



Partners for Water and Sanitation

Note on project reports

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**Partners for Water and Sanitation
Project No:**

**Partners for Water and Sanitation Training visit report
to SNNPR WRB, Hawassa, Ethiopia:**

Water Resources Management & Planning Training

Submitted by:

**Sandy Elsworth (Independent)
and
Ulrike Feistel (Mott MacDonald)**

8th – 12th March 2010

Background

This visit follows a request from the SNNPR Water Resource Bureau (SWRB), based in Hawassa support in water resources management aspects of the work of the office.

The key support areas were to include:

- Awareness raising on Integrated Water Resources Management (IWRM)
- Surface water and ground water analysis and modelling.

A preparatory telephone conversation was held prior to the visit with Rebecca from PfWS, Ulricke Fiestel from Mott MacDonald and Sandy Elsworth, an Independent partner together with the Ethiopian partners Melkamu Jaleta and Ato Meskelu Tumiso. A final Terms of Reference for the programme was agreed as attached.

Visit Programme

Travel Programme

Sandy Elsworth (SE) and Ulrike Feistel (UF) arrived in Addis Ababa on the Sunday 7th March and travelled out to Hawassa that day with Melkamu Jaleta (MJ). The training was held at a local conference centre in Hawassa sited across the road from the hotel where we were staying.

On the Saturday following the training SE and UF were escorted to a treatment works, a river intake site, a borehole site and a view of the wetlands to the east of Hawassa where it is believed that water abstraction is affecting the extent of the surface water features. SE, UF and MJ visited a local hot spring in the afternoon.

The party travelled back to Addis on the Sunday and after a night at the Dreamliner hotel in Addis Ababa, SE and UF returned to the UK on the Monday 15th March, 2010.

The Water Resources Management & Planning Training Week

The training for the 5 days of the primary sessions was held at the main town of Hawassa in the SNNPR region of Ethiopia, some 275 km South of Addis Ababa.

The final delivered programme was modified from the original proposed programme as it transpired during the sessions that particular aspects were of greater importance than originally estimated. In particular, the final four days were focussed on surface water analysis and an overview of modelling, and groundwater analysis and introduction to modelling. A CD with a full suite of presentations was provided to all attendees.

Each day was sub-divided into 4 sessions; 2 morning and 2 in the afternoon separated by a coffee/tea break. The hotel hosting the conference room provided some refreshments & conference facilities but we suffered from repeated power failures and had difficulties in making some of the presentations.

In the end the following sessions were delivered:

Day 1: Introduction and Overview of Water Resources Planning (SE)

Day 2: Surface Water Data Analysis and Flow Curve assessment (UF)

Day 3: Groundwater Assessment, borehole analysis, recharge analysis (SE)

Day 4. Overview of Surface water modelling and introduction to a modelling package (UF)

Day 5: Introduction to Groundwater modelling and recharge assessment (SE)
Overview of Training and Way Forward

A list of the primary training participants is included in Appendix A. It can be seen that they included a wide range of disciplines and levels of expertise, from hydrogeologists and engineers to economists, irrigation specialists and chemists. Consequently it is accepted that some of the modules would not be of interest to all the attendees. However, it is hoped that the benefits of the range allowed the full spectrum of discussion on the wider aspects of water resource management to be explored.

Each day the programme allowed for periods of Group Discussion around a set of questions which had been prepared beforehand and which were handed out to the group. Each group comprised of around 8 to 12 members and remained the same during the duration of the training.

Each Group selected a name and at the end of each day a light-hearted quiz was held with a few questions which gained points if correctly answered. At the end of the week each member of the winning team (Group 4) was given a prize.

At the end of each Group Discussion session a member of each of the groups made a presentation on either the individual question allocated to them, or a general comment on the responses from the other groups. The resulting discussion was recorded by one of the presenters and this would be picked up during the next sessions if possible.

A summary of the responses of the final discussions is included in Appendix B

At the end of the WRM&P primary training, a course evaluation format was circulated to the participants, in which most of them have forwarded their valuable feedbacks. In general, most of the participants have rated that the training has went excellent and they want to see such capacity building assistance in the future, with well structured short and long term supports. The summary of the feedback is attached as Appendix C

Site Visit

The visit to the treatment works, river intake and borehole raised issues which the WRB will be addressing, and these include:

1. The regular taking of meter reads of the output meter at the treatment works for the assessment of water going into supply. This sheet should be provided to the Head of WRB on a regular monthly basis and used for the totalling of the monthly output, and the peak output of sources;
2. Consideration should be given on the provision of an input meter at the river intake site for the monitoring of water taken from the river before treatment;
3. The installation of a river gauging board at the river intake site upstream of the intake itself for the development of river flow data;
4. Records of treatment chemical usage should be maintained;
5. Records and analysis of the borehole water level, flow and power usage should be obtained and used for estimation of deployable output;
6. Monitoring of wider water levels and outputs from other boreholes and private abstractions should be obtained for the understanding of the wider impacts of abstraction on the catchments.

Conclusions

We would like to thank the many people involved with arranging this visit.

It is unfortunate that it is not possible to plan for a follow-up visit given the current position of PfWS and the inability to be able to offer such support. However, a number of valuable issues were addressed which could be usefully followed up by the participants themselves. Most importantly the need to obtain and manage river flow, borehole output and level data and weather data was highlighted and this needs to be a key objective to the development of water resources management in the region.

During discussions on the issue of the drying out of the wetlands, both SE and UF agreed to provide email support to the WRB in their development of a model for the area. This does not necessarily entail a visit, as long as they can collect the necessary information, and can simply be a "distant friend" relationship to guide and comment on the progress of their initiatives on this matter.

Appendix A

List for Partners for Water and Sanitation Capacity Building Training Support to SNNPR WRB on Water Resources Management and Planning Participants (March 8th – 12th, 2010)

No	Name	Organisation	Responsibility	Address	
				Tele No	email
1	Meskelu Tumiso	SNNPR WRB	Head, WRM Process Team	0912 14 84 64	meskelutu@yahoo.com
2	Getnet Worku	SNNPR WRB	Expert	0911 79 80 31	Worku_getnet@yahoo.com
3	Shimelis Nigatu	SNNPR WRB	Expert	0911 53 48 60	-
4	Birhanu Debisso Dingamo	Sidama Zone	Hydrologist	0911 06 27 21	-
5	Messele Zewdie	Gammo Goffa zone	Expert	0916 85 46 05	-
6	Jucy Tilahun	SNNPR WRB	Common Affairs work process	0916 13 36 60	Jtilahun1@yahoo.com
7	Mulugeta Negash	Konta specia Woreda	Expert	0917 93 59 35	-
8	Abera Abiyo	Kembata Tembaro Z.	Hydrogeologist	0912 09 83 83	-
9	Befekadu Haile	Sheka Zone	W. Process coordinator	0910 60 24 48	-
10	Tihitina Melese	South Omo Zone	Geo Information	0910 04 03 72	-
11	Salim Nigussie	Gedeo Zone	Geologist	0913 25 80 04	salimnigussie@Yahoo.com
12	Orkissa Orano	Konso Water Office	Engineer	0913 35 76 03	Orkissa_orano@yahoo.com
13	Mengistu Chenike	Derashe Water Office	Water Resources Eng.	0910 29 07 99	-
14	Aden Chonde	Buri Water Office	Expert	-	-
15	Abdilhasiz Hamid	Sillte Zone	Geologist	0913 61 86 83	-
16	Ashenafi Gole	Amaro special Woreds Water Office	Water Supply Engineeer	0916 07 91 15	-
17	Tsedeke W/Mesku	WRB	Hydrologist	0916 84 08 24	-
18	Mesfin Gobena	WRB	Hydrogeaologist	0916 82 78 35	-
19	Yalemwork W/Mariam	WRB	Lab Tech & Water Quality	0916 82 68 41	-
20	Endale Shumie	WRB	Water Engineer	0916 82 54 77	-
21	Higamengesit Beyiadelegn	Kefa Zone WRO	Water Engineer	0917 82 46 07	-
22	Legesse Begashaw	Dawro Zone WMEO	Geologist	0912 01 46 01	z3tlegeese@yaho.com
23	Mohammed Jemal	Gurage Zone WRO	Water Quality Expert	0912 93 91 20	-
24	Tewodros Semunigus	Water Office (???)	Hydraulic Engineer	0916 85 31 65	-
25	Birhanu Mecha	Water Office (???)	Water Engineer	0910 60 89 96	-
26	Sisay Simon	Walaitta Zone WRO	Water Supply & Env't Eng	0913 50 85 15	-
27	Alemshet Merga	Hadiya Zone WRO	Geologist	0911 95 69 75	Alemshet76@yahoo.com
28	G/Kirstos T/Haimanot	BWR	Expert	0911 80 97 42	Togetgebre@yahoo.om

Appendix B

Expectations from primary Training

1. Better and clear understanding of water resource management
2. Assessment of surface water and well water demand and supply
3. Technological options to use without waste
4. Modelling techniques (ground water and surface water)
5. Analysis of borehole data to answer questions (example given: decrease in discharge (26 to 8l/s) in one area)
6. Water management in particular in difficult areas (such as areas of high seasonal variation in rainfall and steep slopes)
7. Field trip to borehole or source followed by development of specific management approach for this source
8. How to address pollution issues (prevention)
9. How to manage water schemes and how to plan community based water services with participation of the users
10. How to ensure sustainability if water is scarce (reference to groundwater)?
11. Discuss geological aspects of the aquifer
12. What are the basic information to How is artificial rainfall is created?

“I expect to know anything and everything about modelling”

Certificate for participation

Appendix C

Feedback from the WRM&P Primary Training Course Evaluation

	Responses	Score (1-6)
Regarding relevance of course content		5.0
<i>What I learnt in this course will help me improve my performance?</i>	25	4.92
<i>Material and issues were current and worthwhile</i>	24	5.0
<i>The course was relevant to my needs</i>	25	5.16
Regarding the quality of course design		4.8
<i>The structure and institutional modes of the course encouraged learning</i>	25	5.12
<i>The course objectives were fully addressed</i>	25	5.12
<i>The course actively and effectively engaged me throughout</i>	23	4.95
<i>The duration of the course was just right</i>	25	4.0
<i>Overall this was a high quality course</i>	25	5.08
<i>Relative to other training that I have attended I would rank this course as one of the best</i>	25	5.22
Regarding the quality of the instructors		5.5
<i>The instructors encouraged and responded well to questions</i>	25	5.28
<i>The instructors have knowledge in the course content</i>	25	5.56
<i>The instructors treated participants with respect</i>	25	5.64
<i>The instructors were well prepared and organised</i>	25	5.48
<i>The pace of instruction was just right</i>	25	5.36
Comments		
<p>Please comment on any of the statements in the previous sections, particularly those you disagree with (e.g. if the duration of the course was right, was it too short or too long?)</p> <ul style="list-style-type: none"> • The duration of the course is short, the course content and the module were very important, but so huge that can not be covered in such short time thus need more time. • There was limited time for practicing the surface- and ground water modelling exercise 		
<p>Where there any aspects of the course that you think should be improved?</p> <ul style="list-style-type: none"> • There were no adequate training materials; CDs of the software were not provided for those who don't have computers with them. • Due to the pronunciation of the instructors, it was difficult to grasp at the beginning, but become interesting at the end. • Better to improve the concept and practical exercises time modelling and provision of software facilities, particularly for surface water modelling. • The ground- and surface water modelling should be based on the actual regional data. • Better to include field visit for some demonstrations, demand-supply balance, watershed and water supply system issues. 		
<p>Which parts of the course did you find useful?</p> <ul style="list-style-type: none"> • Assessment/calculations of both ground and surface water and the parameters used. • The ground- and surface water modelling part was the most useful • The simplest way that the instructors used to explain the subject matter 		

- The ground water recharge estimation, calculations of deployable output and water balance issues were the most useful part.

General comments

- I would like to thank both Ulrike and Sandy as the training was very useful and the approach they used to disseminate their knowledge and experience was excellent.
- The training was very interesting, we have gained good knowledge, but we could have gained more if the training duration was longer.
- It will be better to involve Ethiopian instructors in such training for the future.
- Please continue with this and keep up.