- Farmers day/Field day
- DAs and Extension Agents local presence
- GOs and NGOs
- Religious Organization
- Education, school curricula
- Through traditional/Indigenous systems/ local elders
- Model Farmers
- Training
- Translations to local knowledge

Another very important task for the symposia participants was to select a topic which they had heard of during a presentation or seen displayed in the market place session and develop a project plan how effectively implement the project.

Evaluation of the Symposium

60 participants from 30 institutions and seven different countries attended the WATERMAN symposium. A high participation of females (22%) was achieved, as well as the brining together of people from different backgrounds:

- Academics
- Researchers
- Practitioners
- Development workers
- Students

Several different types of sessions were applied during the Symposium which provided an effective opportunity to find new and innovative ways for dissemination.

The first interactive session was about “*Learning from Examples*”. The three parallel sessions were based on actual examples of relevant WRM issues and gave excellent opportunities to see how various dissemination mechanisms could be used.

Within the “*Market Place*” session about 24 posters on nine topics were displayed. All topics related either to water or dissemination of knowledge.

The “*Open Space*” session was organized in parallel to the Market Place and offered participants an opportunity to put forward topics of their own choice for discussion. Some approaches to dissemination were put forward and discussed in detail. Knowledge exchange took place, e.g. Tran’s boundary water resources issues were raised and discussed.

The afore mentioned “*World café*”, focused on key issues regarding how to put research in to use. To disseminate information in an effective way, three major points have to be considered:

- Over 30 different approaches were listed.
- Challenges. Over 12 listed for consideration in research design.
- Complex interactions. Weak links have to be identified in effective planning of disseminations.

The last session of the symposium “*How can we use what we have learnt*” enabled participants to think about effective application of various techniques, which had been discussed. It also included reflection on the 14 topics which were discussed during the workshops.

- Dissemination is of equal value to knowledge generation.
- End users can be variable: Therefore the target is to find various mechanisms, of which many were demonstrated during this symposium.
- The partnership of the project was an excellent approach to bring together different stakeholders.

The “*Project Plan and Gender Award*” activities are very useful mechanisms to encourage young professionals.



Participants of the Symposium in Addis Abeba, Ethiopia

2.5 Scientific Project Plan Award

This award was designed to identify and plan high impact, sustainable water management projects. Young Ethiopian researchers were motivated to demonstrate the usefulness of research results and the importance of how these are communicated to end users.

Topics

- Integrated Water Resource Management
- Salinisation and Soil Fertility
- Water Management and Irrigation

For the different topics a jury was selected.

Jury members

Integrated Water Resource Management	Salinisation and Soil Fertility	Water Management and Irrigation
Jean Schneider (BOKU)	Seleshi Bekele (IWMI)	Tim Hess (CU)
Wycliffe W. Saenyi (EU)	Svat Matula (CUAP)	Nata Tadesse (MU)
Alexandra Strauss-Sieberth (BOKU)	Kamila Spongova (CUAP)	Stella Grace Lutalo (PELUM)

Benefits of the award:

- Invitation of winners to international symposium "WATERMAN".
- Fellowship
- Project application will be provided

- Intellectual property stays with project proposer
- Improve proposal writing skills through supervision and monitoring

2.5.1 Fellowship Award

The fellowship award was provided by the CUAP to give the possibility to study for a two years master programme in Prague. This part was completely financed outside of the WATERMAN-Project grant and is an extension of the primary indented benefits of the award competition. Prof. Matula selected and interviewed potential MSc students for MSc study program at CUAP. As a result of the project 6 students who are listed in the table below were awarded with a fellowship award and promoted. 4 of those already started the MSc program at CUAP and have therefore not been present at the award ceremony. Prof. Matula took the award certificate on behalf of the students to hand them over when he returned to Prague.

Fellowship Award		
Tarekegn Kebede Godobe	University of Hawassa	CUAP
Wossenu Lemma Legese	University of Hawassa	CUAP
Getu Bekere Mekonnen	University of Hawassa	CUAP
Elias Tedla Shiferaw	University of Hawassa	CUAP
Sead Ahmed	Haramaya University	Present
Yohanes Tadese	Haramaya University	Present
Project Plan Award		
Megersa Olumana Dinka	Haramaya University	BOKU
Mulugeta Dadi	Haramaya University	Present

The two other students selected received the award from his Excellency the ambassador of the Czech Republic H.E. Dobias.



From left to right: Sead Ahmed (winner of the fellowship award), S. Matula, H.E. Dobias (Ambassador of the Czech Republic), Yohanes Tadese (winner of the fellowship award)

2.5.2 Presentations made by candidates for the project plan award

Mulugeta Dadi

Participatory lake management system for sustainable lake management of Lake Awassa by integrating mathematical model (SWAT), GIS and PRAS Tools.

Mr. Mulugeta presented his ideas personally as part of the symposium contributions.

Megersa Olumana Dinka

Monitoring the recurrent ground water quality and depth at Matahare Sugar Estate, Ethiopia

This presentation was done in form of a poster commended by his supervisor Prof. Loiskandl (BOKU).

Objective:

The main objective of the study is to delineate the Ground WT depth & quality across time and space using hydrologic models & GIS. The map for the GW depth and quality will be generated in GIS.

Abstract:

A consensus is not reached as to whether the irrigation development contributes significantly in the reduction of rural poverty as unwise (poor) management of irrigation projects may lead to serious environmental, social and health problems. The case is true for Metahara Sugar Estate (MSE) where it started to experience groundwater table rise, salinity and alkalinity/sodicity after nearly 40 years of irrigation, and as the result certain cultivated agricultural fields are abandoning every year (see Fig 4). Currently, Lake Besaka (highly saline water) is expanding towards the plantation field at a significant rate (see Fig.1) and it is the result of the changes happening in the great African Rift Valley in general, and Ethiopian Rift Valley in particular. The lake expansion will affect the GW dynamics of the plantation area & the condition is very terrible for MSE. Hence the evaluation of the GW condition of the area across time & space is extremely important.



From left to right: W. Loiskandl (moderation), Mulugeta Dadi (winner of the project plan award), J.F. Schneider (head of jury)

2.6 Gender Award

Projects related to gender issues were evaluated by a team of BOKU, PELUM and Ethiopian partners).

Gender Award Jury Members

Alexandra Strauss-Sieberth (BOKU)

Kamila Spongrova (CUAP)

Stella Grace Lutalo (PELUM)

Benefits of the award:

- Invitation of winners to international symposium "WATERMAN".
- Fellowship possibility
- Project application will be provided
- Intellectual property stays with project proposer
- Improve proposal writing skills through supervision and monitoring

Tigist G/Micheal	Haramaya University	present
Mitslal G/slassie	Haramaya University	present

Tigist G/Micheal and Mitslal G/slassie

“Use Treadle Pump- Drip Irrigation Set Combination for Small Scale Vegetable Production by Women in Ethiopia“

Objective:

- Treadle- pump - drip irrigation set in terms technical performance
- Treadle- pump - drip irrigation combination for vegetable production
- Energy requirement of treadle pump
- Gender aspects of drip irrigation system and treadle pumps in Ethiopia specifically Kebeles surrounding Haramaya University

Abstract:

Malnutrition prevents a lot of the world's population from reaching full potential (mentally, physically or financially), it also contributes to higher death rates (heart disease, stroke, cancer). Vegetables are the most affordable and sustainable dietary sources of vitamins, trace elements and other bioactive compounds. Improved vegetable production and consumption is thus the most direct, low-cost method for many of the urban and rural poor society. Clearly, irrigation can and should play an important role in raising and stabilizing food production, especially in the less-developed parts of Africa, south of the Sahara. In order to produce sufficient food and fibre for the fast growing population with limited water resources, water must be used efficiently. Drip irrigation, which is considered as the most efficient, is a flexible system for small- scale irrigation especially in combination with the treadle pump. The majority of people directly involved in irrigated agriculture in Africa are women and they are involved to the greatest extent at the lowest level but usually they have neither land nor water rights. Yet, future development of smallholder irrigation in southern Africa will depend on improved returns to investment in irrigation and more than ever this means that women's needs must be prioritized.

The award was presented by Mrs. Stella G. Lutalo from Pelum, which had an important role in the gender issues. WE are very proud to say that we achieved a higher share on women participation than expected.



From left to right: W. Loiskandl, Mitslal G/slassie (winner of the gender award), Stella G. Lutalo (PELUM), Tigist G/Micheal (winner of the gender award)

3. Conclusion

Waterman could bring a number of people together. At the beginning the intention was to bring the consortium members to one table to finalise the programme concept and to answer questions. Hence at the kick-off meeting and workshop the consortium members were present. However there was also a link to the research project IIPe-IWMI “Impact of Irrigation Development on Poverty and the Environment”. The following workshops were attended by farmers, regional and local officials, members of NGO’s and researchers. The final symposium aimed to reflect on the achievements of the workshops.

Table. Workshop information

Workshop	Location	No. of Participants	Duration
Kick-off meeting	Addis Abeba	26	One day
Workshop I	Addis Abeba	26	One day
Workshop II	Awassa	58	Three days
Workshop III	Alamaya	60	Three days
Workshop IV	Mekelle	69	Three days
Symposium	Addis Abeba	59	Two days

Outcomes of the workshop were:

- Networking experiences - people have met and started talking. All groups of stakeholders were included. Some farmers commented that this was their first experience of this.
- A better understanding of each other's roles.
- Many important research topics could have been identified.
- Finally a better understanding of what dissemination could be and how it should be performed was gained.

An experience to be forwarded is the final evaluation, which was done at the symposium in Addis Ababa.

Evaluation of WATERMAN Workshops

✓	POSITIVES	–	NEGATIVES
✓	Well organized	–	Language challenges
✓	Range of participants	–	Practicality of aspirational goals
✓	Mixed discussion groups	–	Not enough women
✓	Varied activities	–	Some unwilling to discuss 'contentious' issues
✓	International exchange	–	Too many formal presentations
✓	Integration of theory & practice	–	Business not represented
✓	Good facilitators	–	Not enough Socio-economics
		–	Too many policy makers!
		–	Cost of participation

Some final conclusion of the Project **WATERMAN** are summarized as following:

- knowledge is not always available,
- knowledge is often not accessible - it sits in papers, in journals,
- knowledge is not in the right format, language or location.

It is the task of projects like WATERMAN to bring people together and to prepare the information in a way that it is easily accessible to all stakeholders. We are aware that we have done a small step only, but we are confident that it was in the right direction.

4. Dissemination and use

We hope that by maintaining the homepage - where all documentation is available - we can extend the lifetime of the project and other interested persons may benefit from the experiences and lessons learnt. The homepage also should be used as platform for new project ideas and as a link to other groups working in this field. What is available on the homepage is listed below.

List of outputs (provide at the homepage):

Outputs could also be made available on request in form of a CD or by other electronic means.

PROCEEDING

Proceeding Workshop II Hawassa '*Water Supply and Integrated Water Resource Management*'

Proceeding Workshop III Haramaya '*Soil Salinity and Fertility*'

Proceeding Workshop IV Mekelle '*Water Management and Irrigation: Focus Groundwater*'

Proceeding Symposium Addis Ababa '*Mobilising Water Research Development: Thinking differently about dissemination*'

REPORTS

Report Workshop II

Report Workshop III

Report Workshop IV

Report Symposium

FOLDER WATERMAN

CD SYMPOSIUM

ADDITIONAL OUTPUT

Article

BOKU Insight

Hydrogeology and Water Utilization in Ethiopia

Alumni Newsletter/March 2008

Conference: Science for Africa

Tropentag 2008 Stuttgart – Hohenheim

Poster

Research Co-operation with Partner Countries in Africa/Symposium 'Impact of Irrigation and Rural Poverty

WATERMAN/ Symposium 'Impact of Irrigation and Rural Poverty

WATERMAN/Symposium 'Mobilising water research for development'

WATERMAN Proviso Forschungs Förderung Gemeinschaft FFG National

Homepage: All documents listed above are available there also provided are links to consortium partners