



Building Capacity for Water Resources Management in Southern Africa

4th Progress Report Phase II: 2005-2009

January – June 2007



A strategic programme of the
SADC Water Sector

February 2008



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1 January 2007 - 30 June 2007

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Highlights

WaterNet is Registered as Legal Entity

WaterNet is registered as a legal entity in Botswana on 29 December 2006 through a notarial deed of trust lodged by a law firm, Molatlhegi and Associates.

WaterNet Donors Meeting

The above meeting was held in Delft, The Netherlands on 19 March 2007. This meeting was forward looking, and primarily would focused on WaterNet as a newly incorporated independent regional non-profit organisation and the implications this had for project management, operational modalities, and agreement over the period of transition and the full operationalisation of the Trust.

WaterNet Management Board Meeting

The 1st WaterNet Management Board meeting was held in Gaborone, Botswana on 25-26 June 2007. Dr Daniel Nkhuwa who is a WARFSA Scientific Research Board Member was nominated by the WARFSA Board to attend the WaterNet Board Meeting. This move was meant to enhance collaboration between the two programmes. It was the hoped that WARFSA will reciprocate this action so as to ensure that the decision making and governance issues in both programmes are in tandem. The meeting was followed by the 1st WaterNet Board of Trustees Meeting.

Board of Trustees Meeting

The 1st Board of Trustees meeting was held on the last day of the 1st Management board meeting in Gaborone Botswana on 26 June 2007. The agenda included discussions on issues related to WaterNet governance particularly the roles and responsibilities of the Trustees.

Regional Water Dialogue

Global Water Partnership- Southern Africa and the SADC–Danida Regional IWRM Programme convened a SADC Multi-stakeholder Water Dialogue back to back with the GWP-SA Annual Consulting Partners meeting from the 16-18 May 2007 in Maputo, Mozambique. The theme of the SADC Multi-stakeholder Water Dialogue was “Watering development in SADC: beyond IWRM concepts and the converted”.

UNESCO-IHE 50 Year Celebrations, 13-15 June 2007

To celebrate 50 years of existence and its delivery of more that 13,000 mid-level professionals from 162 countries, UNESCO-IHE Institute for Water Education held a three day Symposium from 13-15 June entitled: “Water in a changing world: Enhancing local knowledge and capacity”

EU-ACP Water Facility Project Planning Meeting

The second Project Planning Meeting was held in Pretoria, South Africa 4-7 June 2007 at the Water Research Commission the host institution of Cap-Net. The collaborating partners presented their work plans and budgets for the year starting 1

September 2007 to 31 August 2008.

Masters Programme 2007 Intake

The programme for the 2007-2008 intake started on 12 February 2007 with a total of 44 students with the University of Zimbabwe (UZ) enrolling 16 students (9 female and 7 male) and at the University of Dar es Salaam (UDSM) enrolling 28 students (11 female and 17 male). Thirty one funded through WaterNet and 13 from other sources. An important achievement is that for the first time in the history of the WaterNet Masters programme there have been more female participants (funded by WaterNet) than male.

WaterNet and Partners Present Three Regional Short Courses

During the reporting period WaterNet and various partners organized, facilitated and participated in the following courses attended by 100 participants from all over sub-Saharan Africa and beyond: IWRM for the Zambezi riparian countries 29 January to 9 February 2007 in Lusaka, Zambia; Crop water requirement and irrigation scheduling course 15-20 January, in Maseru, Lesotho; Wetlands ecology and management course, 26 February to 2 March 2007 in Maun, Botswana.

Professional Training Strategy

The development of the Professional Training Strategy started at an inception meeting on 20 April 2007. The draft strategy has since been submitted and is ready for commenting on by members. The Strategy was developed by three members, Training and Instructional Design Academy of South Africa (Tidasa), Centre for Applied Research (CAR) and the Institute of Water and Sanitation Development (IWSD).

Dissolution of Trust Registered in Zimbabwe

The WaterNet Secretariat as advised by the Law firm that registered WaterNet in Zimbabwe, Coghlan Welsh and Guest (David John Lewis) on 3 April 2003 drafted a Dissolution Resolution to terminate the WaterNet Deed of Trust which has been signed by three of the four Trustees.

WaterNet Phase IIb

Following the recommendation from the WaterNet Donors Meeting, submission of the Phase IIb Concept Note and subsequent meetings with Sida and DGIS, WaterNet is to submit a Phase IIb Strategy document (1 April 2008 to 31 March 2011). It has been agreed that WaterNet has to present a full and comprehensive strategy document for the Phase IIb of the project. This was necessary for a full proper appraisal to be conducted. The strategy submitted in August 2004 has had some significant amendments and piecemeal alterations would render monitoring and controlling the project activities difficult. It was acknowledged that most of the significant changes have to do with WaterNet governance and its management. The Phase IIa project is envisaged to end on 31 December 2007 in the event that a budget neutral extension is granted by DGIS.

WaterNet-BGR-Cap-Net Groundwater Capacity Building Needs Assessment

These draft reports were reviewed at a workshop to elaborate on the way forward on "Assessment of the integration of groundwater management in the IWRM

framework and identification of requirements for capacity development in SADC member states held in Johannesburg, South Africa 19-20 February 2007. The final report was released in June 2007 and circulated to members. The report findings were also presented at the World Water Week in Stockholm 12-18 August 2007 in bid to secure funding for the interventions identified.

Long-term Strategy (2008-2018) development

WaterNet will embark on the development of its long-term strategy (2008-2018) before the end of 2007 that will incorporate other strategies developed thus far *viz.* Gender and HIV/AIDS papers, Impact assessment of the programme and Professional training courses strategy.

WaterNet-UNESCO-IHE MoA

Following the recommendations from the WaterNet Donors Meeting, UNESCO-IHE and the WaterNet Trust signed a Memorandum of Agreement (MoA) on 13 June 2007 to enable the testing of the managerial and financial procedures of the Trust before taking over the full responsibilities for the programme during a transition period from June 2007 until March 2008.

Curriculum Review and Quality Control

WaterNet Secretariat initiated the review process of the Masters programme which is being led by Prof Graham Jewitt of the University of KwaZulu Natal Department of Bio-resources Engineering and Environmental Hydrology. The process will entail consultations, interviews and interactions at various levels. These started during the UNESCO-IHE Symposium and 50 year celebrations held in Delft, the Netherlands in June 2007. The process is envisaged to be completed and the final report presented in March 2008.

Professorial Chairs

Interviews for Professorial Chairs at the University of Dar es Salaam were conducted on held on Tuesday, 22 May 2007 at the College of Engineering and Technology, University of Dar es Salaam. Out of the five applicants three were short-listed and invited for interviews. The University of Dar es Salaam is yet to make a formal appointment out of the two candidates who found to be suitable after the interviews.

The only applicant for the University of Zimbabwe position was deemed not appointable by the Department of Civil Engineering Board on the basis that his qualifications and experience did not meet the requirements therefore no interviews were conducted. Meanwhile advertisement for the three other Chairs earmarked for the University of Malawi, Polytechnic of Namibia and University of the Western Cape are expected to be finalised before the end of the year.

The Challenge Program on Water and Food

The major highlight of the reporting period was the 2006-7 field season. The project has instrumented four catchments in Zimbabwe and one in South Africa and on-station trials in Mozambique and Zimbabwe. Twenty six Masters students have completed by the end of the period under review. All 5 PhD candidates are now registered and have started their fieldwork. Two additional PhD candidates have

been identified by project partners who have allocated project research funding to the new projects and are expected to finalise their registration before the end of 2007.

8th WaterNet/WARFSA/GWP-SA Symposium

The 8th WaterNet/WARFSA/GWP-SA Symposium was originally planned to take place in Victoria Falls, Zimbabwe with GWP-SA playing a leading role among the three collaborating partners by engaging the Country Water Partnership as the lead institution for the Local Organising Committee.

However due to the socio-economic problems in Zimbabwe it was decided to move the Symposium to Livingstone, Zambia. On compiling the necessary budgets it was realised that Livingstone, Zambia was going to be expensive and was less accessible than Lusaka and hence finally a decision was made to hold the Symposium in Lusaka, Zambia from 31 October to 2 November 2007.

EU Framework 7 Workshop

The European Union (EU) Seventh Framework Programme for Research and Technological Development (FP7) was launched at the beginning of 2007. A Workshop on Participating in FP7 of the EU's Research Programme for Southern Africa was held on 31 January to 2 February 2007 at the Water Research Commission, in Pretoria, South Africa. This training workshop provided interested researchers involved in the water research and related areas, as well as research administrators and trainers, with all of the necessary information to participate in the Seventh Framework Programme.

WaterNet Website Upgraded

Upgrading and updating the WaterNet website was completed during the reporting period. The new site has better and effective navigation features. Members are urged to visit the site and make suggestions for improvement.

WaterNet News

One issue of the WaterNet newsletter (WaterNet News Volume 3 issues 1) was released during the reporting period.

1 INTRODUCTION

1.1 BASIC DATA

Country:	Southern Africa Development Community (SADC)
Project name:	WaterNet Strategy Phase II, 2005-2009: Building Capacity for Water Resources Management in Southern Africa
Sida contribution number	73000564
DGIS activity number:	11763/DMW0051164
Executing organisations	
Coordinating Institute:	UNESCO-IHE Institute for Water Education, Delft, The Netherlands
Host Institute:	University of Zimbabwe, Harare, Zimbabwe
Project period:	1 April 2005 - 31 March 2010
Progress Report No.:	4
Reporting period:	1 January 2007 – 30 June 2007

1.2 CONTEXT

This document is the fourth progress report of WaterNet Phase II (2005-2009) covering the period 1 January 2007 - 30 June 2007. The first report covered the period 1 April 2005 - 31 December 2005 and was submitted in March 2006, the second report covered the period 1 January 2006 – 30 June 2006 and was submitted in January 2007, whilst the third report covered the period 1 July 2006 – 31 December 2006 and was submitted in July 2007.

WaterNet, a network of tertiary education and research institutions in Southern Africa, was established in year 2000. By the end of December 2006 WaterNet membership consisted of 52 institutions and five supporting members.

1.3 PROGRAMME OBJECTIVES

The vision of WaterNet is a future in which the SADC region has the institutional and human capacity to educate its own water managers, capable to contribute to the equitable sharing and sustainable utilisation of water resources for poverty alleviation, economic development (livelihood security) and environmental security.

The mission of WaterNet (long-term development objective) is to enhance institutional and human capacity in Southern Africa in the field of Integrated Water Resources Management (IWRM) through training, education, and research by harnessing the complementary strengths of institutions in the region. The enhanced capacity should enable the peoples of Southern Africa to manage their water resources in a more efficient, equitable and sustainable manner.

The immediate objectives of WaterNet are fivefold:

1. To forge a strong, demand driven and sustainable network of universities and research institutions in Southern Africa in the field of IWRM.
2. To deliver and strengthen the jointly owned regional Master degree programme in IWRM
3. To develop and deliver demand-driven training and education for practicing water sector professionals in Southern Africa.
4. To stimulate, regionalise and strengthen the research in the field of IWRM in Southern Africa.
5. To raise awareness and understanding of IWRM and its implementation at local, national and trans-boundary scale.

The immediate objectives are interlinked as they depend on each other and also benefit each other.

2 PROGRAMME TARGETS

2.1 PLANNED ACTIVITIES JANUARY TO DECEMBER 2007

The following activities were planned to be addressed during the reporting period (as amended and approved at the 7th WaterNet Annual General Meeting, held in Lilongwe, Malawi on 3 November 2006).

Work Plan January to December 2007

OUTPUT 1 To forge a strong, demand driven and sustainable network

- Activity 1.1 Establish WaterNet PCN 23: WaterNet to become the implementing agent for SADC's human capacity building priorities in IWRM. Develop a long-term (15 year) Strategy for WaterNet taking into cognisance the HIV/AIDS and Gender aspects in 1.7.
- Activity 1.2 Promote member ownership of Network: WaterNet will put a particular emphasis to invite members from Angola and Madagascar. Revise criteria and advertise for the Nodal Strengthening Fund (NDF), Staff Development Fund (SDF) and Staff Exchange Fund (SEF). Award at least 5 NDF, 3 SDF, and 28 SEF. Establish membership guidelines.
- Activity 1.3 Fully staffed WaterNet Secretariat: The secretariat is expanded with a Research Leader in January 2007.
- Activity 1.4 Professional financial management achieved: Manage the WaterNet Funds in a professional and transparent manner. Establish an effective financial administration by the first quarter of 2007, able to receive and disburse external funds according to international auditing requirements. Harmonise procurement and financial management manuals.
- Activity 1.5 WaterNet Legal Status established: Ensure that the WaterNet Trust is registered in Botswana. Operationalise the WaterNet Trust. Harmonise AGM regulations and protocol, Management Board and Trust regulations. Normalise WaterNet's operations as per the "Guidelines Governing Relations between SADC and Organisations executing SADC Programmes and Projects Under the Principle of Subsidiarity.
- Activity 1.6 Financial sustainability through income generation and contributed funds: The aim is to generate contributed project funding and external income of up to at least 25 % of the overall WaterNet budget
- Activity 1.7 Monitoring, evaluation and reporting procedures in place: Ensure that the necessary review/updating of the IWRM capacity building agendas (awareness, education, training and research). Implement the recommendations from the Impact Assessment Report. Refine and implement WaterNet Gender and HIV/AIDS strategies

OUTPUT 2 To deliver and strengthen the jointly owned regional master degree programme in IWRM

- Activity 2.1 Deliver the Masters programme at two core host institutions
- Activity 2.2 Offer 6 Specialisations in Water Resources Management, Water and Environment, Water for People, Hydrology, Water and Land and Water and Society
- Activity 2.3 Fellowship Fund established: The WaterNet Fellowship Fund to offer 32 fellowships for the Master programme for 2007 (30 from current funding and 2 additional fellowships from the EU-ACP Water Facility)
- Activity 2.4 Establish Review procedure and quality control system for WaterNet Masters programme: Comprehensive review of the curriculum of the Master Degree Programme, including a proposal for general Regulations
- Activity 2.5 Establish with WARFSA the WaterNet MSc Dissertation Fund: Operationalise with WARFSA the WaterNet MSc Dissertation Fund

OUTPUT 3 To develop and deliver demand driven training and education for practicing water sector professionals from the Southern African region

- Activity 3.1 Launch the WaterNet Professional Training programme: In collaboration with Global water Partnership Southern Africa (GWP-SA) and SADC Directorate for Infrastructure and Services, Water Division, offer 6 regional professional and short courses in IWRM 2 of which will be funded through the EU-ACP Water Facility grant.
- Activity 3.2 Appoint on an ad-hoc basis Professional Training Officer(s) to coordinate the WaterNet professional training programme
- Activity 3.3 Establish catchment partnership for demonstration and learning on translating IWRM principles to management jointly with Global Water Partnership Southern Africa (GWP-SA) and through the Danida Regional Programme Support for Environmental Assistance to the Southern Africa Region on Integrated Water Resources Management.
- Activity 3.4 Offer the English for Water Managers Course targeting professionals from Democratic Republic of Congo, Madagascar, Mozambique, and Angola. Offer writing and communication skills training to IWRM Masters students.

OUTPUT 4 To stimulate, regionalise and strengthen research in the field of IWRM in the Southern Africa Region

- Activity 4.1 Research capacity building (training and mentoring) together with WARFSA
- Activity 4.2 WaterNet a partner in integrated IWRM research: Support and facilitate multi-disciplinary research initiatives among WaterNet member institutions (Challenge Program on Water and Food in the Limpopo Basin (PN 17), Smallholder Systems Innovation Research Project.
- Activity 4.3 Seek funding for new research activities, WaterNet facilitating role
- Activity 4.4 Appoint the two WaterNet - SADC Professorial Chairs in IWRM in January 2007 and advertise for two additional positions by May 2007.

OUTPUT 5 To raise awareness and understanding of IWRM and its implementation at catchments and transboundary scale

Activity 5.1 Develop and implement WaterNet Outreach activities: Develop and implement WaterNet communication strategy. WaterNet to consolidate the knowledge base from its post-graduate education programmes, its involvement in research advancement and the strengths of its members on IWRM. Carry out a synthesis review of the Physics and Chemistry of the Earth Journal papers so as to inform policy and IWRM on the ground.

Activity 5.2 Hold the 8th WaterNet/WARFSA/GWP-SA Symposium in Zimbabwe. Initiate planning for the combined 9th WaterNet/WARFSA/GWP-SA International Association of Hydrological Sciences (IAHS) tentatively scheduled for Johannesburg, South Africa.

3 ACHIEVEMENTS

WaterNet was successfully registered as a Trust on 29 December 2007 in Gaborone, Botswana.

The process of registration and final transfer of financial management from UNESCO-IHE Institute for Water Education to WaterNet Trust was discussed during the WaterNet Donors meeting held in Delft, The Netherlands on 19 March 2007 and subsequently at the 1st WaterNet Management Board meeting held in Gaborone, Botswana on 25-26 June 2007.

The two meetings primarily focused on WaterNet as a newly incorporated independent regional non-profit organisation, and the implications on project management, the new operational modalities, the required revision of the existing contracts with UNESCO-IHE Institute for Water Education, and agreement over the period of transition and the full operationalisation of the Trust.

The Donors meeting provided a platform for confirmation between WaterNet and the Cooperating Agencies on the nature of the Trust, future WaterNet governance, relationship with Southern Africa Development Community (SADC) and the envisaged timeframe to achieve full operationalisation of the Trust. Views on the future of WaterNet in moving from being a project (5 year stop-start mode) to a perpetual programme providing capacity building in water resources management in southern Africa were also discussed during this meeting.

The meeting was attended by:

- Durk Adema, DGIS
- Therese Sjomander-Magnusson, Sida
- Håkan Tropp, Stockholm International Water Institute (SIWI)
- Wilson Nyemba, University of Zimbabwe (UZ), WaterNet Board
- Damas Mashauri, University of Dar es Salaam (UDSM), WaterNet Board
- Bekithemba Gumbo, WaterNet Secretariat
- Mampiti Matete, National University of Lesotho (NUL), WaterNet Board
- Paul Taylor, Cap-Net
- Pieter van der Zaag, UNESCO-IHE
- Jetze Heun, UNESCO-IHE
- Jeltsje Kemerink, UNESCO-IHE
- Maarten Blokland, UNESCO-IHE
- Martha Hondo, WaterNet Secretariat

The following issues were agreed upon:

- A Memorandum of Agreement for the period between the transition and the full operationalisation of the WaterNet Trust was to be drawn up between WaterNet and UNESCO-IHE.
- The financial management and procurement procedures and guidelines of the WaterNet Trust should be finalised and tabled at the 1st WaterNet Management Board meeting.
- WaterNet should compile the Project Document for Phase IIb to be ready for submission to DGIS by June 2007
- The WaterNet long-term strategy development process has to be clearly defined and

should involve consultation with the cooperating partners

- UNESCO-IHE should remain a supporting partner and continue providing backstopping roles to WaterNet. WaterNet and UNESCO-IHE will define the modalities in memorandum of agreement
- The impact assessment of the WaterNet programme- capacity building efforts by WaterNet and partners- should be linked to poverty alleviation and better management of natural resources for the true impacts to be recognised
- The new WaterNet financial management systems needed to be piloted and tested before WaterNet Phase IIb funds could be disbursed
- WaterNet need to organise a workshop on financial management systems by September 2007. Sida pledged to provide the funding and support for the workshop
- The issue of liability of WaterNet Trustees to be clearly addressed and UNESCO-IHE funding would be disbursed on condition that the issue had been settled
- WaterNet Board members to attend WARFSA Board meetings and vice versa
- WaterNet to review the IWRM Masters Modules and to establish how the module on anti-corruption in water could be integrated into the Masters Programme
- WaterNet would prepare the terms of reference to engage an accounting firm and the procurement of the firm should be done by June 2007. DGIS and Sida vetting of the accounting firm should be accomplished before September 2007

The 1st Board of Trustees meeting was held on the last day of the 1st Management board meeting in Gaborone Botswana on 26 June 2007. The agenda included discussions on issues related to WaterNet governance particularly the roles and responsibilities of the Trustees.

WaterNet intends to develop its long-term strategy before the end of 2007 that will incorporate other strategies developed thus far and being developed *viz.* Gender and HIV/AIDS papers, Impact assessment of the programme and Professional training courses strategy. At the WaterNet Donors meeting and the 1st Management Board meeting the long term-strategy development was discussed.

The following highlights were noted supporting the need for a long term vision strategy:

- WaterNet had grown from a project to a legally registered SADC programme within seven years
- WaterNet had also established a transparent and democratic governance structure
- WaterNet had grown from 18 – 52 members in 14 countries in Eastern and Southern Africa
- Over 100 Master level graduates from the IWRM programme in the region had been trained through WaterNet fellowships
- Seven regional Symposia have been held
- WaterNet has received funding from DGIS, Sida, Challenge Programme, EU-ACP/GWP/UNDP

A task team will be established as soon as the Terms of Reference have been concluded. With the long-term strategy in place WaterNet could use it to explore other sources and modalities of funding.

The following of the planned activities were undertaken during the reporting period.

3.1 FORGING A STRONG, DEMAND DRIVEN AND SUSTAINABLE NETWORK

3.1.1 Establishing WaterNet PCN 23

During the reporting period WaterNet delivered on a number of activities through collaboration with other regional and international capacity building initiatives in-line with the objectives of WaterNet PCN23. The details are presented in **section 3.3**.

3.1.2 Promote member ownership of the network

WaterNet membership has grown since being established in Victoria Falls, Zimbabwe in March 2000 by 18 institutions from 9 countries in Southern and Eastern Africa to a broad network with 52 members in 14 countries in November 2006.

Table 3.1 provides a summary of the membership by country. It is the endeavour of WaterNet to have members and participation in two SADC states which are not currently represented *viz.* Angola and Madagascar.

Table 3.1 WaterNet members by country as in November 2006

Country	No of Members
Angola	0
Botswana	3
DRC	2
Kenya*	3
Lesotho	1
Malawi	4
Mauritius	1
Mozambique	2
Namibia	4
South Africa ⁺	13
Swaziland	1
Tanzania	4
Uganda*	1
Zambia	2
Zimbabwe ⁺	11
Total	52

* Non-SADC member states

+ Note that IWMI in Pretoria and SafAIDS in Harare are regional offices

The Secretariat efforts to invite members from Angola were being pursued with the assistance of the Faculty of Humanities and Social Sciences, Africa University, Mutare who are a WaterNet member. The Faculty of Humanities has a language Project with the Faculty of Agricultural Sciences (FCA) Agostinho Neto University based in Chianga, Huambo. The Project entails courses in English as Foreign Language (EFL), English for Specific Purposes (ESP) and Communication Skills. Contact have been made at two levels namely with the International Liaison Officer at the Luanda offices and FCA Dr Eduardo Alicerce and Dr David Kiala Kilusinga who are the Dean and Deputy Dean of the Faculty respectively.

Information on WaterNet has also been sent to Chevron offices in Luanda to Mr Mamadou Beye and Ms Madalena Fernando the Project Director and Assistant Project Director respectively.

In addition information on the WaterNet Masters programme students has also been provided to the participants of the English course being facilitated by the Faculty of Humanities and Social Sciences, Africa University. The Secretariat also expects increased interest from Angola and Madagascar following awareness raising events by WaterNet and its regional collaborating partners.

At the 1st Management Board meeting held in Gaborone, Botswana the SADC Water Division representative indicated that organisation would be willing to assist in getting contacts in Angola and Madagascar. A note motivating why institutions should become WaterNet members was going to be prepared by the Secretariat. GWP-SA pledged its support in making inroads in Angola. Language was seen as a barrier that was hindering favourable responses from Angola and Madagascar.

At the 1st Management Board meeting held in Gaborone, Botswana it was also resolved that WaterNet should continue accepting new members since some members were not active. The Secretariat was encouraged to make good use of the annual report from members to try and evaluate members the effectiveness of the network and to inform its strategic direction of the in terms of membership.

The Secretariat would remind each member to complete the reporting form and submit before end of August 2007 in time to summarise and review at the 2nd Management Board meeting planned for Lusaka, Zambia.

It was further agreed that WaterNet had to come up with rules governing the exit of non-participating members and to also come up with a definition of a unit, a department, a faculty and or a university. A Committee consisting of Dr Dominic Mazvimavi and Dr Wapulumuka Mulwafu was put in place to draft terms of reference for the Lawyer to produce a document on rules governing exit of members and definition of a membership unit i.e. department, faculty or university.

Six applications for WaterNet Membership were received during the reporting period. The candidate member institutions were:

1. Department of Scientific Services, Gorongosa National park – Chitengo, Mozambique
2. Department of Chemistry, Chancellor College, University of Malawi – Zomba, Malawi
3. History Department, Mzuzu University – Mzuzu, Malawi
4. Land Use and Mechanisation Department, Faculty of Agriculture, University of Swaziland - Manzini, Swaziland
5. Total Landcare Malawi – Lilongwe, Malawi
6. Faculty of Applied Science, National University of Rwanda – Butare, Rwanda

The Management Board considered each application in turn at the 1st Management Board meeting.

Department of Scientific Services, Gorongosa National Park

It was noted that the Department of Scientific Services, Gorongosa National Park Gorongosa National Park is an NGO and is linked to other organisations concerned with natural resources management and conservation especially the Harry Oppenheimer Okavango Research Centre (HOORC). The organisation received funding from USAID and it had set up a hydrological research group. It was decided that recommending the application for

acceptance for membership at the 8th AGM would be an opportunity for increasing membership in Mozambique. Their connection with HOORC and University of Eduardo Mondlane made them a good candidate. The Management Board resolved that Department of Scientific Services, Gorongosa National Park be recommended to the AGM for acceptance as a full member.

Department of Chemistry, Chancellor College, University of Malawi

The applicant was in the same Campus with the Departments of History and Geography & Earth Sciences, both of which are WaterNet members. The Board resolved that the Department of Chemistry, University of Malawi should be encouraged to work together with other Departments that are already members at the same University. It was also resolved that the Committee on membership should also come up with guidelines for integration of institutions from the same faculty.

Department of History, Mzuzu University

The Management Board noted that the Department was in the same Faculty of Humanities with the Department of Geography which was a WaterNet member.

The Management Board resolved that the Department of History should be encouraged to work together with the Department of Geography who are already WaterNet members.

Landuse and Mechanisation Department, Faculty of Agriculture, University of Swaziland

The Department was part of the Local Organising Committee for the 6th Symposium held in Swaziland in 2005. At present there were only two WaterNet members in Swaziland. The Board also noted that the Department had sufficient capacity to participate meaningfully within the network. The Board resolved that the Landuse and Mechanisation Department, Faculty of Agriculture, University of Swaziland be recommended to the AGM for acceptance as a full member.

Total Landcare Malawi

Total Landcare Malawi is an NGO registered as a Trust and is involved in extension work. The NGO works closely with the Department of Land Resources in Malawi, their main activities being research and outreach.

It was noted that the organisation's activities were mostly outreach and research but did not offer any training. It was interpreted from the application that the organisation offered training at lower levels even though the application stated that they do not offer any training. It was also acknowledged that WaterNet lacked on-the-ground training which is why PN23 was launched and it appeared as if institutions like Total Landcare Malawi would be useful being members of the network.

The Management Board resolved that the application be left in abeyance and that the Secretariat should write to institution requesting for a revision of their application and re-submit for discussion at the 2nd Management Board meeting.

Faculty of Applied Sciences, National University of Rwanda

The Board noted that the activities of the Faculty of Applied Sciences, National University of Rwanda coincided with the core business of WaterNet. The applicant is from a non SADC State. The country is mostly French speaking. The Faculty was looking for more interaction and information sharing.

The Management Board noted that institutions in Kenya and Uganda were accepted initially as founding members when WaterNet was launched as they were found to have capacity and expertise to strengthen WaterNet. The institutions involved also had some working relationship or ongoing projects with IHE-Delft (now UNESCO-IHE Institute for Water Education) which has been instrumental in forging the network.

The issue was debated at length and it was finally resolved that the application from the Faculty of Applied Sciences, National University of Rwanda would be considered when the rules guiding acceptance of members from non-SADC states have been drawn and passed at the AGM. The Committee was tasked to come up with recommendations on whether acceptance of members from non-SADC states should be encouraged.

With the registration of WaterNet as a Trust a new governance structure has been created. The governance structure has replaced the Steering Committee by a Management Board consisting of a Board of Trustees and Supporting Members, with the latter not having fiduciary responsibilities.

The new structure was discussed at the WaterNet Donors meeting in Delft, and further, at the 1st Management Board Meeting in Gaborone. At the two meetings it was agreed that there was a need to clearly define the procedures, protocols and relationships between the WaterNet Trust, Board of Trustees, Management Board and the Secretariat. Although the Notarial deed of trustees provided a framework for the Trust to function there were a number of procedures which need to be established with the assistance of the Law firm and Accounting firm.

At the 1st Management Board meeting the role of the Board of Trustees as indicated in the Deed of Trust was clarified and also the extent of involvement of the Supporting Members within the Management Board. The Board of Trustees' roles would be decision making. The Deed of Trust states that the Board of Trustees could invite anyone to give them advice. Supporting members would have no voting rights. It was also agreed at the same meeting that there was a need to have regulations on how the Board of Trustees would conduct its business.

The Management Board finally agreed that there was a need for an induction meeting for the Board of Trustees to discuss their roles and responsibilities and tentatively set mid-July 2007 in Gaborone as the date and venue. The Law firm which produced and registered the Deed of Trust and a consultant with accounting experience will be invited to facilitate and answer questions which the Board of trustees might have.

During the reporting period the following Funds were disbursed or awarded:

- Nodal Strengthening Fund (NSF), Department of Civil Engineering, University of Zimbabwe requested USD 3 000 as to enable the purchase of a generator power cable, curtains and furniture for the lecture rooms of the Masters Programme in IWRM
- Staff Exchange Fund (SEF), Dr Emmanuel Manzungu of Geography Department, University of Zimbabwe requested an amount of USD 1 827 as honorarium for guest lecturing at the University of the Western Cape, South Africa.
- Staff Development Fund (SDF), Mr Paiva Munguambe, Faculdade de Agronomia e Engenharia Florestal, Universidade Eduardo Mondlane, Maputo, Mozambique, Mr Emmanuel Magombeyi, University of the Witwatersrand, Johannesburg, South Africa

received funds to attend the Smallholder Systems Innovation Research Project (SSI) Scientific Meeting, at Didima Camp, Cathedral Peak, Winterton in South Africa

- Staff Development Fund (SDF), Mr James Chimphamba, Department of Geography and Earth Sciences, University of Malawi, Chancellor College requested USD 1 570 as funding to attend the European Union Framework 7 Research Programme in Pretoria, South Africa
- Professional Training Fund (PTF) Harry Oppenheimer Okavango Research Centre (HOORC) requested an amount of USD 39 070 for hosting the Wetland Ecology & Management short course in Maun. The following individuals from WaterNet Member institutions were offered full Staff Development Fund to attend:
 - Ms Franziska Steinbruch (Mozambique)
 - Mr Admire Chereni (Zimbabwe)
 - Mr Golden Msilimba (Malawi)
- Professional Training Fund (PTF) National University of Lesotho (NUL) requested an amount of USD 36 500 for hosting the Crop Water Requirements Short course in Maseru.
- Professional Training Fund (PTF) for the following (IWRM alumni students) and University of Zimbabwe, Department of Civil Engineering staff member has been awarded to enable them to attend the a Regional Refresher Seminar on Water Services: Reaching the Poor in Peru-urban areas in sub-Saharan Africa, in Lusaka, Zambia
 - Ms Sindy Mtimkhulu (Swaziland)
 - Mr Gustaff Chikasema (Malawi)
 - Mr Pascal Emmanuel (Tanzania)
 - Mr Frank Busane (DRC)
 - Eng Zvikomborero Hoko (Zimbabwe)

3.1.3 Fully staffed WaterNet Secretariat

As of June 2007, the WaterNet Secretariat staff consisted of the Manager, Administrator, Programme Officer and Secretary on a full-time basis and all on contracts with varying durations. In addition the WaterNet Secretariat employed three part-time staff *viz.* the Research Advisor and Research Coordinator for the Challenge Program on Water and Food and a Bookkeeper as indicated in **Table 3.2**.

Table 3.2 WaterNet Secretariat Staff as of June 2007

Designation	Name	Employing member	Contract valid until
Manager	Dr Bekithemba Gumbo	UNESCO-IHE Institute for Water Education	29 February 2008
Administrator	Ms Martha Hondo	University of Zimbabwe	31 December 2007
Programme Officer	Mr Nicholas Tandi	Institute of Water and Sanitation Development	31 January 2008
Secretary	Ms Moriah Makopa	University of Zimbabwe	31 December 2007
Research Advisor	Dr Washington Nyabeze	N/A	31 May 2007
Research Coordinator	Mr David Love	N/A	31 August 2008
Bookkeeper	Ms Esther Muchadakuenda	N/A	31 July 2007

The Management Board at its 1st Meeting discussed the staffing situation particularly in view of the new WaterNet structure the delivery on the objectives of the Phase IIb Project and long-term strategies.

Due to increased work load and demands for a competent scientific leadership in the WaterNet Challenge Program on Water and Food research Project, the Steering Committee at its 15th Meeting agreed to the advertising and recruitment of a WaterNet Research Leader to provide mainly scientific leadership for the Challenge Program in lieu of the Network Professional Training Officer. The position was more critical than that of the Programme Training Officer due to the complexities involved in coordinating the Challenge Program on Water and Food research Project of WaterNet (WaterNet PN 17).

At the close of the advert deadline date six applications had been received and these were circulated to the Board for comments. The WaterNet Manager and Chairman of the Board used the responses from the Board to short-list four candidates to attend interviews.

The four selected candidates were:

- Dr Isaiah Nyagumbo
- Dr Bongani Ncube
- Dr Godswill Makombe
- Dr Calvin Nhira

The short-listed candidates were invited for an interview in Harare on 4 June 2007. The interviewing Panel consisted of:

- Eng Wilson Nyemba, Chairman of the WaterNet Management Board (Chair)
- Dr Wapu Mulwafu, WaterNet Board Member
- Dr Sithabile Gandure, Centre for Applied Social Sciences, University of Zimbabwe (WaterNet Member and partner in the Challenge Program on Water and Food PN17)
- Dr Bekithemba Gumbo, WaterNet Manager

Dr Wapu Mulwafu agreed to be part of the Panel after Ms Ruth Beukman (nominated to be in the sub-committee to conduct the interviews and recruit the Research Leader) indicated she was not able to make it for the interviews. Dr Makombe was however unable to attend the interviews as scheduled due to travel and visa logistics. The panel decided that his interview had to be re-scheduled for 21 June 2007. The same Board interviewed Dr Makombe on the indicated date.

Following the interviews of the four candidates the Panel unanimously decided on the following:

- The listed candidates were found to be appointable in the order of preference as indicated:
 1. Dr Bongani Ncube
 2. Dr Godswill Makombe
 3. Dr Calvin Nhira
- Dr Nyagumbo was found not appointable

Dr Ncube appeared knowledgeable about the project and showed understanding of WaterNet business, unlike the other candidates who appeared to be more general. She also seemed to be more focussed and had an advantage of holding a Masters degree in Water Resources Engineering and Management a supporting and pre-cursor project to the WaterNet Programme. She was a recent PhD graduate and worked for ICRISAT a partner in the Challenge Programme PN17. The Interviewing Panel recommended to the Management Board that the job be offered to Dr Bongani Ncube. The minutes for the interviews were

available to the Board members upon request. The Management Board accepted the recommendations and agreed that the Secretariat should proceed with the appointment.

3.1.4 Professional financial management achieved

Following the recommendation from the WaterNet Donors Meeting, UNESCO-IHE and the WaterNet Trust entered into a Memorandum of Agreement (MoA) on 13 June 2007 to enable the testing of the managerial and financial procedures of the Trust before taking over the full responsibilities for the programme during a transition period from June until December 2007 (see **Annex 1**). The Management Board endorsed the agreement during the 1st Management Board meeting.

The detail and procedures on setting-up the independent financial management by WaterNet is the single most important post-registration activity and would entail the appointment of an Accounting Firm to provide supplementary and backstopping functions with regard to financial management. This process will involve engagement and negotiations between UNESCO-IHE, WaterNet Trust, Accounting Firm and the Cooperating partners.

As part of the process of establishing financial management systems WaterNet is seeking the services of a reputable Accounting Firm domiciled in Botswana to offer supplementary management functions of WaterNet Funds which will be held at a Bank in Gaborone, Botswana.

The Accounting Firm shall be appointed by the WaterNet Trust through a contract for a specified period, subject to renewal or termination by both parties. The Accounting Firm shall be answerable and accountable to the WaterNet Board of Trustees.

The Secretariat drew up the Terms of Reference (see **Annex 2**) for the envisaged services which were agreed upon by the Management Board via circulation. The Secretariat invited expressions of interest including quotations from three reputable accounting firms in Gaborone namely:

- KPMG
- Price Water House Coopers
- Deloitte and Touche

Eng Nyemba, Dr Mulwafu and Dr Gumbo held separate meetings with the three firms during the reporting period and KPMG promised to demonstrate to the Board on 26 June 2007 the accounting systems they had and which have been used for similar organisations. The other two firms had not responded by the end of the reporting period.

The Board at its 1st meeting debated whether to pursue all the three firms or just to appoint KPMG who had shown interest and seemed to have understood what WaterNet required. The accounting firm could be given a trial run during the transition period of July – December 2007 and then make a decision for a full time appointment from January 2008. This was discussed as a possibility as long as there was adherence to the procurement guidelines of both Sida and DGIS and that necessary approval and transparency was achieved in the process.

The Management Board resolved that the Secretariat should try to get quotations from all the three accounting firms and then hold a workshop for the Trustees where the resource persons from the accounting firms would be invited. The Management Board members felt that there was need to finalise the WaterNet procurement guidelines as soon as possible.

As part of the post-registration mission to Botswana in February 2007 by the WaterNet Manager and the Chairman of the Board enquiries were made at the major Banking houses in Botswana where WaterNet Trust accounts could be opened, namely:

- Standard Bank (Stanbic)
- Barclays Bank
- Standard Chartered Bank
- First National Bank

Judging from the services offered and the wider existence of the Bank in other countries in the region it appeared that Barclays and Stanbic bank were more suitable. WaterNet Trust intends to operate a primary United States Dollar denominated call account and a Botswana Pula account if found to be necessary.

The Management Board at its 1st meeting endorsed the opening of Bank Accounts at a bank found to be offering competitive services that suited WaterNet operations. The Board members also indicated the need to have clear guidelines on the authorisation and signatories of the accounts. It was also resolved that the Manager, Administrator and the Chairman of the Board should be signatories to the accounts.

3.1.5 WaterNet legal status established

The WaterNet Deed of Trust was lodged at the Botswana Deeds Office and was duly registered on 29 December 2006 under number MA810/2006.

Since the establishment of WaterNet a legal entity by the end of 2006 the WaterNet Donors Meeting and the 1st Management Board meeting discussed and sought clarification and understanding of the governance, roles and responsibilities of the Trustees, through interpretation of the Notarial Deed of Trust.

One of the post-registration activities discussed was for WaterNet to become a SADC Institution within the subsidiarity principles defined by SADC at the Windhoek, Namibia Summit in 2002. The registration as a Trust has facilitated the recognition of WaterNet as an organisation executing SADC programmes and generally the Notarial Deed of Trust meets the requirements of the SADC “Guidelines Governing Relations between SADC and Organisations Executing SADC Programmes and Projects”.

For WaterNet to operate effectively within the region a Memorandum of Understanding (MoU) between the WaterNet Trust and SADC Secretariat is deemed to be essential. The MoU will facilitate certain privileges for WaterNet like for example exemption from taxes and VAT in Botswana, facilitation in the employment of Secretariat staff who are not Botswana nationals.

In February 2007, the Chairman of the Board Eng Nyemba, Mr Phera Ramoeli a Board Member from the SADC Secretariat and the WaterNet Manager had an audience with the

Head of Legal affairs Unit Dr Teodisio Uate of SADC Secretariat on the modalities of entering into such an MoU. Dr Uate explained that SADC was updating the “Guidelines Governing Relations between SADC and Organisations Executing SADC Programmes and Projects”. Dr Uate was unable to indicate how long this process would take. It was however agreed that meanwhile WaterNet could draft the necessary documentation and forward it to SADC for consideration.

The Management Board agreed to engage the law firm Molatlhegi and Associates to draw up an MoU with SADC. The Board also considered alternative arrangements which could be operational within a short space of time. The Management Board resolved that the WaterNet Secretariat in consultation with the Law firm should write a letter of application for SADC subsidiarity status.

The WaterNet Secretariat as advised by the Law firm that registered WaterNet in Zimbabwe on 3 April 2003 (David John Lewis of Coghlan, Welsh and Guest) drafted a Dissolution Resolution to terminate the WaterNet Deed of Trust (**see Annex 3**).

The Dissolution resolution was circulated to the Board of Trustees:

- Sackey Akweenda
- Michael Mutale
- Tracy Mutaviri
- Lily Zondo

The first three Trustees agreed to sign the Dissolution Resolution whilst Lily Zondo’s whereabouts were still to be established. Tracy Mutaviri had signed and Michael Mutale and Sackey Akweenda would sign the document in due course.

There was a request from Sackey Akweenda and Michael Mutale to inform the stakeholders who nominated them as Trustees, including SADC Secretariat, and in the case of Namibia, the Permanent Secretary of the Ministry of Agriculture, Water and Forestry. They suggested that the stakeholders be given a comprehensive report which, *inter alia*, clearly stated that the decision to dissolve the WaterNet Trust was taken at the WaterNet AGM and not by the Board of Trustees.

The Trust was never fully operationalised and there are no assets to be distributed.

3.1.6 Financial sustainability through income generation and contributed funds

Following the recommendation from the Waternet Donors Meeting, WaterNet is to submit a Phase IIb proposal for funding from DGIS as per the original agreement on the grant by in early July 2007. The proposal submission will be preceded by a letter to the Netherlands Embassy in Maputo copied to DGIS in The Hague and Sida in Stockholm.

The DGIS funding proposal for Phase IIb will be a modification of the WaterNet Phase II Strategy submitted for funding in 2004. It is expected that the funding will be an agreement with the WaterNet Trust and DGIS though the Maputo Embassy.

An important aspect which will not be included in the budget to be submitted to DGIS is the scientific backstopping role of UNESCO-IHE which will be met through arrangements made directly with DGIS in The Hague.

During the transition period the WaterNet Trust will also negotiate for an amendment of the Sida contract entered into by UNESCO-IHE on behalf of WaterNet. The tentative schedule is that the WaterNet Trust concludes all funding contracts before 31 December 2007.

The EU-ACP Project involves WaterNet in partnership with Cap-Net, West Africa Network (WA-Net), Nile Basin Capacity Building Network and Central America and Caribbean WaterNet with UNDP and GWP as the co-sponsors with the EU.

The official start date of the Project was 1 September 2006 and it will run for a three year period. It is important to note that the Project requires close collaboration with Global Water Partnership (Global Water Partnership Southern Africa in particular).

The second Project Planning Meeting was held in Pretoria, South Africa 4-7 June 2007 at the Water Research Commission the host institution of Cap-Net. The collaborating partners presented their work plans and budgets for the year starting 1 September 2007 to 31 August 2008.

The EU-ACP work plan for WaterNet will be incorporated in the 2008 WaterNet work plan. The plan for WaterNet involves support of two Masters Students in the IWRM programme (Ms Saniso Sakuringwa of Botswana and Mr Chiipanthenga Mavuto from Malawi registered at the University of Dar es Salaam and University of Zimbabwe respectively); developing training material and delivering four short professional courses; and conducting two capacity building needs assessment on Water Supply Sanitation and Health (WASH).

3.1.7 Monitoring, evaluation and reporting procedures in place

WaterNet Secretariat embarked on a mapping exercise to streamline the reporting requirements of the network to the various stakeholders. Due to the increased number of activities in Phase II of the project and additional requirements brought about because of the transition from being a Project administered by UNESCO-IHE to a fully fledged institution managed through a Deed of Trust.

The monitoring, evaluation and reporting procedures were being reviewed and the process was going to take some time and would be reported on in due course.

3.2 DELIVER AND STRENGTHEN THE REGIONAL MASTERS PROGRAMME

3.2.1 Deliver the masters programme at two host institutions

The programme for the 2006-2007 intake progressed well during the reporting period despite two students registered at University of Zimbabwe who withdrew from the programme (Mr Ronald Chawatama, Zimbabwean and Mr Alphonse Mganga, Tanzanian). All the WaterNet funded students (28) and other externally funded (10) students started working on the dissertation part (see **Table 3.3**).

Nine of the externally funded students at the University of Dar es Salaam are sponsored through the Applied Training Project (ATP) under the Nile Basin Initiative (NBI) programme and the last on the list by the World Meteorological Organisation (WMO). The names of the students, gender, nationality and title of their dissertation are shown in **Annex 4**.

The programme for the 2007-2008 intake started on 12 February 2007 with a total of 44 students with the University of Zimbabwe (UZ) enrolling 16 students (9 female and 7 male) and at the University of Dar es Salaam (UDSM) enrolling 28 students (11 female and 17 male). The profile of the students enrolled at UZ and UDSM for the 2007-2008 intake is presented in the **Table 3.4**.

WaterNet sponsored 31 students of which 29 were sponsored under the WaterNet Fellowship and MSc Dissertation Funds and two fellowships granted through the EU-ACP Water Facility Project were awarded to candidates selected by staff members at the core host institution based on merit and other criteria. The students are Sakuringwa Saniso (Female) from Botswana doing the Water and Environment specialisation and registered at the University of Dar es Salaam and Chimpathenga Mavuto (Male) from Malawi doing the Water for People specialisation and registered at the University on Zimbabwe.

An important achievement is that for the first time in the history of the WaterNet Masters programme there have been more female participants (funded by WaterNet) than male.

Eleven students from the University of Dar es Salaam intake are funded through the Applied Training Project (ATP) under the Nile Basin Initiative (NBI) programme and one from Tanzanian (Enock Emmanuel) is funded by the Nkasi District Council in Tanzania and one German national (Schohsky Horst) is privately sponsored.

WaterNet advertised for the 2008-2009 intake in three languages, English, French and Portuguese and also introduced a standard form for application to ensure ease the processing and pre-selection exercise of the best candidates (see **Annex 5**). The adverts were circulated widely electronically through WaterNet member institutions and partner networks. The advert appeared in the May–June 2007 issue of the Water Wheel Magazine published by the Water Research Commission of South Africa. The adverts are also available in poster and brochure form. These were distributed in Maputo, Mozambique during the Regional Water Dialogue held on 16-18 May 2007.

The deadline date for receipt of applications was set at 31 August 2007 and the pre-selection exercise was scheduled to take place in September 2007.

Table 3.3 List of IWRM students for the 2006-2007 intake

Surname	First name	Gender	Nationality	Specialization
<i>University of Zimbabwe, Department of Civil Engineering</i>				
1 Chibulu	Brenda	F	Zambia	WRM
2 Chinyama	Annatoria	F	Zimbabwe	WfP
3 Dondofema	Farai	M	Zimbabwe	WRM
4 Kamtukule	Godwin	M	Malawi	WfP
5 Kassim	Kalunde	F	Tanzania	WfP
6 Khosa	Sangwani	M	Malawi	WRM
7 Makado	Patience	F	Zimbabwe	WfP
8 Mamba	Geoffrey	M	Malawi	Hyd
9 Mufute	Ngonidzashe	M	Zimbabwe	WRM
10 Nyoni	Kosamu	M	Zimbabwe	WRM
11 Phiri	Lazarus.	M	Malawi	WfP
12 Sichone	Priscilla	F	Zambia	W&S
13 Tiroyamodimo	Tshoganetso	F	Botswana	WfP
<i>University of Dar es Salaam, Department of Water Resources Engineering</i>				
1 Mungai	Damaris	F	Kenya	W&S
2 Benedict	Joyce	F	Tanzania	Hyd
3 Masilela	Musa	M	Swaziland	W&E
4 Sibande	Hyde	M	Malawi	Hyd
5 Madungwe	Immaculate	F	Zimbabwe	W&E
6 Kibassa	Deusdedit	M	Tanzania	W&S
7 Nkiwane	Lwazi	M	Zimbabwe	Hyd
8 Mwamsamali	Oswald	M	Malawi	W&S
9 Kimani	Daniel	M	Kenya	Hyd
10 Casmiri	Damian	M	Tanzania	W&S
11 Leshoboro	Nena	M	Lesotho	W&S
12 Mushi	Innocent	M	Tanzania	W&E
13 Fidelis	Rehema	M	Tanzania	W&E
14 Temba	Theobald	M	Tanzania	Hyd
15 Sadiki	Ramadhani	M	Tanzania	W&E
<i>University of Dar es Salaam, Externally Funded</i>				
1 Kasirikale	Geoffrey	M	Uganda	NA
2 Muita	Richard	M	Kenya	NA
3 Masuhuko	Masoud	M	Tanzania	NA
4 Shemsanga	Sam	M	Tanzania	NA
5 Isunju	John Bosco	M	Uganda	NA
6 Olal	Andrew P'Obong	M	Uganda	NA
7 Mbabaye	Godfrey	M	Tanzania	NA
8 Kabalisa	Esperance	M	Rwanda	NA
9 Tshimanga	Raphael	M	DRC	NA
10 Temegnu	Biruk Kebede	M	Ethiopia	NA

Specialisation Key:

W&E Water and Environment

WfP Water for People

WRM Water Resources Management

Hyd Hydrology

NA Not applicable

Table 3.4 List of IWRM students for the 2007-2008 intake

Surname	First name	Gender	Nationality	Specialization
<i>University of Zimbabwe, Department of Civil Engineering</i>				
1 Chimpanthenga	Mavuto	M	Malawi	WfP
2 Chioreso	Rennie	F	Zimbabwe	W&S
3 Chisanga	Siwale	M	Zambia	WRM
4 Dias	Jacqueline	F	Malawi	WRM
5 Kamtukule	Sydney	M	Malawi	Hyd
6 Kimey	Victor	M	Tanzania	WfP
7 Masvopo	Taurai	M	Zimbabwe	WRM
8 Matsebula	Tenele	F	Swaziland	WRM
9 Mbanguka	Rene	M	Tanzania	Hyd
10 Mlowoka	Chimango	F	Malawi	W&L
11 Mpande	Hazel	F	Zambia	WfP
12 Nkuli	Grace	F	Tanzania	W&E
13 Pawaringira	Regina	F	Zimbabwe	W&E
14 Shuuya	Matheus	M	Namibia	W&E
15 Tlali	Mahlalele	F	Lesotho	W&S
16 Tsiko	Callister	F	Zimbabwe	W&L
<i>University of Dar es Salaam, Department of Water Resources Engineering</i>				
1 Baboloki	Autlwetse	M	Botswana	WfP
2 Busingye	Evelyne	F	Uganda	WRM
3 Chimunhu	Tendayi	M	Zimbabwe	WRM
4 Chimpopo	Mukalula	M	Zambia	W&S
5 Gobry	Josephine	F	Tanzania	W&L
6 Gondwe	Douglas	M	Malawi	Hyd
7 John	Albina	F	Tanzania	W&L
8 Kanyiginya	Violet	F	Uganda	W&L
9 Khumbo	Kalulu	M	Malawi	WfP
10 Kilungu	Halima	F	Tanzania	W&E
11 Madobi	Rejoice	F	Zimbabwe	Hyd
12 Masaka	Tebogo	M	Botswana	W&S
13 Sakuringwa	Saniso	F	Botswana	W&E
14 Simon	Byera	F	Tanzania	WfP
15 Weransari	Moses	M	Tanzania	W&S
<i>University of Dar es Salaam, Externally Funded</i>				
1 Bawketu	Endale	M	Ethiopia	TBD
2 Enock	Emmanuel	M	Tanzania	TBD
3 Hussein	Nasra	F	Tanzania	TBD
4 Kayitesi	Marcelline	F	Rwanda	TBD
5 Lubang	Benedict	M	Uganda	TBD
6 Magoma	Deusedith	M	Tanzania	TBD
7 Mdalangwila	Peter	M	Tanzania	TBD
8 Mpingi	Abdallah	M	Tanzania	TBD
9 Nauwima	Dieudonne	M	Burundi	TBD
10 Schohsky	Horst	M	German	TBD
11 Stephano	Bulili	M	Tanzania	TBD
12 Teku	Sisay	M	Ethiopia	TBD
13 Umubyeyi	Naila	F	Rwanda	TBD

Specialisation Key:

W&E Water and Environment

WfP Water for People

WRM Water Resources Management

Hyd Hydrology

TBD To be Determined

3.2.2 Offer six specialisations

As per the approved 2007 Workplan, WaterNet intended to offer six specialisations hosted as follows:

- Water Resources Management, University of Zimbabwe
- Water for People, Polytechnic of Namibia
- Water and society, University of the Western Cape
- Water and Environment, University of Malawi
- Hydrology, University of Dar es Salaam
- Water and Land, University of Botswana

The decision to introduce the 6th specialisation on Water and Land was made at the 7th AGM in Lilongwe, Malawi following debates at the 6th AGM and 14th Steering Committee meeting held in Cape Town, South Africa. The University of Botswana committed itself to host the specialisation.

The decision to introduce this specialisation was also supported by:

- The need to link research and education i.e. Challenge Program on Water and Food and the Smallholder Systems Innovation research projects with the Water and Land specialization (**refer to section 3.4**)
- The need to consolidate capacity building efforts in short courses and the Masters programme
- The prospect of University of Botswana becoming a host institution for WaterNet for registration purposes and possibly hosting some of the Secretariat functions in the future.

The specialisations were planned to commence in the second half of the year at the respective institutions.

3.2.3 Fellowship Fund established

The 7th AGM approved granting of 30 fellowships from the Fellowship Fund to deserving candidates as per the Work plan of 2007. With the approval of the EU-ACP Water Facility funding for WaterNet two more Fellowships became available giving 32 Fellowships in total for the 2007 intake. Only 31 Fellowships were taken due to last minute withdrawal of a candidate who was meant to register at the University of Dar es Salaam.

3.2.4 Establish review procedure and quality control system for the Masters programme

During the reporting period WaterNet initiated the review process of the Masters programme which would be led by Prof Graham Jewitt of the University of KwaZulu Natal Department of Bio-resources Engineering and Environmental Hydrology and assisted by staff from UNESCO-IHE Institute for Water Education and SADC Secretariat. The process will entail consultations, interviews and interactions at various levels in a hierarchical fashion as indicated below:

- WaterNet Management Board
- WaterNet Secretariat
- SADC Water Division and Directorate for Education
- UNESCO-IHE Institute for Water Education/PoWER
- SADC WaterNet Professorial Chairs
- Programme Coordinators
- Module Coordinators
- WaterNet Members
- Current and Former students
- Other (e.g. Nepad)

The intention of the review is to assess:

- Relevance in terms of meeting identified needs in the region
- Meeting developmental requirements and addressing cross-cutting issues like gender, governance, corruption and HIV-AIDS
- Core modules
- Specialisations, number, integration, multidisciplinary and hosting arrangements
- Overall quality of the programme with a view of setting up a quality assurance and peer review mechanisms (see quality assurance below)
- Mechanism for mutually accrediting and validating the programme/modules offered
- Coverage of essential and current knowledge (state of the art)
- Overall and module content i.e. comprehensive, duration
- Capacity to deliver the programme, core host and specialisation centres

There review is intended to be an important input into the development of quality assurance procedures which would assure the quality of the entire programme and the various specialisations that are part of it this will also enhance the formal recognition of the programme in the region and beyond.

The quality assurance procedures would encompass:

- Establishing a sub-committee on quality assurance which will operate under the Management Board of WaterNet;
- Developing and agreeing upon quality standards and procedures by the sub-committee on quality assurance and the WaterNet members;
- Training WaterNet members with respect to quality standards and procedures;
- Reviewing the core programme and specialisations according to those standards;
- Adjusting specialisations/modules based on reviews; and
- Reporting on improved specialisations/modules to the sub-committee on quality assurance.

UNESCO-IHE has been intimately involved in the development and running of the Masters programme since inception. UNESCO-IHE has a specific role within WaterNet as a supporting member in ensuring that the programme is up to date in terms of content and relevance with regard to international trends and standards.

The review processes is expected to take a minimum of 6 months and will involve consultations and input from a number of identified staff at UNESCO-IHE who have already confirmed their willingness and ability to participate.

The identified backstopping Professors from UNESCO-IHE and their expected specific inputs are as follows:

Overall programme and core modules

- Prof Hubert Savenije

Specialisation and related Core and Elective modules

- Water Resources Management: Prof Pieter van der Zaag
- Hydrology: Prof Stefan Uhlenbrook
- Water and Environment: Prof Jay O'Keeffe
- Water for People: Prof Gary Amy
- Water and Land: Prof Bart Schultz
- Water and Society: Prof Joyeeta Gupta

Professor Graham Jewitt started the consultations during the UNESCO-IHE symposium and 50 year celebrations held in June in Delft, the Netherlands.

At the 1st Management Board meeting it was emphasised that the review process needed to be linked to the establishment of SADC-WaterNet Professorial Chairs and the ongoing tracer survey targeted at the more than 120 graduates from Master Degree programme in IWRM.

The 1st and 2nd Meeting of the Coordinators of the Masters Programme were on 30-31 May 2006 at University of Western Cape, Cape Town, South Africa and on 31 October 2006 at Sunbird Capital Hotel in Lilongwe, Malawi, respectively. These meetings are meant to consolidate the Masters Degree programme and to ensure that implementing member institutions take some responsibility and ownership on the coordination rather than to rely on the WaterNet Secretariat. The minutes of the meetings are presented and discussed at the 1st WaterNet Management Board meeting.

The meetings have had some impacts in terms of the management of the Masters programme but due to staff turn-over the Coordinators have been constantly changing resulting in severe problems with regard to implementation to the extent that the WaterNet Secretariat ends up attending to numerous problems at the host institutions.

WaterNet does not have guidelines for the selection of Coordinators of the Masters programme it is the onus and responsibility of the host institutions to appoint or nominate a suitable person.

3.2.5 Establish with WARFSA the WaterNet MSc Dissertation Fund

Following recommendations made at the WaterNet Donors meeting held in Delft the Netherlands, WaterNet and WARFSA intend to enhance their collaboration not only on joint activities like the Symposium, but also in terms of preparing joint strategies, enhancing effective communication and collaboration within the governance structures. It is believed that this will provide coherence in the delivery of the two programmes at regional level.

One recommendation has been to invite a WARFSA Board member from the region to also participate in WaterNet Board Meetings. It is the hope that WARFSA will reciprocate this action so as to improve communication and ensure that the decision making in both programmes are in tandem.

Dr Daniel Nkhuwa who is a WARFSA Scientific Research Board Member was nominated to attend the WaterNet Board Meeting.

WARFSA and WaterNet have multiple linkages which are at times difficult to capture and report on. Improved reporting can also assist to highlight the symbiotic relationship in terms of education, training, research and outreach in IWRM (the core activities of both initiatives).

Recently WARFSA (through IWSD) and WaterNet proposed to form a specific ad hoc consortium to tender for component two (LGMWP 005) of the Limpopo Groundwater Management Plan. The WARFSA-WaterNet consortium, with its established expertise and its widespread network is ideally placed to effectively realise the objectives for the Groundwater and Drought Management project in The Southern African Development Community (SADC project) under a Global Environment Facility Trust Fund Grant. The services offered by WARFSA and WaterNet will entail management and disbursement of MSc grants to conduct research on Groundwater Dependant Ecosystems and groundwater valuation in SADC Member states.

The Management Board at its 1st meeting held in Gaborone, agreed that the Secretariat should work on logistics for WaterNet Board members to attend the WARFSA Board meetings. It was agreed that attendance would be on a rotational basis.

The improved linkages with WARFSA and development of joint research project were likely to give positive results in establishing a sustained MSc Dissertation Fund which could be accessed by Masters students for their research part.

3.3 DEVELOP AND DELIVER PROFESSIONAL TRAINING

3.3.1 Launch WaterNet professional training programme

As part of WaterNet drive to complement academic training with professional or proficiency training (the SADC/WaterNet PCN 23) the network is expected to play a leading role in the professional training domain.

The development of the Professional Training Strategy started at an inception meeting on 20 April 2007 in Pretoria, South Africa. The Strategy is being developed by three WaterNet member institutions; Training and Instructional Design Academy of South Africa (Tidasa), Centre for Applied Research (CAR) and the Institute of Water and Sanitation Development (IWSD). At the meeting the three agreed on the Terms of Reference and a plan to execute these. The meeting was also used as a platform for the three members and the WaterNet Secretariat to improve relations through briefings about current work and possible areas of collaboration.

The Professional Training Strategy development is intended to be incorporated into the WaterNet long-term strategy.

The duties and scope of work to be carried out by the three partners will include but shall not be limited to the following:

- To grasp an understanding of the WaterNet strategy and organisational function, the WaterNet Programme in line with the WaterNet Phase I and Phase II strategy and SADC/WaterNet PCN 23 documents
- To synthesise and prioritise capacity building needs within the region where the professional training programme can have the greatest impact
- Outline the long term goals, objectives, activities and intended results chain of the Professional Training programme, in-line with the overall vision and mission of WaterNet
- Carrying out a situation analysis of the sector needs in relation to short term capacity interventions taking into account plans already developed by partners such as GWP-SA, Cap-Net, Partnership for Water Education and Research (PoWER), InWent and UNESCO-IHE Institute for Water Education
- Inventorise and evaluate some capacity building interventions through short professional courses that have been carried out (by WaterNet and/or other partners) in the sector throughout the region recently
- Carry out skills mapping of the training institutions (particularly WaterNet members) in the sector in relation to short term capacity interventions (clearly bringing out their areas of expertise in the sector)
- Develop a monitoring and evaluation mechanism or framework for the programme and tools for documenting and analysing courses outputs, outcomes and impact.
- Elaborate the potential synergies between the Professional Training courses and other regional IWRM programmes and activities within and outside of WaterNet
- Develop Course Management Guidelines and tools for day to day course preparation and coordination
- Proposing a budget estimate for implementing the Professional Training Strategy
- Indicate and demonstrate income-generation activities and financial sustainability of the Professional Training Strategy

- Develop a strategic action plan for the pursuance of a sustainable Professional Training Programme describing in detail the course(s) to be conducted, the mode of delivery and the skills needed to implement the Professional Training Strategy (with particular attention to the SADC/WaterNet PCN 23 document)

The first draft of the Professional Training Strategy is expected in July 2007. The roles and responsibilities for the three institutions are defined in the **Table 3.5**.

Table 3.5 Roles and responsibilities for the development of the WaterNet Professional Training Strategy

Terms of Reference Tasks	Responsibility
To grasp an understanding of the WaterNet strategy and organisational function, the WaterNet Programme in line with the WaterNet Phase I and Phase II Strategy documents (to be supplied by the WaterNet Secretariat)	All (Tidasa, IWSD and CAR)
Carrying out a situation analysis of the sector needs in relation to short term capacity interventions taking into account plans already developed by partners such as GWP-SA, Cap-Net, Partnership for Water Education and Research (PoWER), InWent and UNESCO-IHE Institute for Water Education	IWSD
To synthesise and prioritise capacity building needs within the region where the professional training programme can have the greatest impact	IWSD
Inventorise and evaluate some capacity building interventions through short professional courses that have been carried out (by WaterNet and/or other partners) in the sector through out the region recently	IWSD
Carry out skills mapping of the training institutions (particularly WaterNet members) in the sector in relation to short term capacity interventions (clearly bringing out their areas of expertise in the sector)	IWSD
Develop a monitoring and evaluation mechanism or framework for the programme and tools for documenting and analysing courses outputs, outcomes and impact.	Tidasa
Elaborate the potential synergies between the Professional Training courses and other regional IWRM programmes and activities within and outside of WaterNet	CAR
Outline the long term goals, objectives, activities and intended results chain of the Professional Training Programme, in-line with the overall vision and mission of WaterNet	CAR
Develop Logframe for the Proposal	CAR
Develop Course Management Guidelines and tools for day to day course preparation and coordination	Tidasa
Proposing a budget estimate for implementing the Professional Training Strategy	IWSD
Indicating and demonstrating income-generation activities and financial sustainability of the Professional Training Strategy	IWSD
Compiling the strategy based on previous tasks	IWSD to coordinate; inputs from all
Incorporate comments	All

Professional courses have improved accessibility of training to water professionals who are both members and non members. The courses have also maintained high participation by different members who either provide facilitation, scientific backstopping or hosting, administration and course management roles. During the reporting period WaterNet and various partners organised, facilitated and participated in the following courses attended by 100 participants from all over sub-Saharan Africa and beyond:

Zambezi River Basin IWRM Training Programme

The consortium of Ramboll Natura and Stockholm International Water Institute (SIWI) is delivering, with WaterNet, a programme to build capacity for supporting and consolidating the development process of IWRM in the riparian countries of the Zambezi River Basin.

The 2007-2008 training course under this programme was planned in two parts. The first was successfully held in Sweden from 2-20 October 2006. Thirty one participants attended the course.

The second part of the training was held from 29 January to 9 February 2007 in Lusaka, Zambia with focus on the individual projects that the students had implemented in their countries and a case study from Lake Kariba. Participants are back in their home countries finalising and applying projects. The deadline date for nominations for the group expected to complete in 2008 was 15 June, 2007.

Crop Water Requirement and Irrigation Scheduling

The course was held from 15-20 January, at Maseru Sun hotel, Lesotho. It was convened together with the Food Agricultural Organization of the United Nations (FAO), The National University of Lesotho (NUL), The University of Zimbabwe (UZ) with some scientific backstopping from UNESCO IHE-Institute for water Education. The main target groups were middle level water managers involved in agricultural water management with a bias to irrigation. A total of 14 participants attended the course as shown in **Annex 6**.

Wetlands Ecology and Management Course

The course was held from 26 February to 2 March 2007 in Maun, Botswana with 15 participants (**Annex 7**). The course was directed by The Ohio State University in the United States of America and hosted by the Harry Oppenheimer Okavango Research Centre, University of Botswana.

Refresher Course on Water Services: Reaching the Poor in Peri Urban Areas of Sub-Saharan Africa

The course was organized and facilitated by UNESCO-IHE in collaboration with WaterNet and the Department of Civil Engineering at the University of Zambia being the host institution (a member of WaterNet) and the Lusaka Water and Sewerage Company and was held on 25-30 June 2007 in Lusaka, Zambia.

The course was funded jointly by Nuffic (The Netherlands Organisation for International Cooperation in Higher Education) and WaterNet. 28 participants (8 females) from 14 countries in Sub-Saharan Africa attended the course. The course was targeted at UNESCO-IHE and WaterNet Alumni. The list of participants is indicated in **Annex 8**.

The facilitators were from UNESCO-IHE, WaterNet, National Water and sanitation Council of Zambia (NWASCO), Care Zambia and Lusaka and Water and Sewerage Company (LWSC). The main facilitators consisted of:

- Mr Marco Schouten
- Mr Edwin Hes

- Prof Damas Mashauri
- Dr Bekithemba Gumbo
- Mr James Tembo

The opportunity to host a course has proven to be a capacity building exercise for member institutions that have little or no experience in international or regional event planning and management. These may in the future provide a good resource for hosting or managing the annual WaterNet/WARFSA/GWP-SA symposium. The strategy to rotate location of short courses has resulted in:

- improved regional coverage of both members (though hosting and facilitation) and participants (cheaper transport costs for those who do not have travel support) and,
- continuous raising of members' profiles to the participants and officials who attend the courses i.e. increased visibility of WaterNet. For example course hosts usually invite Ministers and/or University Vice Chancellors and other high level officials to officially open the courses.

The short courses have proved popular based on the number of participants who have met their own transport costs to attend the courses. This may be useful as an index for demand. For the Crop Water Requirements and Irrigation Scheduling course, only 2 of the 14 participants had air travel support while for the Wetlands Ecology and Management, only 3 of 15 participants received air travel support.

With the development of a Professional Training Strategy which is underway, it is expected that this will result in an improvement in the courses in terms of design and management (especially evaluation, short term, long term and impact), and increased applications for attendance.

One challenge is to avail the best available expertise while ensuring that they are committed to information sharing and the production of course material available for the public domain.

3.3.2 WaterNet Professional Training Officer

The Steering Committee at the 15th Meeting agreed that the position of a WaterNet Research Leader was more critical than that of the Programme Training Officer due to the complexities involved in coordinating the Challenge Program on Water and Food research Project of WaterNet (WaterNet PN 17). This decision was endorsed at the 7th AGM and hence a WaterNet Research Leader was to be recruited in lieu of the Network Professional Training Officer.

3.3.3 Catchment partnership on translating IWRM principles to management

This activity is on-going in collaboration with GWP-SA. WaterNet will continue to focus on those catchments where there is active research e.g. Limpopo Basin for the Challenge Program on Water and Food and the Thukela and Pangani Basins for the SSI project.

3.3.4 English for water managers course

The WaterNet Steering Committee at its 15th meeting agreed that Africa University, Faculty of Humanities and Social Sciences should not focus only on servicing the *English for Water*

Managers course but also to provide short (one or two day) seminars on communication skills, communication in negotiation, writing and presentation skills to all Masters students. The supplementary courses as part of the WaterNet Master Degree programme were going to be conducted during the 2007 planning year. This was necessitated by the limited number of non-Anglophone candidates applying or enrolling for the Masters Degree programme.

3.4 REGIONALISE AND STRENGTHEN RESEARCH IN IWRM

3.4.1 Research capacity building

This is an ongoing activity conducted mainly through the WARFSA. The WARFSA is in its Phase III project and during the reporting period published two volumes of Technical Report series No 6. The documents represent final and progress reports for the WARFSA funded projects for 2005.

3.4.2 IWRM research

WaterNet is involved in two collaborative research programmes *viz.* the Challenge Program on Water and Food, where WaterNet is coordinating an IWRM research programme in the Limpopo Basin with 19 partner institutions and the Smallholder System Innovation Watershed Management (SSI Programme) which involves 5 partners (4 WaterNet members) who conduct research in river basins in Tanzania (Pangani) and South Africa (Thukela).

The WaterNet Challenge Program on Water and Food (CPW&F) Project Number 17 (PN17) is a trans-institutional inter-disciplinary project within the Consultative Group on International Agricultural Research (CGIAR). The WaterNet project takes on the challenge of developing a framework for new IWRM based water governance from village to basin scale in the Limpopo Basin, which integrates green and blue water management for improved rural livelihoods. The project goal is to contribute to improved rural livelihoods of poor smallholder farmers through the development of an IWRM framework for increased productive use of green and blue water flows and risk management for drought and dry-spell mitigation at all scales in the Limpopo basin.

The major highlight of the reporting period was the 2006-2007 field season. The project has instrumented four catchments in Zimbabwe and one in South Africa and on-station trials in Mozambique and Zimbabwe as indicated in **Table 3.6**.

Table 3.6 Research catchments and activities under PN17

Site	River Basin	Research Activities
Bengu Catchment	Thuli (Zimbabwe)	<ul style="list-style-type: none"> • Conservation agriculture • Hydrology • Hydrogeology
Chòkwé Research Station	Lower Limpopo (Mozambique)	<ul style="list-style-type: none"> • Supplementary irrigation
Matopos Research Station	Thuli (Zimbabwe)	<ul style="list-style-type: none"> • Conservation agriculture
Mnyabeze Catchment	Thuli (Zimbabwe)	<ul style="list-style-type: none"> • Conservation agriculture • Hydrology • Hydrogeology
Mushawe Catchment	Mwenezi (Zimbabwe)	<ul style="list-style-type: none"> • Hydrogeology • Management and institutions
Sofaya Catchment	Olifants (South Africa)	<ul style="list-style-type: none"> • Conservation agriculture • Hydrology • Management and institutions
Zhulube Catchment	Mzingwane (Zimbabwe)	<ul style="list-style-type: none"> • Conservation agriculture • Hydrology • Management and institutions • Siltation
Zhovhe	Mzingwane (Zimbabwe)	<ul style="list-style-type: none"> • Hydrogeology

Seventeen Masters students completed their research part by the end of the period under review, 10 are being examined or doing their write-ups, 3 are doing fieldwork and 2 doing coursework or proposals. This includes students from eight different countries, working in three of the riparian countries and registered with nine different universities (see Annex 9).

All 5 PhD candidates are now registered and have started their fieldwork. 2 additional PhD candidates have been identified by project partners who have allocated project research funding to the new projects (see Annex 9).

Project outputs achieved to date (see Annex 9) include 21 project activity reports (8 of these are draft final reports, currently being reviewed), 7 journal articles, 7 institutional working papers, 29 conference papers and 17 dissertations.

Relations with the project Managing Centre (to which WaterNet reports) have been good during the period under review, with a visit by the Theme Leader, Ms Nancy Johnson, in April 2007. The Secretariat is closely monitoring partners' progress, with some activities to be reallocated or cancelled. The expenditure statement as of date is shown in Table 3.7.

Table 3.7 Expenditure statement PN17

Total project budget	\$1,678,436.00
Funds received to date	\$838,647.75
Total expenditure to date	\$691,226.60
Balance of funds received remaining	\$147,421.15
Balance of project budget remaining	\$987,209.40

The Project is due to officially end on 31 August 2008. It is anticipated that an extension would be granted due to the slow start of the Project which is effectively one and half years behind.

The Smallholder System Innovations in Integrated Watershed Management (SSI), Strategies of water for food and environmental security in drought prone tropical and subtropical agro-ecosystems (Project period: 1 July 2003 – 30 June 2008) is an associated WaterNet research project and is thematically linked to WaterNet CPW&F PN17.

The SSI programme is a multi-disciplinary initiative aimed at improving the livelihood of rural communities in sub-Saharan Africa. It studies the potential of indigenous and exogenous water system innovations in smallholder farms for improved land and water productivity. These innovations can range from *in situ* practices such as deep tillage and zero tillage to infrastructural interventions such as underground storage tanks and small storage structures. The programme not only aims to achieve excellence in scientific research but also deliver results that are of practical use to development planners to improve the livelihoods of rural communities and to disseminate the research findings across sub-Saharan Africa.

The SSI research team had their 4th Annual Scientific meeting in the Drakensbergen, South Africa, 21-25 January 2007. The meeting discussed the researchers' progress. Intensive fieldwork has led to a substantial data pool on on-farm water balances, ecosystem services, catchment scale hydrological processes and water allocation strategies. The outreach component also presented their progress in involving farmers in the research. A field day

showed the ongoing activities in the Potshini catchment, Thukela Basin. Several research farmers showed their experiments and the local researchers explained the experimental setup.

The integration of the different research fields in SSI started in 2006 by identifying joint research activities, which since then have gathered momentum and are now integral part of the research activities. One of such activities is looking at spatial rainfall variability and its impact on the vulnerability of farmers. The meeting closed with a brainstorm session, which generated ideas for a possible Phase II project. Besides a large contingency of the partner institutions representatives from WaterNet (Challenge Program on Water and Food), Stockholm Environment Institute and Sida also attended the meeting.

Fieldwork both in the Thukela and Pangani continued during the first half of 2007, although in both cases the season was bad. During this period three new researchers started their research, Mr Hans Komakech and Ms Jeltsje Kemerink are working on institutions and policies related to smallholder system innovations with main focus on Tanzania. Mrs Jayashree Pachpute started her research on spatial mapping of system innovations in both the Thukela and Pangani. For several researchers this season was the last one for their PhD research (Mr Kongo, Mr Makurira and Ms Mul), who will focus the remainder of 2007 on data analysis and writing of their thesis. With SSI nearing its official end, the SSI research team has started with developing a proposal for SSI Phase II. **Table 3.8** shows the sources of funding for the various institutions involved in the current project.

It is hoped that Phase II funding will be mobilised and other basins within the region will be considered

Table 3.8 SSI partner institutions and source of funding

SSI partner institutions	SSI funding sources
UNESCO-IHE Institute for Water Education	WOTRO
International Water Management Institute	DGIS
School of Bio-resources Engineering and Environment Hydrology, University of KwaZulu Natal	Sida
Department of Systems Ecology, Stockholm University	UNESCO-IHE, IWMI, SU
Soil and Water Management Research Group, Sokoine University of Agriculture	Stockholm Environment Institute

Find more on: www.unesco-ihe.org/ssi.

3.4.3 Funding for new research activities

WaterNet in collaboration with Cap-Net and WA-Net concluded negotiations with the German Federal Institute for Geo-sciences and Natural Resources (BGR, Bundesanstalt für Geowissenschaften und Rohstoffe) for consultancies related to “Training needs assessment for groundwater within IWRM” during the reporting period.

In late 2006 a review was carried out in West and Southern Africa to collect information on the progress countries were making with groundwater management, the priority attached to groundwater, and the capacity concerns that were impacting effective management of groundwater.

These draft reports were reviewed at a workshop held at Holiday Inn Garden Court, Kempton Park Johannesburg, South Africa 19-20 February 2007 to elaborate on the way forward on “Assessment of the integration of groundwater management in the IWRM framework and identification of requirements for capacity development in SADC member states.

The workshop was convened by WaterNet (a SADC water sector capacity building network for integrated water resources management) and BGR (Federal Institute for Geosciences and Natural Resources; German Geological Survey) and Cap-Net the capacity building arm of Global Water Partnership (GWP).

The following attended the workshop:

1. Mr Phera Ramoeli, Water Programmes and Project Coordinator, Directorate for Infrastructure and Services, SADC Water Division
2. Dr Bekithemba Gumbo, Manager, WaterNet, Regional Capacity Building Network in Integrated Water Resources Management
3. Dr Richard Owen, Regional consultant, Acting Director of the Mineral Resources Centre, University of Zimbabwe, Harare
4. Prof Yongxin Xu, Professor of Hydrogeology, Chair holder and Director, The UNESCO Chair in Geohydrology, Faculty of Natural Sciences, University of the Western Cape, South Africa
5. Mr Greg Christelis, Deputy Director, Geohydrology, Department of Water Affairs, Ministry of Agriculture, Water and Forestry, Namibia
6. Dr Fannie Botha, Deputy Director, Water Resources Planning Systems, Department of Water Affairs and Forestry, South Africa
7. Dr Paul Taylor, Director, Cap-Net Global Capacity Building Network
8. Dr Ralf Klingbeil, Federal Institute for Geosciences and Natural Resources (BGR), International Cooperation Policy Advice Groundwater - Resources and Management, Germany
9. Mr Mathias Polak, Federal Institute for Geosciences and Natural Resources (BGR), International Cooperation Policy Advice Groundwater - Resources and Management, Germany

The workshop was a culmination of a regional survey on the capacity building needs for the groundwater sector in sub-Saharan Africa. The survey was carried out on behalf of WaterNet and BGR. The purpose of the workshop was to follow-up on the identified and analysed capacity building requirements with a focus on elaborating on the implementation plan.

The final report was released in June 2007 and circulated to WaterNet members and discussed at the 1st WaterNet Management Board meeting in Gaborone (see **Annex 10 for the cover and back pages of the report**).

There were a number of WaterNet member institutions that expressed interest in the project these are listed below together with the names of individuals with specialist knowledge in groundwater.

1. Dept. of Geology, University of Botswana, Gaborone (Dr R. Chaoka and Dr F. Alemaw)
2. Dept. of Earth Sciences, University of the Western Cape, Cape Town (Prof Y. Xu)
3. Dept. of Hydrology, University of Zululand, Kwadlangezwa (Dr B. Rawlins)
4. Dept. of Water Resources Engineering, University of Dar es Salaam, Dar es Salaam (Dr S. Mkhandi)

5. Dept. of Geology, School of Mines, University of Zambia, Lusaka (Dr D. Nkhuwa and Prof I. Nyambe)
6. Dept. of Civil Engineering, University of Zimbabwe, Harare (Mr J. Siwadi)
7. Dept. of Geology, University of Zimbabwe, Harare (Dr R. Owen)
8. Institute for Water and Sanitation Development, Harare (Dr L. Nyagwambo)

The proposed next step is to present the report during the Stockholm Water Week (12-18 August 2007) in a bid to secure funding for the interventions identified.

During the reporting period WaterNet was approached by representatives from the UNESCO cluster office in Harare seeking collaboration in a UNESCO-SADC Project called SIMDAS (Sustainable Integrated Management and Development of Arid and Semi-Arid Regions of Southern Africa).

SIMDAS was created in support of the development of activities in the Southern African Development Community (SADC) sub-region as a follow-up to the WSSD (Johannesburg, 2002) and the Third World Water Forum (Kyoto, 2003). The programme was developed by scientists and other water-related stakeholders from SADC countries. Stakeholders from SADC countries, including governments, educational institutions, NGOs and local communities implement SIMDAS, with help and guidance jointly from the International Hydrological Programme (IHP) and appropriate field offices. SIMDAS is a multidisciplinary undertaking, around the central theme of water, that spans all of UNESCO's fields of competence, including the cross-cutting themes related to extreme poverty eradication and the development of a knowledge society.

The aim of SIMDAS is to conduct multidisciplinary studies in arid and semi-arid areas of Southern Africa and integrate the results into a coherent master programme of long-term sustainable development and social transformations in both urban and rural areas of SADC countries.

The SIMDAS Project has lot of similarities to the WaterNet Programme. The strategy of the project is sound although insufficient funding has been secured so far to implement the entire Project.

Collaboration with WaterNet has already started through three PhD students funded under the Project and registered at Harry Oppenheimer Okavango Research Centre (HOORC) in Maun Botswana (a WaterNet member institution). The PhD candidates have already started interacting with PhD and MSc students under WaterNet.

The Management Board at its 1st meeting agreed that WaterNet should explore this opportunity to cultivate a working relationship with the UNESCO family either directly or through UNESCO-IHE. This will have benefits in the long term when WaterNet seek accreditation of its Masters programme in particular.

3.4.4 WaterNet-SADC Professorial Chairs in IWRM

At the 15th Steering Committee Meeting members noted that discussions regarding the Professorial Chairs had been held and the 14th SC meeting had resolved that 2 out of 5 planned for Professorial Chairs should be advertised and targeted for the 2 core host institutions for the Masters programme.

The advert was distributed to members at the 7th AGM on 3 November 2006 in Lilongwe, Malawi and also advertised in the Mail & Guardian in November 2006 and in the local Newspapers in Zimbabwe and Tanzania.

By the closing dates (which were different for each institution) the University of Zimbabwe (UZ) had received one application for the position whilst the position at the University of Dar es Salaam received five applications as indicated below.

UZ applicant:

1. Dr. Paramu Mafongoya (Zimbabwean), Consultant Agriculture and Natural Resource Management with the International Centre for Research Agroforestry ICRAF (World Agroforestry Centre) based in ICRAF- Southern Africa Research programme stationed in Lusaka, Zambia.

UDSM applicants:

1. Dr. Muna Mirghani (Sudanese), Coordinator, Nile Integrated Water Resources Management – Net, School of Rural Extension Education and Development (REED), the University of Ahfad, Khartoum Sudan.
2. Dr. Yosif Ibrahim (Sudanese), Chief Site Engineer, Department of Public Works and Environmental Services, Fairfax County, Virginia, U.S.A.
3. Dr. Yasir A. Mohamed (Sudanese), Senior Researcher at the International Water Management Institute, Nile Basin and Eastern African Office (IWMI NBEA) and a Senior Lecturer in Water Resources Management at the UNESCO – IHE.
4. Prof. Damas Alfred Mashauri (Tanzanian), Associate Professor in Water Resources Engineering, University of Dar es Salaam.
5. Prof. Felix Wenceslaus Mtalo (Tanzanian), Professor in Water Resources Engineering, University of Dar es Salaam.

The sole applicant for the UZ position was deemed not appointable by the Department of Civil Engineering Board on the basis that his qualifications and experience did not meet the requirements. The WaterNet Management Board was invited to comment on the short-listing of three candidates for interviews for the UDSM position.

Out of the five applicants, the last three were short-listed and invited for interviews. The interviews were held on Tuesday, 22 May 2007 at the College of Engineering and Technology, University of Dar es Salaam.

The interview panel included the following senior staff of the University of Dar es Salaam, WaterNet and SADC Secretariat:

- Prof. M. L. Luhanga – Former Vice Chancellor, Department of Telecommunications Engineering, University of Dar es Salaam/Chairman
- Dr. B. Gumbo, Manager WaterNet/Member.

- Mr. L. De Almeida, Senior Water Resources Engineer, SADC Secretariat/Member.
- Prof. J.H.Y. Katima, Dean, Mechanical and Chemical Engineering, College of Engineering and Technology, University of Dar es Salaam/Member.
- Prof. I. B. Mshoro, Deputy Principal, Academic, Research and Consultancy, College of Engineering and Technology, University of Dar es Salaam/Member.
- Engineer W. R. Nyemba, Dean, Faculty of Engineering, University of Zimbabwe and WaterNet Management Board Chairman/Member.

The outcomes of the interviews were that Prof. Damas Alfred Mashauri and Prof. Felix Wenceslaus Mtalo were found to be appointable whilst Dr. Yasir A. Mohamed was not recommended for appointment.

The interviewing panel agreed that the holder of the Chair would be appointed by the stakeholders i.e. the University of Dar es Salaam following the University Council's approval and WaterNet Management Board. A tripartite contract would be signed by the University of Dar es Salaam, the Chair holder and the sponsor of the Chair. Other issues of personal emolument shall be handled in accordance with the University of Dar es Salaam Operational Policy and Procedures on Establishing Professorial Research Chairs as approved in 1996, and WaterNet procedures.

The Appointments Committee of University of Dar es Salaam on 28 May 2007 deliberated on the panel recommendations and the matter was moved forward to the University Council which was due to meet on 29 June 2007 for the final decision.

Meanwhile the University of the Western Cape (host institution for Water and Society specialisation), University of Malawi (host institution for Water and Environment specialisation) and the Polytechnic of Namibia (host institution for Water for People specialisation) had made written enquiries to the WaterNet Secretariat on establishing the outstanding Chairs within their institutions.

The Management Board at its 1st meeting requested the Board Members, Ms Kafidi of the Polytechnic of Namibia and Dr Mulwafu from University of Malawi to take a lead in the process to appoint Professorial Chairs at their institutions.

3.5 RAISE AWARENESS AND UNDERSTANDING IN IWRM

3.5.1 WaterNet outreach activities

Raising awareness of IWRM has up to the present primarily been pursued through the annual WaterNet/WARFSA/GWP-SA Symposium and participation in other regional and international fora and meetings.

During the reporting period WaterNet participated in the following events:

Regional Water Dialogue

Global Water Partnership- Southern Africa and the SADC–Danida Regional IWRM Programme convened a SADC Multi-stakeholder Water Dialogue back to back with the GWP-SA Annual Consulting Partners meeting from the 16-18 May 2007 in Maputo, Mozambique. The theme of the SADC Multi-stakeholder Water Dialogue was “Watering development in SADC: beyond IWRM concepts and the converted”. The Secretariat participated together with staff from a member institution (Faculdade de Agronomia e Engenharia ,Universidade Eduardo Mondlane,). At the event, the Masters Programme was advertised in English, French and Portuguese posters and flyers. Paiva Munguambe a Challenge Program on Water and Food PhD research fellow presented a research poster in Portuguese.

It is expected that there would be lot more interest and increased participation from Mozambique with regard to WaterNet activities particularly the Masters programme in IWRM. Following the Water Day held in Gaborone Botswana, last year it was noted that the number of applications from Botswana increased significantly. An article on the meeting in Maputo appeared in the Water Dialogue magazine (a GWP publication) and also in a newspaper in Madagascar providing details of the WaterNet Masters programme.

UNESCO-IHE 50 Year Celebrations, 13-15 June 2007

To celebrate 50 years of existence and its delivery of more that 13,000 mid-level professionals from 162 countries, UNESCO-IHE Institute for Water Education held a three day Symposium from 13-15 June entitled: “Water in a changing world: Enhancing local knowledge and capacity”. Discussions at the symposium are being used to draft a ‘road map’ for different institutions to improve and strengthen the capacity of individuals and organisations’ at the local level. The Secretariat attended the Symposium and the WaterNet Manager made a presentation on the joint activities of WaterNet and WARFSA with regard to synergies in capacity building in IWRM.

Recommendations of the symposium were formulated within three themes (a) Knowledge for Development, (b) Knowledge Generation and Research, and (c) Knowledge sharing. The key note address emphasized the importance of collaboration and network including the collaboration between UNESCO-IHE and WaterNet.

The WaterNet Manager also made a presentation on managing capacity building networks at the Partnership for Water Education and Research (PoWER) Task Group Meeting on 17 June 2007. WaterNet is a member of PoWER a project meant to transform the former IHE into a truly UNESCO institute through working with partners from the south like WaterNet.

The WaterNet Management Board at its 1st meeting congratulated UNESCO-IHE of its coming of age. Being a founder and supporting member of WaterNet, the region and the WaterNet family were proud to be associated with UNESCO-IHE.

EU Framework 7 Workshop

The European Union (EU) Seventh Framework Programme for Research and Technological Development (FP7) was launched at the beginning of 2007. This funding programme will run for seven years, with a total budget of over 50 billion Euro. Within FP7 there are many opportunities for African researchers to get involved, and African organisations are eligible to receive funding through the programme.

A Workshop on Participating in FP7 of the EU's Research Programme for Southern Africa was held on 31 January to 2 February 2007 at the Water Research Commission, in Pretoria, South Africa. This training workshop provided interested researchers involved in the water research and related areas, as well as research administrators and trainers, with all of the necessary information to participate in the Seventh Framework Programme.

It included sessions on introducing the EU and FP7, water research opportunities within the programme, how to get involved in a project, and how to prepare a proposal, contractual and financial issues, and developing a strategy for participation. Many of the sessions were interactive, with some group exercises and plenty of time for discussion.

The workshop was attended by the WaterNet Manager and Mr James Chimphamba of Chancellor College, University of Malawi. In essence, although there are opportunities for the WaterNet members to participate the skills and expertise required to compile the documentation required, precludes a majority of the members. The opportunities are mainly through partnering with research institutions within the EU who normally lead and hence budget holder of projects with matching research topics.

WaterNet members can find interesting research topics being funded and can also load their profiles on the website so that other partners working or planning to submit proposals can approach them for possible involvement (http://cordis.europa.eu/fp7/home_en.html). There are other specific projects funded through the FP7 which are less cumbersome and can be easily accessed by WaterNet members.

Inter and intra network communication continues to improve within and between the network members, the Secretariat, the collaborative partners and beneficiaries or stakeholders of WaterNet activities. WaterNet is fortunate compared to other regional networks in sense that members have a variety of joint activities and they have opportunities to network in the real sense not only virtually. This is the strength of the network and hence improves on communication. The 52 members of the WaterNet network undertake a large amount of education, training and research in the field of Integrated Water Resources Management in southern Africa.

During the reporting period the WaterNet Secretariat set up an independent email and communication system as one step towards having a distinct and visible identity. Currently the web page is hosted by UNESCO-IHE through a contact renewed every year.

Members have been requested also to provide a 100 word document profiling their institutions, highlighting their educational, training, research and outreach capabilities which could be used by other members and the Secretariat in matching and caring out joint activities. A few members have responded and it hoped that this information will be made available when the members complete their annual reports. The members' profiles will be inserted against the name of each member institution on the web page so as to display and demonstrate the multi-disciplinary strength of WaterNet.

During the reporting period one issue of the WaterNet newsletter (WaterNet News Volume 3 Issue 1) was produced and circulated (see **Annex 11**). The newsletter has been useful as quick method of sharing information on WaterNet activities and also on other information relevant to members and collaborative partners. The Secretariat envisages releasing at least 3 issues per year. It is hoped that this will improve communication between the Secretariat and WaterNet members.

3.5.2 WaterNet/ WARFSA/ GWP-SA Symposium

The 7th WaterNet/WARFSA/GWP-SA Symposium with the theme “*Mainstreaming Integrated Water Resources Management in the Development Process*” was held at Capitol Hotel, Lilongwe, Malawi, 1-3 November 2006. The Symposium was attended by 201 participants from 19 countries. The final report of the Symposium was submitted to the WaterNet Secretariat during the reporting period.

At the 1st Management Board meeting the report was considered and lessons learnt from the 7th Symposium discussed and efforts to incorporate these in future Symposia. The following key points were raised:

- Organising the Symposium was not an easy exercise and it depended on the situation in each country and hence different challenges.
- Setting and keeping deadlines would ease hosting problems
- There was need to confirm flights, transfers and submit presentations timeously
- There was need to come up with an evaluation of the number of students versus the lectures making presentations
- In Malawi it was noted that the symposium was attracting a lot of students
- There is need to involve Country Water Partnerships (GWP family) and to go beyond academic institutions and governments for the Symposium to have its full impact.
- The Management Board wanted to know if there was a profit or loss at the Symposium and that US\$ 300.00 for registration was probably too high.
- The Management Board suggested that a more comprehensive report was required from the Local Organising committee particularly on financial accounting that this further information would be useful in assessing the viability and sustainability of the Annual Symposium

About 120 papers from the Symposium were due to be published in two separate volumes of the *Physics and Chemistry of the Earth Journal* (another record breaking statistic). The

review process has been laborious due to the large numbers and relying on too few reviewers each year. There is a need for the three collaborating partners to invite more reviewers.

The 8th WaterNet/WARFSA/GWP-SA Symposium was originally planned to take place in Victoria Falls, Zimbabwe with GWP-SA playing a leading role among the three collaborating partners by engaging the Country Water Partnership as the lead institution for the Local Organising Committee.

However due the socio-economic problems in Zimbabwe it was decided to move the Symposium to Livingstone Zambia. On compiling the necessary budgets it was realised that Livingstone, Zambia was going to be expensive and was less accessible than Lusaka and hence finally a decision was made to hold the Symposium in Lusaka, Zambia from 31 October to 2 November 2007. There could have been some confusion created in relation to the venue having shifted from Victoria Falls Zimbabwe to Livingstone Zambia and finally Lusaka Zambia

The Memorandum of Agreement with the Local Organising Committee (LOC) was finalised during the reporting period. The finalisation of the budgets was problematic due to a high cost of living in Zambia. The Chairman of the LOC is Mr Oswald Chanda the Chief Executive of the National Water Supply and Sanitation Council of Zambia (NWASCO). The Zambia Water Partnership was going to be the lead local institution. The first LOC meeting was held in March in Lusaka and the WaterNet Secretariat attended the meeting.

The 8th Symposium was going to be held in Zambia, where prices have been increasing in US dollar terms because the value of the Zambian Kwacha was continuously gaining against the dollar.

The Management Board resolved at its 1st meeting that the Symposia Funds should be audited and it was also agreed to maintain the registration fees for the 8th symposium at US\$ 300.00 and registration fees for students to be reduced by 50% provided their numbers did not exceed 15 and that proof of studentship should also be provided during registration.

By the end of the reporting period 230 abstracts had been received after the lapse of the final Call for Abstracts on 18 June 2007. A tentative list of the scientific committee members had been drawn up and the members were asked to respond to the nomination. Based on observations from the last symposium, efforts had been made to standardise the format of abstracts by providing authors with a template form and an example that went with the Announcement of the Symposium and Call for Abstracts (see **Annex 12**).

WaterNet and its regional collaborating partners (WARFSA and GWP-SA) decided to engage a Symposium Intern to assist with the organisation and planning (mainly abstract management, communications with authors and symposium reporting) of the Symposium. The idea of a Symposium Intern was also to provide coaching and capacity building for young professional to gain experience from regional institutions in their IWRM activities. The advert for the position (see **Annex 13**) was produced by the three collaborating partners and circulated via email of each partner's list. The recruitment was scheduled to take place in July 2007.

As previously noted at the 15th Steering Committee meeting a suggestion was put forward that the 9th WaterNet/WARFSA/GWP-SA Symposium be organised to include the biennial

Symposium of the International Commission on Water Resources Systems (ICWRS) part of the International Association on Hydrological Sciences (IAHS).

This means the Symposium would have a global and regional flavour and participants drawn from the across continents. The demands in terms of logistics and planning limit the number of possible venues and it is believed that possibly Johannesburg would be the likely venue. WaterNet Secretariat was mandated by the Management Board to liaise with GWP-SA and WARFSA to get confirmation on the suggested venue and dates and the modalities of collaboration with ICWRS part of IAHS.

4 DEVIATION FROM PLANNED ACTIVITIES

During the reporting period there were three deviations from the planned activities:

- The decision to introduce the 6th specialisation on Water and Land was made at the 7th AGM in Lilongwe, Malawi following debates at the 6th AGM and 14th Steering Committee meeting held in Cape Town, South Africa. The University of Botswana committed itself to host the specialisation.
- Due to a limited number of Masters students being enrolled from non-Anglophone countries The WaterNet Steering Committee at its 15th meeting agreed that Africa University, Faculty of Humanities and Social Sciences should not focus only on servicing the *English for Water Managers* course but also to provide short (one or two day) seminars on communication skills, communication in negotiation, writing and presentation skills to all Masters students. The supplementary courses as part of the WaterNet Master degree programme were going to be conducted during the 2007 planning year.
- WaterNet and its regional collaborating partners (WARFSA and GWP-SA) decided to engage a Symposium Intern to assist with the organisation and planning (mainly abstract management, communications with authors and symposium reporting) of the Symposium. The idea of a Symposium Intern was also to provide coaching and capacity building to a young professional to gain experience from regional institutions in their IWRM activities. The advert for the position was produced by the three collaborating partners and circulated via email of each partner's list. The recruitment was scheduled to take place in July 2007 and was endorsed at the 1st Management Board meeting held in Gaborone, Botswana.

Harare, February 2008



Bekithemba Gumbo, PhD, MSc
WaterNet Manager

Delft, February 2008



Pieter van der Zaag, PhD, MSc
WaterNet Project Director, UNESCO-IHE

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ANNEX 1: WATERNET TRUST UNESCO-IHE TRANSITION PERIOD AGREEMENT



AGREEMENT

between

WaterNet Trust
Gaborone, Botswana
hereinafter "WaterNet Trust"

and

UNESCO-IHE, Institute for Water Education
Delft, The Netherlands
hereinafter "UNESCO-IHE"

on

WaterNet Strategy Phase II: 2005-2009,
Building Capacity for Water Resources Management in Southern Africa
hereinafter "Project"

Whereas, with support of UNESCO-IHE, WaterNet is established as an network of knowledge institutes (hereinafter "Members") in Southern Africa in 1999 during the implementation of the project entitled "WaterNet: Forging the Network: the establishing of a regional network for education, training and research on Integrated Water Resources Management in Southern Africa" (first phase of the project),

Whereas, in the light of the successful completion of the first phase of the project, the Dutch Ministry of Foreign Affairs (hereinafter "DGIS") has approved the second phase of the Project, as described in the Grant Document from DGIS to UNESCO-IHE signed on June, 9th, 2005 (under reference 11763/DMW0051164), hereafter referred to as "Grant Agreement" (Annex 1),

Whereas, DGIS has requested UNESCO-IHE to be the lead organization for the implementation of the Project through the WaterNet Secretariat, responsible for the implementation of the activities and the production of the deliverables of the Project, as described in the document titled "WaterNet Strategy Phase II: 2005-2009, Building Capacity for Water Resources Management in Southern Africa" and dated 12 August 2004 (hereinafter "Project Document", annex 2),

Whereas it is the wish of the Members of WaterNet, UNESCO-IHE and DGIS that WaterNet will become an independent organisation, responsible for the network activities,

Whereas, in the light of the above, the WaterNet Trust is established as legal entity through the signing of a notorial deed by the Chairperson and eight (8) representatives of the Member Institutes on December, 29th, 2006, in Gabarone, Botswana (annex 3),

Whereas, the WaterNet Trust will have to test their managerial and financial procedures before it takes over the full responsibilities for the Project implementation during a transition period from June 2007 until December 2007 (hereinafter "Transition Period"),

and,

Whereas within the framework of the above-mentioned, WaterNet Trust and UNESCO-IHE have to conclude an agreement for the Transition Period of the Project, in which the following is agreed between WaterNet Trust and UNESCO-IHE:

Article 1 Scope of the Agreement

UNESCO-IHE will transfer the advance payments received from DGIS minus the budget reserved for activities carried out by UNESCO-IHE within the Project to the bank account of the WaterNet Trust. The WaterNet Trust will take the responsibility to distribute the funds according to the rules and regulations set in the Project Document in order to test the administrative and financial procedures of the WaterNet Trust. The WaterNet Trust will report to UNESCO-IHE on progress and finance in line with the procedures of the WaterNet Trust.

Article 2 Additional Obligations

The WaterNet Trust will, together with UNESCO-IHE, carry out an extensive evaluation of the managerial and financial procedures of the WaterNet Trust before the end of the transition period. The outcomes of the evaluation will be reported to the donors of the Project (e.g. Sida and DGIS).

On request of the WaterNet Trust, UNESCO-IHE will give backstopping and/or advice on the financial and managerial procedures of the WaterNet Trust. In case the input of UNESCO-IHE exceeds the input it would normally give to the Project, UNESCO-IHE has the right to be reimbursed for the additional costs from the budget made available DGIS.

Article 3 Additional Rights

UNESCO-IHE has the right to suspend the advance payment as long as the WaterNet Trust fails to report on the financial progress of the previous advance payment.

UNESCO-IHE has the right to keep the WaterNet Trust financial responsible in case the WaterNet Trust fails to perform and/or report or in case DGIS does not approve the narrative and/or financial report produced by the WaterNet Trust.

Article 4 Progress Reports

The WaterNet Trust will report to UNESCO-IHE on progress, including an expenditure statement with supporting documents, every two (2) months.

Article 5 Financial Arrangements

Payments from UNESCO-IHE to the WaterNet Trust will be made based on the request for advance payment by the WaterNet Trust and supported by a two-monthly budget prepared by the WaterNet Trust, in which activities and related costs for the coming two months are indicated. The request and budget need to be approved by the UNESCO-IHE WaterNet Project Leader, Prof. Pieter van der Zaag.

UNESCO-IHE will make the payments to the Foreign currency denominated account maintained by the WaterNet Trust, based in Gaborone, Botswana.

All payments of UNESCO-IHE to the WaterNet Trust are conditional to the payments UNESCO-IHE received from DGIS. In case UNESCO-IHE does not receive payments from DGIS, UNESCO-IHE shall not pay to the WaterNet Trust.

Article 6 Financial administration and Audit Control

The WaterNet Trust will keep careful financial administration of the budget allocated to them by UNESCO-IHE. This financial administration must meet the requirements listed in the Financial Guidelines of DGIS as stated in the Grant Agreement.

As described in the financial guidelines of the Grant Agreement, UNESCO-IHE will submit an annual, audited statement of expenditures for the calendar year to DGIS. If required, the WaterNet Trust will give the auditors full insight in their accounts and will cooperate on a voluntary basis to facilitate the delivery of this statement.

Article 7 Communications

The WaterNet Trust will timely inform UNESCO-IHE on issues which are related to the progress of the Project and/or essential for the implementation of the Project.

UNESCO-IHE will timely inform the WaterNet Trust about any communication between DGIS and UNESCO-IHE which is relevant for the implementation or the continuation of the Project.

Article 8 Terms and Conditions

The terms and condition mentioned in the Grant Agreement will also apply for this Agreement. In case contradictions exist between the Grant Agreement and this Agreement, the Grant Agreement will be leading.

DGIS may decide to prematurely terminate the contract with UNESCO-IHE, or to reduce the Project finances. As a consequence, UNESCO-IHE may also have to prematurely terminate this Agreement with the WaterNet Trust. Such actions shall take place after

consultations with the WaterNet Trust and shall be settled on the basis of costs that have already been made and for reasonable commitments made for the immediate future. However, under no circumstances shall the WaterNet Trust become entitled to payments from UNESCO-IHE in excess of the amounts received or recovered by UNESCO-IHE under the Grant Agreement with DGIS.

Article 9 Liability

Any loss, damage or injury suffered by the WaterNet Trust and UNESCO-IHE in connection with the performance of this Agreement shall be borne exclusively by each respective partner. The WaterNet Trust and UNESCO-IHE will be exclusively liable for any loss, damage or injury caused to third parties arising out of the performance of this Agreement.

Article 10 Amendments, Variations or Additions

The provisions of this Agreement may be amended or supplemented only by means of a written agreement duly signed by the WaterNet Trust and the Director of UNESCO-IHE.

Article 11 Settlement of disputes

- (i) Amicable Settlement: the WaterNet Trust and UNESCO-IHE shall use their best efforts to settle amicably all disputes arising out of or in connection with this Agreement or the interpretation thereof.
- (ii) Arbitration: Any other dispute which cannot be settled in consultation between the WaterNet Trust and UNESCO-IHE shall be referred to the Dutch Court of Justice.

Article 12 Applicable Law and Language

This Agreement shall be governed by the law of the Netherlands. This Agreement has been executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Agreement.

The Project will be executed in the English language.

Article 13 Headings

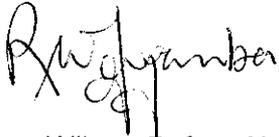
The headings shall not limit, alter or affect the meaning of this Agreement.

Article 14 Duration and entry into force of the Agreement

The Agreement will come into force on June, 1st, 2007 and will be valid until the end of the Transition Period, which is scheduled for 31 December 2007.

Signed, by the duly authorized representatives of the WaterNet Trust and UNESCO-IHE in duplicate originals in the place and upon the date indicated below:

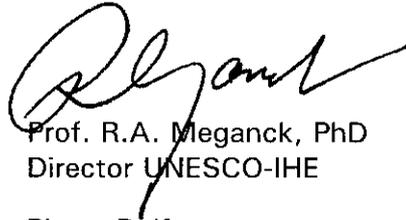
on behalf of WaterNet Trust,



Eng. Wilson Rufaro Nyemba
Chairperson WaterNet Trust

Place: Delft
Date: 13 June 2007

on behalf of UNESCO-IHE,



Prof. R.A. Meganck, PhD
Director UNESCO-IHE

Place: Delft.
Date: 13 June 2007

ANNEX 2: WATERNET TERMS OF REFERENCE FOR ACCOUNTING SERVICES



Building Capacity for Water Resources Management in Southern Africa

Accounting Services Terms of Reference

1. PREAMBLE

The enterprise

WaterNet is a regional capacity building network for water resources management in Southern Africa. The network operates through its members coordinated by a Secretariat hosted by the University of Zimbabwe in Harare.

WaterNet is a broad network with 52 members in 14 countries. It was established in Victoria Falls, Zimbabwe in March 2000 by 18 university departments and training institutes from nine countries in Southern and Eastern Africa.

WaterNet is recognised as a legitimate and authentic partner in capacity building in Integrated Water Resources Management (IWRM) within the Southern African Development Community (SADC). It is an official SADC programme and is in the process of registering as a SADC Subsidiary Institution.

Member institutions are based in Botswana, Democratic Republic of Congo (DRC), Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

WaterNet also has 'supporting members'. These currently include the SADC Water Division under the Directorate for Infrastructure and Services, Global Water Partnership-Southern Africa (GWP-SA), the Netherlands and Swedish governments (financially supporting WaterNet) and UNESCO-IHE Institute for Water Education (facilitating the establishment of WaterNet and providing educational, scientific and administrative backstopping).

The WaterNet organisation consists of members who meet during the Annual General Meeting (AGM). The organisation is governed through a Deed of Trust registered in Gaborone, Botswana. The AGM elects the Board of Trustees, and together with the supporting members constitute the Management Board which oversees the WaterNet Secretariat.

The Secretariat is headed by a Manager with full-time support staff who include an Administrator, Programme Officer, Secretary and Driver/Messenger. Part time- staff include a Research Advisor, Research Coordinator and Bookkeeper.

Vision, Mission and Objectives

The WaterNet Vision is inline with that of the Southern Africa Vision for Water, is the “equitable and sustainable utilisation of water for social, environmental justice, economic integration and economic benefit for present and future generations in Southern Africa.”

WaterNet wishes to contribute to making this Vision a reality. The Mission of WaterNet is to enhance regional capacity in Integrated Water Resources Management through training, education, research and outreach by sharing the complementary expertise of its members.

The immediate objectives of WaterNet are fivefold:

1. To forge a strong, demand driven and sustainable network of universities and research institutions in Southern Africa in the field of IWRM.
2. To deliver and strengthen the jointly owned regional Master degree programme in IWRM
3. To develop and deliver demand-driven training and education for practicing water sector professionals in Southern Africa.
4. To stimulate, regionalize and strengthen the research in the field of IWRM in Southern Africa.
5. To raise awareness and understanding of IWRM and its implementation at local, national and trans-boundary scale.

The immediate objectives are interlinked as they depend on each other and also benefit each other.

WaterNet is unique, being one of the first initiatives in the world to focus on capacity building in IWRM. It is special also in that it offers a wide spectrum of opportunities to build human and institutional capacity among local institutions through various funds, staff exchanges, workshops, research facilitation, and fellowships for the regional WaterNet Masters Programme in IWRM.

The network approach employed by WaterNet has demonstrated improved synergies, facilitated up-scaling of IWRM capacity building and improved knowledge management among its members.

Funding

WaterNet Phase I (1999-2004) was funded by the Dutch Ministry for International Cooperation (DGIS), with a subsidy of 3.5 M Euro and the Phase II (2005-2009) programme is jointly funded by DGIS and the Swedish International Development Cooperation Agency (Sida) with a subsidy of 7.4 M Euro.

The Table provides a summary of the funding status of the WaterNet programme for the Phase II (2005-2009) through different projects and contributors:

Contributor	Amount (Million Euro)
DGIS	4.8
Sida	2.6
Challenge Program on Water and Food	1.3
EU-ACP Water Facility/GWP/UNDP	0.3
Total	9.0
Members contributions ^a	2.0
Grand Total	11.0

a) in kind and dispersed cash contributions

2. TERMS OF REFERENCE

WaterNet is seeking the services of a reputable Accounting Firm domiciled in Botswana to offer supplementary management functions of WaterNet Funds which will be held at a Bank in Gaborone, Botswana.

The Accounting Firm shall be appointed by the WaterNet Trust through a contract for a specified period, subject to renewal or termination by both parties. The Accounting Firm shall be answerable and accountable to the WaterNet Board of Trustees.

The Accounting Firm is expected to provide supplementary financial management services and assist WaterNet in developing and/or reviewing its financial management policies. The overall financial management system is expected to ensure automatic adherence or compliance to grant agreements entered into by the Trust and Cooperating Partners (Donors).

The financial management system to be established has to ensure efficient and sound procurement, whilst at the same time ensuring a strong degree of transparency, fairness and integrity in the procurement and contract management process for WaterNet activities.

The Accounting Firm will serve as the locality of an independent audit(s) (i.e. all original documents/vouchers/payment requests etc will be physically located at their premises) and will be responsible for compiling half-yearly financial reports submitted to the Cooperating Partners, and the members via the Board of Trustees.

The Accounting Firm will arrange and prepare for annual external audits which will be conducted by an Audit Firm appointed by the WaterNet Trust and the Audit report be submitted to the AGM and Cooperating Partners via the Trustees.

The invitation of the Audit Firm shall be done by the Accounting Firm at such a time at the beginning of each calendar year to ensure compliance with funding agreements entered into by the Cooperating Partners and WaterNet Trust.

It is expected that a senior staff member(s) of the Accounting Firm will become a signatory of the foreign currency denominated (Euro or United States Dollars) and or Pula WaterNet Bank account(s) held in Gaborone, Botswana under the Trust.

The accounting firm shall without delay make available funds to the regional programme activities as requested by the Secretariat staff (Manager and or Administrator), provided such funds have been disbursed by the Cooperating Partners.

3. ROLES AND RESPONSIBILITIES

The financial management and reporting on WaterNet Funds follows hierarchical structure as dictated by the WaterNet Trust (the legal document registering WaterNet in Botswana) and its Membership which meets at the Annual General Meeting (AGM). Such roles and responsibilities are listed below and are illustrated diagrammatically in the figure.

WaterNet Trust

- Attends the Annual General Meeting
- Approves annual budgets and work-plans
- Approves financial statement and progress reports
- Approves appointment of external auditor

Board of Trustees

- Enters into funding agreements through the Chairperson with Cooperating Partners
- Submits to the Cooperating Partners and AGM a half yearly narrative report
- Submits half-yearly expenditure statements to the Cooperating Partners
- Submits annual audited statements to the Cooperating Partners
- Requests for disbursement of funds from the Cooperating Partners
- Appoints and accounting firm to provide supplementary financial management services
- Accountable to the WaterNet Trust

Audit Firm

- Performs annual audit of WaterNet Funds
- Submit audit report to the Trust and Cooperating Partners via the Board of Trustees
- Performs follow-up work if necessary and makes recommendations to the Board of Trustees on sound financial management

Accounting Firm

- Disburses funds to Members or other WaterNet bank accounts held elsewhere upon request from the WaterNet Manager and or Administrator
- Updates WaterNet financial report every two-month with disbursements done directly to Members or other WaterNet bank accounts.
- Prepares and submits to the Board of Trustees half yearly consolidated WaterNet financial reports i.e. incomes and expenses or advances made in compliance with general Cooperating Partners requirements
- Monitors the overall WaterNet budget
- Advises the WaterNet Manager on the budget status at any one time

- Checks on financial reports submitted by the WaterNet Secretariat
- Prepares for annual audit – consolidated
- Invites the external Audit Firm
- Prepares and maintains financial and management accounting records
- Develops, reviews as per request by the Board of Trustees and where necessary maintains WaterNet's internal control systems (procurement and financial management manuals)
- Accountable to the Board of Trustees

Manager

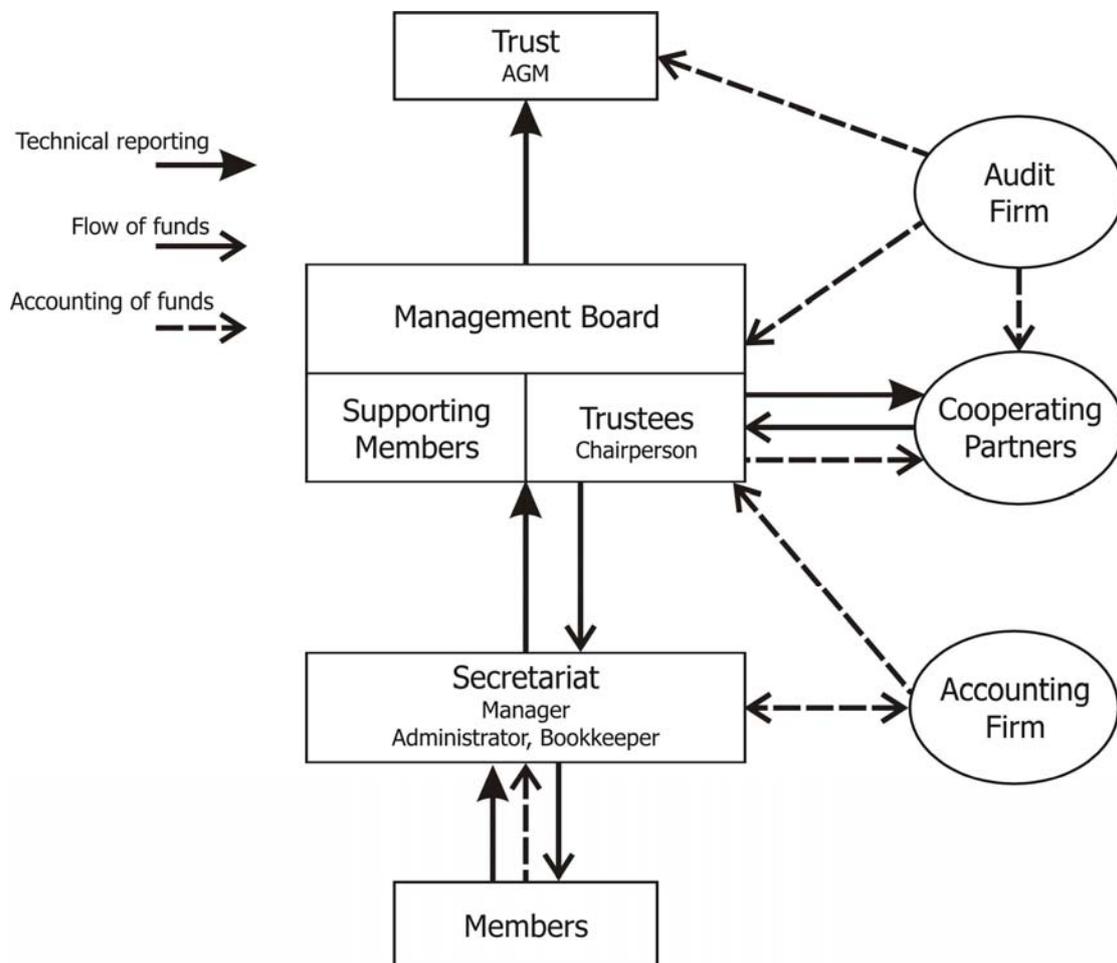
- Approves payments by signing on invoices (for payment) and signing on payment vouchers before payment is effected
- Confirms on accuracy of charge codes before payment is effected
- Approves through signature on letters to the bank i.e. allowing withdrawal of cash
- Prepares the organisation's budget, management of cash flows and expenditures
- Produces two-month or periodic financial reports as required and submits them to the Accounting Firm
- Facilitates financial audits of WaterNet operations and contracts in consultation with the Accounting Firm
- Approves recommendations on procurement
- Approves purchase orders to suppliers
- Checks compliancy to donor requirements in terms of spending money according to approved budget line items, procurement etc
- Approves financial reports before they are forwarded to the Accounting Firm
- Checks on correct coding of expenses as per approved budget line items
- Prepares and signs contracts of WaterNet Funds to Members and other service providers
- Approves disbursement request letters to Accounting Firm
- Makes follow-ups with Members on accounting for Funds received
- Ensures overall budget implementation
- Accounts to the WaterNet Board of Trustees

Administrator

- Handles the procurement process i.e. preparation of purchase orders
- Prepares payment vouchers
- Writes up cheques for payment
- Prepares requests for transfer of funds in and out of the WaterNet account(s)
- Communicates with the bank on all WaterNet transactions
- Handles petty cash
- Maintains cash-flow statement(s) of the programme for local expenditures
- Maintains the fixed asset register of the WaterNet programmes
- Keeps the security items for the programme (e.g. cheque books)
- A signatory to the WaterNet account(s) (co-signing with the WaterNet Manager and/or the Chairperson of the Board of Trustees)
- Accountable to the WaterNet Manager

Part-time Bookkeeper

- Checks on petty cash transactions, documents and actual cash balances
- Checks on vouchers i.e. coding, adequacy, accuracy of supporting vouchers and their appropriateness
- Checks on compliancy to donor requirements
- Checks on liquidated/expensed advances – supporting documents, adequacy and accuracy
- Prepares for the 1st stage of audit preparation
- Makes sure that all documents are auditable before submission to the Accounting Firm for the 2nd stage audit preparation
- Accountable to the WaterNet Manager



**ANNEX 3: DISSOLUTION RESOLUTION FOR THE WATERNET DEED
OF TRUST REGISTERED IN ZIMBABWE**

DISSOLUTION RESOLUTION

of the

WaterNet Trust

The WaterNet Trust was founded in Harare on 21 February 2003.

The Board of Trustees in terms of Clause 14 hereby unanimously resolve the following:

- To terminate the WaterNet Trust which was created by Notarial Deed in Harare on the 21 February 2003,
- That the powers, right and duties of the Trustees be rescinded
- That since the WaterNet Trust presently holds no assets or liabilities no distribution of the assets and liabilities of WaterNet Trust will take place.

THUS DONE AND EXECUTED

Sackey Akweenda _____

TRUSTEE

at _____ on _____

Diatile Elizabeth Lily Zondo _____

TRUSTEE

at _____ on _____

Michael Mutale _____

TRUSTEE

at _____ on _____

Tracy Mutaviri _____


TRUSTEE

at Harare on 31 May 07

ANNEX 4: IWRM STUDENTS DISSERTATION TITLES 2006-2007 INTAKE

Name	Sex	Nationality	Dissertation Title
Biruk Kebede	M	Ethiopia	Application of Water Balance Studies at Lake Ziway, Ethiopia.
Damaris Wambui Mungai	F	Kenya	Gender Responsiveness in Kenya's Rural Water Projects. The Case of the Katwala Mbitini Water Project in Kitui District
Damian Casmiri	M	Tanzania	Involvement of community and willingness to pay for Rural Water Supply privatization. A Case Study of Mwika Ward
Daniel Kimani	M	Kenya	Estimation of Evapotranspiration in the Kihansi River Catchment.
Deusdedit Kibassa	M	Tanzania	Assessment of the Implementation of Water Policy under cost recovery and sharing system and its Implication on Human Right to Water: Case Study Ileje District - Mbeya
Immaculate Madungwe	F	Zimbabwe	Quantifying the changes in Lake Nyasa surface area using remotely sensed images.
Hyde Sibande	M	Malawi	Investigating Trend of Rainfall Pattern in Malawi and its Implication for maize yield
Innocent Mushi	M	Tanzania	Urban Water Supply Management Systems in Tanzania: Case Study DSM City
John Bosco Isunju	M	Uganda	factors Associated with Occurrence of Bacterial Waterborne Diseases: A Case Study of Temeke Municipality Dar es Salaam
Joyce Benedict	F	Tanzania	An investigation of stationarity and trend in rainfall and streamflow data in Lake Victoria - Basin using statistical methods,
Kasirikale Geoffrey	M	Uganda	Assessment of WDMI in Selected Industries in Dar es Salaam, Tanzania.
Lwazi Nkiwane	M	Zimbabwe	Cost Recovery and Sustainability of Donor funded Rural Water Supply Projects: Case Study of Hai District Water Supply.
Masuhuko Nkuba	M	Tanzania	Assessment of Water Business In Dar es Salaam: Case Study of Mikocheni and Buguruni.
Musa Masilela	M	Swaziland	Bench-marking energy demand for small scale sugarcane schemes in Swaziland: A Case of Vuka-Siduwashini formers Association
Nena Leshoboro	M	Lesotho	Investigation of the status of the Water supply in Maseru and the potential of water demand management in Maseru and the Potential of water demand management
Olal A. Obong	M	Uganda	Rainfall-Run off Modelling of Kihansi Catchment
Oswald Mwamsamali	M	Malawi	Gender Mainstreaming in Rural Water Supply and Sanitation Projects: Case of Mzimba – Malawi.
Ramadhani Sadiki	M	Tanzania	Effect of Agriculture Activities on Water Quality: a Case Study of Mindu Dam.
Raphael Tshimanga	M	DRC	Stream Flow Variability and Environmental Water Requirements of Lower Kihansi Hydro Power Project
Rehema Fidelis	F	Tanzania	Impact of Lake level changes to the Community around Lake Victoria: A Case Study of Misungwi District
Sam Shemsanga	M	Tanzania	Assessing Cost Recovery Mechanisms for peri-urban Water Supply Schemes in Tanga City
Theobald Temba	M	Tanzania	Impact of Landuse change on storm runoff hydrograph: A Scenario Study at Ngombezi catchment
Esperance Kabalisa	F	Rwanda	TBD
Richard Muita	M	Kenya	TBD

Name	Sex	Nationality	Dissertation Title
Godfrey, Mbabaye	M	Tanzania	TBD
Chibulu Brenda	F	Zambia	Effect of rainfall variability on crop yield under semi-arid conditions at sub-catchment level.
Dondofema Farai	M	Zimbabwe	Mapping vegetation, soil and gully erosion changes in Insiza sub-catchment using remote sensing and GIS
Khosa Sangwani	M	Malawi	Evaluating the effect of water demand scenarios on downstream water availability in Thuli river basin, Zimbabwe.
Mufute Ngonidzashe	M	Zimbabwe	An Assessment of the physical condition and the development of a maintenance and inspection protocol for small reservoirs in the Upper Mzingwane sub catchment.
Nyoni Kossam	M	Zimbabwe	An assessment of the evidence of climate change in stream flows of Odzi river in Zimbabwe
Chinyama Annatoria	F	Zimbabwe	Assessment of metering and billing as Water Demand Management measures: A case study of the city of Bulawayo
Kalunde Kassim	F	Tanzania	Development of a Model for Faecal Coliform Removal in Constructed Wetlands: case of Iringa Region Tanzania
Kamtukule Godwin	M	Malawi	Towards sustainable rural water and sanitation service provision in Malawi: Has decentralisation process helped? A case of Thyolo District
Makado Patience	F	Zimbabwe	Optimisation of the algal control process at Morton Jaffray Water Works Harare
Mamba Geoffrey	M	Malawi	Quantifying total water productivity for multiple use small reservoirs in Mzingwane
Tiriyamodimo Tshoganetso	F	Botswana	Impact of institutional setup on delivery of water services: A comparative study of two water authorities in Botswana
Phiri Lazarus	M	Malawi	An assessment of the water services in low-income areas of Malawi – a case study of Mtandile and Mtisiliza in the City of Lilongwe
Sichone Priscilla	F	Zambia	An analysis of the institutional implementation of integrated water resources management on rural livelihoods in Zambia

ANNEX 5: ADVERTISEMENT AND APPLICATION FORM FOR THE 2008-2009 MASTERS PROGRAMME



REGIONAL MASTER DEGREE PROGRAMME IN INTEGRATED WATER RESOURCES MANAGEMENT 2008

Applications are herewith invited for admission to the regional Master Programme in Integrated Water Resources Management to be hosted by the six universities in the region.

Structure of the Programme

The programme comprises a compulsory core (consisting of 6 modules), followed by a specialisation (consisting of three modules) and 2 electives. A preparation module is also available to strengthen English skills especially for applicants from non-English speaking countries.

Core Modules (6 modules)

University of Zimbabwe

University of Dar es Salaam

Principles of IWRM

Principles of Hydrology

Socio-Economics and Environmental Resources

Aquatic Ecology and Environmental Management

Policies, Laws and Institutions

Project

Preparation Module

English for Water Managers

Electives (2 modules)

Depending on Availability

Dissertation Research Project

Specialisations (3 modules)

University of Zimbabwe	University of Malawi	University of Dar es Salaam	Polytechnic of Namibia	University of Western Cape	University of Botswana
<i>Water Resource Management</i>	<i>Water and Environment</i>	<i>Hydrology</i>	<i>Water for People</i>	<i>Water for Society</i>	<i>Water and Land</i>
Water Resource Analysis and Planning	Environmental Impact Assessment	Hydrogeology	Water Supply and Sanitation	Water and Security	Agricultural Water Management
Catchment Management	Water Quality Management	Remote Sensing and GIS	Utility Management	Environmental Education	Wetlands, Ecology and Management
GIS and Database Management	Environmental Water Requirements	River Engineering	Waste Water Management	Water and Development	Catchment Management



REGIONAL MASTER DEGREE PROGRAMME IN INTEGRATED WATER RESOURCES MANAGEMENT 2008

Entry requirements

Participants are required to have at least a good first degree at Bachelor level (BA or BSc). The candidate should be able to show an orientation of his/her field of study into water related issues. Professional experience in relevant fields is an added advantage.

Start of Programme

Programme starts in February 2008 at the two core host institutions.

Financial Assistance

WaterNet offers a limited number of scholarships on a competitive basis for SADC nationals including Uganda and Kenya.

How to Apply

Complete the application form in full. Applicants should also provide all documents requested on the form. Incomplete applications will not be considered.

Submit the application in electronic form to waternet@waternetonline.org or in hardcopy to WaterNet, PO Box MP 600 Mount Pleasant, Harare, Zimbabwe. Applications should reach WaterNet on or before 31 August 2007.

Only the successful applicants will be contacted. If you have not been contacted by end of December 2007, please consider your application unsuccessful.

For any further information, please contact WaterNet Secretariat

T: +263-4-333248 or 336725

F: +263-4-336740

E: waternet@waternetonline.org

I: www.waternetonline.org



PROGRAMME RÉGIONAL DE MAÎTRISE DANS LA GESTION GÉNÉRALE DES RESSOURCES HYDRAULIQUES POUR 2008

Les demandes ci-jointes sont invitées pour admission au Programme Régional Waternet de Maîtrise dans la Gestion Générale des Ressources Hydrauliques qui est accueilli par les six universités de la région.

Structure du Programme

Le programme comprend une partie principale obligatoire (composée de six modules), suivi d'une spécialisation (composée de trois modules) et de deux modules facultatifs. Un module de préparation est également disponible afin de renforcer les compétences en anglais chez les candidats venant de pays non anglophones.

Modules principaux (6 modules)

University of Zimbabwe

University of Dar es Salaam

Principes de l' IWRM

Principes de la science hydraulique

Ressources Socio-Economiques et Environnementales

Écologie Aquatique et Gestion Environnementale

Politiques, Lois et Institutions

Projet

Module de Préparation

Anglais pour les Gestionnaires des Eaux

Cours facultatifs (2 modules)

Selon la disponibilité

Projet de Dissertation de Recherche (6 mois)

Spécialisations (3 modules)

University of Zimbabwe

Gestion des ressources hydrauliques

University of Malawi

Eaux et Environnement

University of Dar es Salaam

Science Hydraulique

Polytechnic of Namibia

De l'eau pour la population

University of Western Cape

De l'eau pour la société

University of Botswana

L'eau et la terre

Analyse et planification des ressources hydrauliques

Evaluation de l'Impact Environnemental

Géologie des Eaux

Approvisionnement en eau et hygiène publique

L'eau et la Sécurité

Gestion des Eaux Agricoles

Gestion de bassin hydraulique

Gestion de la Qualité des eaux

Senseur télécommandé et GIS

Gestion des services publics

Éducation environnementale

Marécages, Ecologie et Gestion

GIS et Gestion de base de données

Conditions Environnementales préalables des eaux

Ingénierie fluviale

Gestion des eaux usagées

Eaux et développement

Gestion de bassin hydraulique

PROGRAMME RÉGIONAL DE MAÎTRISE DANS LA GESTION GÉNÉRALE DES RESSOURCES HYDRAULIQUES POUR 2008

Conditions d'inscription

Les participants doivent être au moins titulaires d'un premier diplôme de niveau Licence (Licence d'Arts ou de Sciences). Le/la candidat/e devra être capable de montrer une orientation de son domaine d'études dans les questions relatives aux eaux. Une expérience professionnelle dans les domaines pertinents est un avantage supplémentaire. Des lettres de soutien provenant de l'employeur sont également requises.

Début du Programme

Le programme WaterNet IWRM commencera en février 2008 aux deux institutions principales d'accueil.

Assistance financière

WaterNet offre 32 bourses sur une base compétitive pour les ressortissants de la SADC y compris l'Ouganda et le Kenya.

Comment s'inscrire

Veuillez remplir le formulaire de demande en anglais. Les candidats devront également fournir tous les documents mentionnés sur le formulaire en anglais.

Veuillez soumettre votre demande sous forme électronique à waternet@waternetonline.org ou envoyez une copie à WaterNet, PO Box MP 600 Mount Pleasant, Harare, Zimbabwe. La demande complétée devra parvenir au Secrétariat de WaterNet le ou avant le 31 Juillet 2007.

Seuls les candidats sélectionnés seront contactés. Si vous n'êtes pas contactés d'ici la fin du mois de Décembre 2007, veuillez considérer votre demande comme rejetée.

Pour tous renseignements supplémentaires, Veuillez contacter le Secrétariat de WaterNet

T: +263-4-333248 or 336725

F: +263-4-336740

E: waternet@waternetonline.org

I: www.waternetonline.org

PROGRAMA REGIONAL DE MESTRADO EM GESTÃO INTEGRADA DOS RECURSOS HÍDRICOS PARA O ANO 2008

Torna-se aberto o processo de candidatura ao Programa Regional de Mestrado em Gestão Integrada dos Recursos Hídricos para o ano 2008, o qual será hospedado em seis universidades da região.

Estrutura do Programa

O programa consistirá num curso obrigatório (de 6 módulos), seguido por um curso de especialização (de três módulos) e dois cursos opcionais. Será oferecido, ainda, um curso preparatório com vista a reforçar as competências em inglês dos candidatos, sobretudo os oriundos dos países não-anglófonos.

Módulos obrigatórios (6 módulos)

University of Zimbabwe

University of Dar es Salaam

Princípios de Gestão Integrada dos Recursos Hídricos (IWRM)

Princípios da Hidrologia

Recursos Socio-económicos e Ambientais

Ecologia Aquática e Gestão Ambiental

Políticas, Legislação e Instituições

Projecto de Investigação

Módulo Preparatório

Inglês para Gestores de Água

Módulos opcionais (2 módulos)

Segundo a disponibilidade

Projecto de Investigação em Dissertação

Módulos de Especialização (3 módulos)

University of Zimbabwe

Gestão dos Recursos Hídricos

University of Malawi

Água e Ambiente

University of Dar es Salaam

Hidrologia

Polytechnic of Namibia

Água para populações

University of Western Cape

Água para Sociedade

University of Botswana

Água e Terra

Análise e Planeamento dos Recursos Hídricos

Avaliação do Impacto Ambiental

Hidrogeologia

Abastecimento e Saneamento da Água

Água e Segurança

Gestão da Água para a Produção Agrícola

Gestão das Captações de Água

Gestão da Qualidade da Água

Sensoriamento Remoto e SIG

Gestão das Utilidades

Educação Ambiental

Zonas Húmidas, Ecologia e Gestão

Sistemas de Informação Geográfica (SIG) e Gestão dos Bancos de Dados

Requisitos Ambientais em Água

Engenharia dos Rios

Gestão da Água de Esgotos

Água e Desenvolvimento

Gestão das Captações de Água

PROGRAMA REGIONAL DE MESTRADO EM GESTÃO INTEGRADA DOS RECURSOS HÍDRICOS PARA O ANO 2008

Condições exigidas

Os candidatos devem ser detentores de um grau de licenciatura em Letras ou Ciências, com boa classificação. O candidato deverá mostrar-se orientado/a no seu campo de estudo relativo à área dos recursos hídricos. Será vantajosa qualquer experiência profissional que tenha nos campos pertinentes. Será requerida, ainda, uma carta de recomendação do respectivo empregador.

Início do Programa

O início do programa está previsto para Fevereiro de 2008 nas duas principais instituições hospedeiras.

Bolsas de Estudo

O programa WaterNet concederá, mediante concurso, 32 bolsas de estudo aos candidatos oriundos dos países-membros da SADC e aos provenientes de Uganda e do Quênia.

Processo de Candidatura

Preencher devidamente o formulário de candidatura em inglês, juntando todos os documentos indicados no formulário redigidos em inglês.

Enviar as candidaturas em versão electrónica a waternet@waternetonline.org e os em versão impressa a WaterNet, P.O. Box MP 600 Mount Pleasant, Harare, Zimbabwe. As candidaturas deverão ser entregues a WaterNet até ou antes do dia 31 de Julho de 2007.

Serão contactados apenas os candidatos aprovados. Se não receber contacto até Dezembro de 2007, considere, por favor, a sua candidatura não aceite.

Se precisar de informações suplementares, favor de contactar o Secretariado de WaterNet em:

T: +263-4-333248 or 336725

F: +263-4-336740

E: waternet@waternetonline.org

I: www.waternetonline.org

1. PERSONAL DETAILS

Surname

First Name(s)

Nationality

Sex Date of Birth

2. ACADEMIC QUALIFICATIONS

What higher education degrees have you obtained? If more than one, start with the most recently awarded.

Name of Degree	Awarding Institution	Graduation Date (dd/mm/yy)

3. PROFESSIONAL EXPERIENCE

If you have held more than one position, start with the most recently awarded.

Position Held	Organisation Name and Location	Dates position held (dd/mm/yy)

4. CHOICE OF SPECIALISATION

Please select your first and second choice of specialisation.

First Choice Second Choice

5. HOW DID YOU GET TO KNOW ABOUT THE WATERNET IWRM MASTER PROGRAMME?

6. CONTACT DETAILS

Email Tel: home/cell

Tel: alternative Fax

7. CHECKLIST OF ATTACHED DOCUMENTS (SEE ANNEX 1 BELOW)

Mark the boxes to show that you have attached the following important documents.

Certificates and transcripts	<input type="checkbox"/>
Statement of Motivation	<input type="checkbox"/>
Curriculum Vitae	<input type="checkbox"/>
Letter of Reference preferably from current employer	<input type="checkbox"/>

ANNEX 1: ATTACHMENTS

Attach copies of degree transcripts and certificates

1. Attach Statement of Motivation (Maximum 500 words). In this statement indicate why you want to participate in the programme and explain your choice of specialisation
2. Attach a short CV (maximum 2 pages)
3. Attach a Letter of Reference from current or previous employer. If never employed attach letter from University where you obtained your higher education degree.
4. Please make sure you have provided all the documentation required. Applications will only be considered upon submission of the above requisites.

Applications should reach the WaterNet Secretariat by the deadline date indicated on the advertisement.

Send this application by *Email, Fax or Ordinary mail to:

WaterNet Secretariat
P O Box MP600
Mt Pleasant Harare, Zimbabwe
T: +263-4-333248/336725
F: +263-4 -336740
E: waternet@waternetonline.org
W: www.waternetonline.org

**If sending by email, the subject should read: Application: IWRM Master Programme 2008*

ANNEX 6: PARTICIPANTS OF THE CROP WATER REQUIREMENTS AND IRRIGATION SCHEDULING COURSE

Name	Institution	Country	Email
Palesa Mkorosi	Department of Water Affairs	Lesotho	palesa@dwa.gov.ls raliile@yahoo.com
Ntse'ne Ntšala	Lesotho Meteorological Services	Lesotho	ntsala@lesmet.org.ls nntsala@yahoo.com
Regina Neko	Lesotho Meteorological Services	Lesotho	reganeko@yahoo.co.uk
Martin Chininga	Irrigation Dept	Zimbabwe	mchininga@yahoo.co.uk
Kruger Anne	Emandla Ekuphila Water Users Association	Swaziland	anne@swade.co.sz
Nicollete Mhlanga	Swaziland Consulting Engineers	Swaziland	nicolletemhlanga@yahoo.co.uk bonsile@swade.co.sz
Mduduzi Nkonyane	Swaziland Water, Agricultural Development & Enterprise	Swaziland	mduduzi@swade.co.sz
Kamoho Francis Mothabeng	Lesotho Agricultural College	Lesotho	kfmthabeng@yahoo.com
Sabola Miriam	University of Malawi	Malawi	msabola@yahoo.com
Rotich Kosgei	University of Kwazulu Natal	South Africa	pess-u@yahoo.co.uk pess-k@yahoo.co.uk
Makurira Hodson	University of Zimbabwe	Zimbabwe	makurira@eng.uz.ac.zw
Motlatsi Mokhothu	National University Of Lesotho	Lesotho	mn.mokhothu@nul.ls
Basso Vendelin	Pangani Basin Water Office – Ministry of Water	Tanzania	vendelinbasso@panganibasin.com
Migwi Matsolo	Department of Water Affairs	Lesotho	lelala@dwa.gov.ls mlalala1@yahoo.com
Facilitators			
Nehumai Ishmail	Waterflo	Zimbabwe	inehumai@waterflo.co.zw
Limpho Fobo	Lesotho Agricultural College	Lesotho	limfo4u@yahoo.com
Fransiscus Xavier Suryadi	UNESCO-IHE	Netherlands	f.suryadi@unesco-ihe.org
Senzanje Aidan	University Of Zimbabwe	Zimbabwe	senzanje@agric.uz.ac.zw



Building Capacity for Water Resources Management in
Southern Africa



FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS



National University of Lesotho



University of Zimbabwe

Final Announcement for a Short Course on:

CROP WATER REQUIREMENTS AND IRRIGATION SCHEDULING in the context of INTEGRATED WATER RESOURCES MANAGEMENT (IWRM)

15-20 January, 2007. Maseru, Lesotho

MOTIVATION

WaterNet in partnership with Food and Agricultural Organisation of the United Nations (FAO), National University of Lesotho (NUL) and the University of Zimbabwe (UZ) hereby announce a short course on Crop Water Requirements and Irrigation Scheduling in the context of Integrated Water Resources Management (IWRM).

Given that globally agriculture accounts for 70% of water consumption while in developing countries, this share is even higher at 80%, it is imperative that, at the basin level, the amount of water required by crops is accurately estimated. It is apparent then that any small improvements in agricultural water use efficiency can make significant quantities of water available to other users, or even for more irrigated agriculture. With the devolution of water management to the catchment level, water managers and irrigation system designers need to be able to quantify these crop water requirements correctly and schedule its application to the field appropriately.

PURPOSE

This proposed course is intended to equip water managers, irrigation specialists and irrigation system designers with the theory and practice of crop water requirement determination and the principles and practice of irrigation scheduling. Information on crop water requirements is important in the identification, design and operation of irrigation project at the catchment level. An understanding of the determination of crop water requirement and irrigation scheduling will help in the practice of IWRM at the catchment level in terms of economic and efficient use of the water resource ensuring sustainable development projects.

OUTCOME

At the end of the short course, the participants;

- Will have an appreciation of IWRM in general and at the basin level
- Will have the theory and practice of crop water requirement determination and irrigation scheduling
- Will have the ability to apply the tools and models used in crop water requirement estimation and irrigation scheduling

- Will be able to plan for and allocate water to irrigation at the catchment level in fulfilment of the principles and practice of IWRM

APPROACH

The short course will be fully hands on using data and examples from the participants' countries and work situation. Different models of crop water requirement determination will be presented with emphasis on the FAO CROPWAT model. The FAO CROPWAT will be used and participants availed a copy of it. The training will involve general lectures, discussions, group work, individual assignments and field visit to a meteorological station and an irrigation project.

WHO SHOULD APPLY

Applicants should:

- Be computer Literate
- English Speaking
- Have a minimum of two years working in the irrigation field and water management
- Have an appreciation of irrigation systems (this is more important on irrigation scheduling)
- Be involved in irrigation planning and catchment planning
- Not have attended previous FAO Irrigation short courses

HOW TO APPLY

Kindly send a motivation letter (not more than one A4 page) and a short resume to:
me.matete@nul.ls

LOCATION, DURATION AND TIMING

The short course will be held in Maseru, Lesotho for 6 days including field trips. It will be held from 15-20 January 2006.

IMPORTANT DATES AND DEADLINES

- | | |
|---|------------------|
| ▪ Deadline for application | 05 December 2006 |
| ▪ Notification of acceptance | 15 December 2006 |
| ▪ Deadline for confirmation of attendance | 22 December 2006 |

SPONSORSHIP

WaterNet will cover costs of meals and accommodation and provide per diems to cover incidental expenses during the workshop. Limited funding to cover costs of air travel to and from Maseru is available for a limited number of WaterNet members. Other participants (non WaterNet members and members who are not awarded full support) will cover their own cost of travel to and from Maseru.

COURSE OUTLINE

The course outline will be provided on request by the organizers.

ABOUT THE FACILITATORS

Emelda Berejena (MSc) is an Irrigation Engineer with 15 years of active field experience in the Eastern and Southern Africa Region. She has undertaken missions for the African Development Bank, FAO and governments in the SADC region. She specialises in management of smallholder irrigation and training in participatory irrigation water management.

Aiden Senzanje (PhD) is an irrigation engineer at the University of Zimbabwe. He lectures in agricultural water management at undergraduate and post graduate levels. He has vast teaching and consulting experience on irrigation management in Southern Africa.

Ms Limpho Phobo (Btech) has experience lecturing in Agricultural Engineering at the Lesotho Agricultural College. She has hands on experience using the FAO CROPWAT model.

FOR MORE INFORMATION CONTACT

Dr. M. Matete
Dept of Agricultural Economics and Extension
National University Lesotho
P.O. Box 180
Roma, Lesotho
Phone: +266-2234 0601
Fax: +263-2234 0000
E-mail: me.matete@nul.ls

ANNEX 7: PARTICIPANTS OF THE WETLANDS, ECOLOGY AND MANAGEMENT COURSE

Name	Institution	Country	Email
John Kamwi	Integrated Rural Development and Nature Conservation, Caprivi Region (IRNDC)	Namibia	irdncc@iway.na
Keletso Mokobi	Botswana Water Partnership	Botswana	kelenene@hotmail.com keletsomokobi@gmail.com
Oliver Manungo	Integrated Agro and Environmental Services	Namibia	nheta2@yahoo.com
AlexioMbereko	Lake Kariba Research Station, University of Zimbabwe	Zimbabwe	ambereko@yahoo.co.uk
Franziska Steinbruch	Gorongosa Research Centre	Mozambique	franziskas@carrfoundation.org
Admire Chereni	Centre for Applied Social Sciences (CASS), University of Zimbabwe	Zimbabwe	babadzoro@yahoo.com
Batsile Bathusi	Department of Wildlife and National Parks (DWNP)	Botswana	bathusibatsile@yahoo.co.uk
Never Mujere	Department of Geography and Environmental Science, University of Zimbabwe	Zimbabwe	mujere@arts.uz.ac.zw
Richard Mazebedi	Harry Oppenheimer Okavango Research Centre, University of Botswana	Botswana	
Wilfred Khanebuga	Harry Oppenheimer Okavango Research Centre, University of Botswana	Botswana	
Gosaitse Tubatsi	Harry Oppenheimer Okavango Research Centre, University of Botswana	Botswana	gosazet@yahoo.com
Sehenyi Tlotlego	Birdlife Botswana	Botswana	birdlifeclo@ngami.co.za
Thebe Kemosedile	Harry Oppenheimer Okavango Research Centre, University of Botswana	Botswana	tkemosedile@orc.ub.bw
Golden Msilimba	Dept. of Geography, Mzuzu University	Malawi	msilimba@yahoo.co.uk
Facilitators			
William J. Mitsch	Wilma H. Schiermeier Olentangy River Wetland Research Park, The Ohio State University	USA	mitsch.1@osu.edu
Philippa Huntsman-Mapila	Harry Oppenheimer Okavango Research Centre, University of Botswana	Botswana	pmapila@orc.ub.bw

Short Course Wetland Ecology and Management

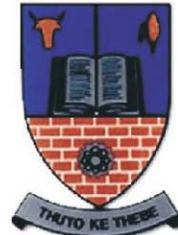
26 February - 2 March 2007

Harry Oppenheimer Okavango Research Centre (HOORC),
University of Botswana, Maun



Building Capacity for Water Resources Management in Southern Africa

in collaboration with



University of Botswana

PURPOSE

This course is intended to provide basic ecological and management information for water managers, wildlife officers, irrigation specialists, and natural resource managers on the structure and function of wetlands, where they are found in the world, how they are classified, and how we value, manage and create and restore wetlands. Some experience in basic ecology or limnology would be helpful but is not required.

COURSE DESCRIPTION

A comprehensive presentation of wetland ecology and wetland management. Emphasis is on biological, physical, chemical, and ecological aspects of major wetland ecosystems of the world. Course also deals with valuation, classification, and management of wetlands for biotic resources and water management.

COURSE OBJECTIVES AND EXPECTATIONS

The course introduces participants to inland and coastal wetlands from an ecosystem perspective. Participants will be expected to develop an understanding of physical, chemical, and biological aspects of wetlands and the management of these systems. Linkages between ecosystem function and ecosystem management are stressed. Human connections to wetlands in policy and applications are also emphasized.

OUTCOME

Participants will be expected to understand:

- water measurements and water budgets of wetlands
- general biogeochemistry of wetlands
- how wetlands are valued
- different management schemes for wetlands
- basics of wetland restoration and treatment wetlands for water quality
- Ramsar wetland convention and other wetland protection laws



Short Course **Wetland Ecology and Management**

26 February - 2 March 2007

**Harry Oppenheimer Okavango Research Centre (HOORC),
University of Botswana, Maun**

INSTRUCTORS

William J. Mitsch, Ph.D.
Professor of Environment and Natural Resources
Director, Olentangy River Wetland Research Park
The Ohio State University, Columbus, USA
(Visiting Fulbright Scholar, HOORC)
Philippa Huntsman-Mapila, Ph.D.
Senior Research Fellow
Harry Oppenheimer Okavango Research Centre
University of Botswana, Maun

REFERENCE TEXT

(several copies will be available in HOORC library)

Mitsch, W.J. and J.G. Gosselink. 2000. Wetlands, 3rd ed., John Wiley & Son, Inc., New York.

FINANCIAL SUPPORT

WaterNet will cover costs of meals and accommodation and provide per diems to cover incidental expenses during the workshop. Limited funding to cover costs of air travel to and from Maun is available for a limited number of WaterNet members. Other participants (non WaterNet members and members who are not awarded full support) will cover their own cost of travel to and from Maun.

HOW TO APPLY

Kindly provide a motivating letter and short resume (maximum 2 pages).

CONTACT DETAILS FOR APPLICATIONS AND FURTHER INFORMATION

Prof Larry Swatuk

Harry Oppenheimer Okavango Research Centre
University of Botswana
Private Bag 285,
Maun
Botswana
Tel: +267-7-1305145

WaterNet Secretariat

P.O Box MP 600
Mt. Pleasant,
Zimbabwe
Tel: +263-4-333248/336725
Fax: +263-4-336740
Email: waternet@eng.uz.ac.zw

ANNEX 8: PARTICIPANTS OF THE REFRESHER COURSE ON WATER SERVICES

Country	Name		Email
Congo DR	Frank Busane Basima	Mr	frankbasima@hotmail.com
Ethiopia	Ghrmawit Haile Gebrehiwot	Ms	ghrma_h@yahoo.com
Ghana	Rita Pinkrah Ohene Sarfoh	Ms	rpinkrah@hotmail.com rosarfoh@highways.mrt.gov.gh
Ghana	Margaret Naa Morkor Macauley	Ms	mnmacauley@yahoo.com
Ghana	Kwabena Adusei	Mr	mkwabs@yahoo.com
Ghana	Millicent Rosalind Awura Ayorkor Mensah	Ms	millilind@yahoo.co.uk
Kenya	Bernard Mulwa	Mr	bernardlwa@yahoo.com
Mauritius	Sheik Mohammad Zaid Futloo	Mr	Zaid.FUTLOO@ec.europa.eu
Malawi	Ishmael Bobby Mphangwe Kosamu	Mr	ikosamu@poly.ac.mw ishkosamu@yahoo.com
Malawi	Gustaff Taona Chikasema	Mr	gchikasema@lwb.mw
Nigeria	Ololade Yejide Okobi	Ms	lolaokobi@yahoo.co.uk
Sierra Leone	Paul Tamba Yillia	Mr	pauylillia@hotmail.com
South Africa	Sisa Mfithi	Mr	sisamfithi@yahoo.com sisam@buffalocity.gov.za
Swaziland	Sindy Nkosisphile Mthimkhulu	Ms	
Tanzania	Pascal Rutaharatwa Emmanuel	Mr	
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Tanzania	Matauna Abdallah	Mr	amatauna@yahoo.com
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Zambia	Misery Mulele Nabuyanda	Mr	miserynabuyanda@yahoo.co.uk
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Zambia	Joost Bekkers	Mr	joostbekkers76@yahoo.co.uk
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Zimbabwe	Zvikomborero Hoko	Mr	hoko@eng.uz.ac.zw



JUNE 25 - 30, 2007
ZAMBIA
AFRICA



REGIONAL REFRESHER SEMINAR ON

WATER SERVICES: REACHING THE POOR IN PERI-URBAN AREAS IN SUB-SAHARAN AFRICA

FOR UNESCO-IHE AND WATERNET ALUMNI
FROM AFRICA

UNESCO-IHE
Institute for Water Education



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INTRODUCING

THE UNESCO-IHE INSTITUTE FOR WATER EDUCATION

Water is an issue of strategic importance, with strong environmental, social and economic implications, as expressed in global dialogues, such as the UN Millennium Summit, the World Water Fora, the Bonn Freshwater Conference and the World Summit on Sustainable Development.

One message is clear: the need for a more integrated approach to water and environmental resources management calls for professionals with a high degree of specialisation, as well as generalists equipped to lead and manage multi-disciplinary efforts, individuals and organisations in the water and environment sectors world-wide. Aiming for impact, in November 2001, UNESCO's General Assembly declared its support for the establishment of the UNESCO-IHE Institute for Water Education, in response to the call for increased investments in human resources development and institutional capacity building.

UNESCO-IHE trained professionals have access to and remain part of a global partnership network, consisting of Alumni, guest lecturers, experts and renowned centres of knowledge, together providing a vast source of expertise to draw upon. Since its establishment in 1957, the Institute has trained more than 13,400 scientists, engineers and decision-makers representing more than 160 countries. Alumni reach senior positions in their home countries and become nationally and internationally recognised experts in their fields of speciality. They also regularly meet up with other members of the development community in international projects, regional refresher seminars, symposia and international fora, and continue to make major contributions to the process of development, and to improving the quality of life in their professional environs.

In line with the Netherlands Government international education policy, the focus of UNESCO-IHE refresher seminars is on the interaction between training programmes in the Netherlands and projects in developing countries and countries in transition.

These seminars aim at an exchange of professional experience, thereby establishing Communities of Practice. This approach leads to a quality-assured learning experience where professionals can increase competency and strengthen individual and organisational capacity, and results in the continued upgrading of alumni's knowledge and skills, developing a knowledge base in tune with current sector demands.

UNESCO-IHE demand-responsive refresher seminars are held in regions throughout the world, covering themes of direct relevance to these regions and the participants and primarily attended by alumni from the Institute. These persons have reached prominent positions in which strategic, managerial, policy and decision-making components become major responsibilities of their functions; refresher seminars organised since 1993 proved to be successful in meeting their demands.

I invite you, on behalf of the University of Zambia, WaterNet and UNESCO-IHE, to join this years' refresher seminar in Lusaka, Zambia, on 'Water Services: Reaching the Poor in Peri-Urban Areas in Sub-Saharan Africa'



Professor Richard A. Meganck, PhD
Director UNESCO-IHE



BACKGROUND

The world is changing and the urban populations, especially in Sub-Saharan Africa, are increasing rapidly. One of the greatest challenges of population growth and urbanisation is the supply of water and sanitation services to the peri-urban poor. These peri-urban poor live often in squatter settlements, where populations are transitory and lack land tenure.

Typically, these areas are difficult and expensive for the water operator to gain access to, either because they lack infrastructure such as paved roads, or because they are in geographically inhospitable areas such as unstable hill and mountainsides. The cost of installing household connections in such areas is often more than poor consumers are able to pay. Because many poor consumers are not paying taxes, it is generally difficult to compile data on their number, consumption patterns, demand, and willingness and ability to pay. Their low incomes and inability to save money impede poor consumers' ability to pay connection charges and budget for water.

Due to these difficulties, the peri-urban poor are constantly struggling to access water services. They make use of a broad range of practices and arrangements of which some are formal governmentally supported mechanisms, other are "needs" driven and rarely supported by governments. These "needs" driven

arrangements are operating on the basis of solidarity, reciprocity or need, such as access of small-scale independent vendors who might access water through different means and sell it to the peri-urban poor. These vendors, including tankers, handcart vendors, kiosks and water resellers, are often not subject to regulation. As a result, the price for water from informal vendors is often very high and quality is low. Informal peri-urban practices are at best overlooked and at worst resisted by the regulations, policies and practices that guide and support the formal systems, which are, in most cases, limited to a relatively small metropolitan core.

Moreover, the peri-urban poor rarely have access to formal sanitation facilities, such as waterborne sewerage or licensed pit-emptying services. Sanitation is often perceived as less of a priority than access to drinking water, and consequently the service levels are much lower. A large number of the peri-urban poor still lacks any form of hygienic disposal for human excreta or rely on septic tanks, individual or shared pit latrines and/or public toilet facilitation, which often involve an admission charge.

To reach the poor in the peri-urban areas a comprehensive approach is needed, emphasising not only the technical and economic aspects but also the challenges of institutional capacity and public participation in the planning process. Some interesting solutions include small-scale independent providers, participatory schemes, demand management, shared management, micropayment, water wholesaling and cost-effective technology.

The problems with reaching the poor in peri-urban areas are exemplary in sub-urban Africa. Due to fast urbanisation, many outskirts of cities are not sufficiently covered by basic services such as water and sanitation. Infrastructure utilities have in many instances not managed to keep pace with the demographic developments in the peri-urban areas, resulting in lacking or poor service provision and eminent health issues. The ongoing urbanisation will only further increase the challenge to provide peri-urban areas with proper water services.



OBJECTIVES

The refresher seminar aims to function as an interactive workshop more than a traditional transfer of knowledge course. The refresher seminar offers an ideal opportunity to add an innovative, highly relevant and intensively discussed topic to the original UNESCO-IHE programmes. Through an innovative learning approach using creative and blended learning methods, the participants will:

- Be exposed to state-of-the-art information on reaching the poor in peri-urban areas;
- Have ample opportunity for networking, to exchange experiences with each other and with the trainers, and hence bring the different local dimensions of the subject into the course by sharing case studies and personal experiences; and
- Reflect on the capacity building and institutional development needs in the African region related to the course subject to achieve the Millennium Development Goals and Agenda 21.

After the seminar the participants stay in contact through a Community of Practice, and they can share knowledge and experiences gained during the refresher seminar with their fellow participants.

OUTLINE

The content of the course is structured in two sequential stages.

The *first stage* aims to analyse the problems and obstacles in reaching the poor in peri-urban areas. Peri-urban areas have specific characteristics that delineate them from regular supply areas of water providers.

The *second stage* in the course contents focuses how to find a solution to overcome the obstacles identified in stage one in reaching the poor in peri-urban areas. To enable such answer, the participant should have insight in the steps and pitfalls of implementation, based on best practices around the world.

In the two stages combined, the refresher seminar will address the latest thinking in

reaching the poor in peri-urban areas placed in a development context, and cover the capacity building and institutional development needs to implement these concepts. The latter will be linked to the Millennium Development Goals (MDG) and Agenda 21.

Course activities are:

- Challenging lectures on latest concepts and issues to reaching the poor in peri-urban areas, the societal context and international and Southern African illustrations;
- Structured group discussions and group work on application and experiences of reaching the poor in peri-urban areas in the African water sector and in relation to this the capacity building and institutional development needs in the African Region;
- Excursions to LWSC, the water services provider in Lusaka; NWASCO, the Zambian regulator; and WASAZA, the Zambian water association.
- Videoconference with an expert panel
- Follow up activities like a role at the WaterNet/WARFSA/GWP-SA Symposium and a Community of Practice



SCHEDULE

SEMINAR IN ZAMBIA (JUNE 24 - 30, 2007)

SUNDAY JUNE 24	Arrival of the participants
MONDAY JUNE 25	Registration and official opening of the refresher course, followed by an introductory session in which the magnitude of the issue to serve the peri-urban poor in light of the Millennium Development Goals is reflected upon. In the evening a joint welcome dinner is organised.
TUESDAY JUNE 26	In the morning structured group discussions and group work on application and experiences of reaching the poor in peril urban areas in the African water sector will be held. Particular attention will be paid to the capacity building and institutional development needs in the African Region. The afternoon will be dedicated to a presentation of a case study by James Madalitso Tembo (University of Zambia).
WEDNESDAY JUNE 27	In the morning session a presentation by a representative of LWSC will be provided on service provision to peri-urban areas of Lusaka Zambia, followed by a case study presentation on research conducted in peri-urban areas of Lusaka Zambia. In the afternoon an excursion is planned to the George Peri-Urban Community Water Supply Project managed by the Lusaka Water and Sewerage Company in Lusaka Zambia.
THURSDAY JUNE 28	The morning will be filled by a presentation provided by UNESCO-IHE on the diversity of institutional arrangements to serve the peri-urban poor. In the afternoon, Dr. Bekithemba Gumbo (general manager WaterNet) will present the issues related to demand management in peri-urban areas.
FRIDAY JUNE 29	This whole day will be spent in Lusaka City. The programme consists of three parts. First an excursion to the national regulator of Zambia NWASCO will be held in which presentations are provided and discussion held on the regulatory roles to reach the peri-urban poor. The Water and Sanitation Association of Zambia (WASAZA) will present their perception from the association point of view the problems and solutions related to servicing the peri-urban poor. The day program ends with a videoconference in which a panel of experts will respond to the problem analysis and proposed way forward prepared by the course participants. In the evening a farewell dinner is organised.
SATERDAY JUNE 30	The last day of the course starts with generating ideas for follow-up to the course, possibly including a Community of Practice and a role at the upcoming 8th WaterNet/WARFSA/GWP-SA Symposium, which is to be held in Victoria Falls, Zimbabwe, from 31 October to 2 November 2007. Then the refresher course will be officially closed by a member of the Dutch embassy and the ceremony for certificate awarding will be held.
SUNDAY JULY 1	Departure of the participants



THE SEMINAR



PARTICIPANTS PROFILE

The seminar is designed primarily for UNESCO-IHE and WaterNet alumni from Sub-Saharan Africa. The alumni will have graduated and meanwhile have reached senior positions in the field of water and sanitation. The direct target group of the seminar are alumni that have participated in the UNESCO-IHE programmes of Sanitary Engineering, Environmental Resources Management and Environmental Science and Technology, or the WaterNet Master programme in IWRM. Prospective participants have learned the subjects of water management at diploma or Master's degree level during their education at UNESCO-IHE or at the WaterNet Master programme.

The subject of this refresher course, services for the poor in peri-urban areas, has since the time the programme was delivered become much more prominent due to ongoing urbanisation and lacking infrastructure. In view of its more pronounced relevance, the topic of reaching the poor in peri-urban areas has been incorporated quite recently at the Institute. After their graduation the course participants have worked in their home countries in different organisations (government, companies, NGO's, academic institutes) and gained practical experience. In recent years they encompassed and needed to deal with the problems to reach the poor in peri-urban areas, although it was not part of their formal education.

The participants should have a working level command of English. Female participants are especially encouraged to participate. A variety in the backgrounds of participants with respect to working environment, region and gender, is beneficial for the outcome of the seminar. Hence, in the selection procedure care will be taken that participants represent different organisations (academic, government, NGO, companies) and levels within these organisations and different countries in Africa. Moreover, in selection of the participants attention will be given to the eagerness and ability of the participants to write scientific papers, in view of the ambition to fulfil a role at the 8th WaterNet/WARFSA/GWP-SA Symposium as a follow up to the refresher seminar.

COUNTERPART

The Department of Civil and Environmental Engineering at the **University of Zambia** was founded in 1968. The core competence of the Department is teaching, research and consultancy in civil, construction management, structural and environmental engineering related works. It offers courses at both under- and post-graduate levels. Courses offered at under-graduate level include the following: Environmental Engineering, Water Resources Engineering, Fluid Mechanics and Hydraulics Engineering, Civil Engineering Materials and Practices, Construction Management, Highway and Traffic Engineering, Management and Society, Structural Engineering, Soil Mechanics and Foundation Engineering. Currently, the department produces 20 to 25 graduates per year which is about 22% of the total number of graduates from the school of engineering every year. The post graduate program leads to the Master of Engineering degree. The Department is also a member of WaterNet.

THE SEMINAR



FACILITATORS

Marco Schouten is a senior lecturer Water Services Management at UNESCO-IHE. He has been employed at UNESCO-IHE for 3 years. He gained 10 years of experience working as a management consultant prior to joining UNESCO-IHE.

Edwin Hes is working in a combined function at the office of the Director and the Environmental Resources Department. Apart from his engineering background, he has extensive knowledge and experience in project management and facilitation of group sessions.

James Madalitso Tembo is an alumnus of UNESCO-IHE currently working as a lecturer in the department of Civil and environmental engineering at the University of Zambia. He holds a UNESCO-IHE Masters of Engineering in Sanitary Engineering. He also holds a Bachelor of Engineering degree in Civil Engineering obtained from the University of Zambia.

Bekithemba Gumbo (WaterNet) is water and wastewater engineer by profession. He has more than 15 years of experience in water sector in Southern Africa as an engineer, lecturer, trainer and consultant. He has a special interest in water demand management and specifically on how it can impact positively and negatively on the urban poor. He is also an alumnus of UNESCO-IHE.

Next, representatives from the Lusaka Water and Sewerage Company, the Zambian Regulator NAWASCO and the Zambian Water and Sanitation Association WASAZA will facilitate the excursions.

Lastly, a panel of experts will contribute to the videoconference session reflecting on the requirements for service provision to the peri-urban poor in light of the Millennium Development Goals.

LANGUAGE

The seminar's working language will be English.

FELLOWSHIPS

The Netherlands Government has made available full fellowships for a maximum of 20 participants. WaterNet has made available full fellowships for a maximum of 5 participants.

These fellowships include:

- Air travel, economy class, from the nearest international airport in the home country of the candidate to the country where the Refresher Seminar will take place and vice versa;
- Transfer airport to hotel and vice versa;
- Accommodation, including all meals, for the duration of the seminar, up to a **maximum** of 8 days in total, depending on the date of arrival in and departure from hosting country.
- Direct costs of visa (no other related costs, like travel costs to Embassies etc.)

In addition to holders of a NFP fellowship or a WaterNet fellowship, the seminar is open to a limited number of self-paying participants who not fulfil the fellowship requirements or who are not selected, but who do fit in the profile described above. The tuition fee for the seminar is Euro 200 to be paid in advance.

APPLICATION AND REGISTRATION

Interested persons who fulfil all the criteria can apply for both admission and fellowship (NFP or WaterNet Staff Development Fellowship) by sending the filled out application form and their curriculum vitae to the Student Affairs department (info@unesco-ihe.org or fax +31-(0)15-2122921 or PO Box 3015, 2601 DA Delft, The Netherlands). Interested persons who wish to be admitted as a self-paying participant can apply for provisional admission by sending the filled out application form and their curriculum vitae to the Students Affairs department indicating that they apply as self-paying participant.

The deadline for application is March 31, 2007.

CRITERIA FOR NFP FELLOWSHIP

Please note that only UNESCO-IHE alumni who fulfil all the criteria listed below will be able to apply for a NFP fellowship:

- Degree holder of a Postgraduate Diploma courses, Master of Engineering or Master of Science of UNESCO-IHE;
- Studied prior to the 2003/2004 academic year;
- Studied on an NFP fellowship;
- Not attended any UNESCO-IHE Refresher Seminar or UNESCO-IHE Short Course on an NFP fellowship since 1 January 2005;
- Application is endorsed by employer.

Applicants who never participated in one of the earlier UNESCO-IHE's Refresher Seminars will be given preference as well as female participants.

CRITERIA FOR WATERNET STAFF DEVELOPMENT FELLOWSHIP

For the award of the WaterNet SDF fellowship, prospective applicants have to fulfil all the criteria listed below:

- Degree holder of WaterNet Master degree programme in Integrated Water Resources Management;
- Has completed at least 12 months practising in the water sector since graduation;
- Has completed the tracer survey questionnaire (contact the WaterNet Secretariat for details);
- Studied on an WaterNet fellowship;
- Southern Africa Development Community (SADC) national including Uganda and Kenya;
- Application for the SDF is endorsed by employer (contact the WaterNet Secretariat for details).

For applicants of the WaterNet Staff Development Fellowship (see www.waternetonline.org), a full copy of the application form should also be sent to the WaterNet Secretariat: waternet@eng.uz.ac.zw or fax +263-4-336740, or P O Box MP 600, Mount Pleasant, Harare, Zimbabwe.

Candidates who submit applications will receive a confirmation of receipt by e-mail. Soon after March 31, 2007, the UNESCO-IHE selection committee and the WaterNet Steering Committee will evaluate the applications for respectively NFP funding and WaterNet SDF funding. The selection will be based on the fulfilment of the requirements needed to obtain the fellowship and on the motivation of the candidate given on the application form. Furthermore, the selection committee will decide on the provisional admission of self paying candidates. All applicants will be informed on the outcome of their application after that by e-mail. Upon receipt of confirmation of attendance and acceptance of the fellowship, further information will be provided regarding practical arrangements including travel, visa and accommodation.

In order to organise all the logistics for the seminar, the participants should be easy to contact by telephone, e-mail and/or fax. Applications are treated confidentially and will be considered in the order in which they are received.

APPLICATION FORM REFRESHER SEMINAR

UNESCO-IHE, PO BOX 3015, 2601 DA DELFT, THE NETHERLANDS

1 **Refresher Seminar** Water Services: Reaching the Poor in Peri-Urban Areas in Sub-Saharan Africa **Location** Zambia, Africa
Date June 25-30, 2007

2 **Full name** _____ **male / female**

Official name (as mentioned in your passport)

Full name to be printed on certificate

Date, place and country of birth

Present citizenship

Postal address

Phone

Fax

E-mail

Profession

3 **College and / or university education**

Subsequent courses attended

Name and place

From

to

Degree

Main studies

Thesis or major

Title of the thesis

IHE course attended

Programme name

Academic year

to

Degree: MEng / MSc / PhD / Post Graduate Diploma

Main studies

Thesis or major

Title of the thesis

Professional publications (use additional sheet if necessary)

4 **Have you attended any Refresher Seminar** yes/no* (if yes, please specify)

Seminar name

Place of seminar

Date of seminar

5 **Present professional employment (use additional sheet if necessary)**

Job title

from

Employer, name

Postal address

Phone

Fax

E-mail

Responsibilities

In case you are involved in the execution of a specific project:

Project name _____

Location _____

Executing agency _____

Financing provided by _____

6 Short description of previous posts during the last 7 years

From _____ to _____ Job title _____

Duties _____

Employer, name _____

Phone _____ E-mail _____

From _____ to _____ Job title _____

Duties _____

Employer, name _____

Phone _____ E-mail _____

From _____ to _____ Job title _____

Duties _____

Employer, name _____

Phone _____ E-mail _____

7 Personal statement of why you wish to participate in the Refresher Seminar and how the Seminar relates to your present position (approximately 100 words)

8 Please enclose full and updated curriculum vitae and one passport photo

9 I apply for a fellowship / I apply as a self paying participant *

Date _____ Signature applicant _____

10 ENDORSEMENT BY EMPLOYER

The undersigned,

Name _____

Jobtitle _____

Name of organisation _____

endorses the above application

Date _____ Signature employer _____

* Delete that which is not applicable.

UNESCO-IHE believes that partnerships and networks are of vital and strategic importance in improving access to, sharing and disseminating information. UNESCO-IHE acts as an interface between knowledge centres, as well as public and private sector organisations, individual scientists and professionals. The UNESCO-IHE community also includes over 13,400 alumni active in water sectors worldwide, representing an extensive network of international water professionals of yesterday, today and tomorrow.

The Virtual Alumni Community (VAC) is an online platform where alumni can contribute to

– and benefit from – the wealth of potential and diversity of other alumni. This platform provides an opportunity to continue to build solid connections as an integral part of a vast and growing water network.

The VAC currently provides access to the people finder, allowing searches of alumni contact information, a chat facility, a discussion forum and message boards. More features, for example a searchable thesis database, will be made available in the near future.

Log in on www.portal.unesco-ihe.org

WWW.UNESCO-IHE.ORG/ALUMNI

SPONSOR



Nuffic, Netherlands organization for international cooperation in higher education

COUNTERPART



WaterNet

PARTNER



University of Zambia

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I www.unesco-ihe.org

UNESCO-IHE
Institute for Water Education



RS AF 0207

ANNEX 9: CHALLENGE PROGRAM PN17 RESEARCH OUTPUTS

Challenge Program on Water and Food

**PROJECT OUTPUTS
to 31 May 2007
(Phase 2)**

1 PROJECT PROFILE (this information will appear once only as a header sheet to your reports when they are electronic)

PROJECT NO.: 17	PROJECT TITLE: The Challenge of Integrated Water Resource Management for Improved Rural Livelihoods: Managing Risk, Mitigating Drought and Improving Water Productivity in the Water Scarce Limpopo Basin
LEAD CPWF THEME: 2	LEAD CPWF BENCHMARK BASIN(S): Limpopo
SECONDARY CPWF THEME(S): 1,4	SECONDARY RIVER BASIN(S): none
MANAGING CENTER: CIAT	PROJECT DURATION: 4 years

Note: this table includes written materials that have been accepted for publication but not yet published.

Type/title* PUBLICATIONS	Activity Number	Date	Publisher	Authors	Template completed? †
<i>Journal Articles:</i> These are international peer-reviewed journals.					
A01. An on-farm evaluation of the effects of low cost drip irrigation on water and crop productivity, compared to conventional surface irrigation system	2.2	September 2005	<i>Physics and Chemistry of the Earth</i> , 30 , 783-791 doi:10.1016/j.pce.2005.08.021	N Maisiri, J Rockström, A Senzanje, S Twomlow	Yes
A02. Impact and sustainability of low-head drip irrigation kits, in the semi-arid Gwanda and Beitbridge Districts, Mzingwane Catchment, Limpopo Basin, Zimbabwe	1.6	November 2006	<i>Physics and Chemistry of the Earth</i> , 31 , 885-892 doi:10.1016/j.pce.2006.08.020	R Moyo, D Love, S Twomlow, W Mupangwa, M Mul	Yes
A03. Alluvial aquifers in the Mzingwane Catchment: their distribution, properties, current usage and potential expansion	1.3	November 2006	<i>Physics and Chemistry of the Earth</i> , 31 , 988-994 doi:10.1016/j.pce.2006.08.013	W Moyce, P Mangeya, RJ Owen, D Love	No
A04. Implementing the millennium development food security goals – Challenges of the southern African context	1.6	November 2006	<i>Physics and Chemistry of the Earth</i> , 31 , 731-737 doi:10.1016/j.pce.2006.08.002	D Love, S Twomlow, W Mupangwa, P van der Zaag, B Gumbo	Yes
A05. Soil-water conservation and rainwater harvesting strategies in the semi-arid Mzingwane Catchment, Limpopo Basin, Zimbabwe	1.6	November 2006	<i>Physics and Chemistry of the Earth</i> , 31 , 83-900 doi:10.1016/j.pce.2006.08.042	W Mupangwa, D Love, S Twomlow	Yes
A06. Involvement of stakeholders in the water quality monitoring and surveillance system: the case of Mzingwane Catchment, Zimbabwe	3	November 2006	<i>Physics and Chemistry of the Earth</i> , 31 , 707-712 doi:10.1016/j.pce.2006.08.037	L Nare, D Love, Z Hoko	Yes
A07. Effects of dams on river flows of Insiza River, Zimbabwe.	1.3	November 2006	<i>Physics and Chemistry of the Earth</i> , 31 , 870-875 doi:10.1016/j.pce.2006.08.022	JM Kileshye Onema, D Mazvimavi, D Love, M Mul	No
<i>Working Papers:</i>					

* The code given (e.g. "P2") refers to the designation of a document as an official output of the project, and is also included in the document's file name.

† This refers to the research summary template. Where templates have not been completed, partners are required to do so.

Type/title* PUBLICATIONS	Activity Number	Date	Publisher	Authors	Template completed? †
These are institutional grey literature; quality control lies with the publishing institution					
WP01. An overview of the Mzingwane Catchment, Zimbabwe	1.2	February 2005	WaterNet Working Paper 1	D Love, AE Taigbenu, L Jonker	No
WP02. Short report on five masters projects from the Mzingwane Catchment, Zimbabwe	5.4	February 2005	WaterNet Working Paper 2	D Love, L Jonker	No
WP03. Spreading the word on fertilizer	2.2	February 2006	ICRISAT GTAE Report 24	S Twomlow, D Rohrbach, J Rusike, W Mupangwa, J Dimes, B Ncube	Yes
WP04. Short Report on Masters research in the Mzingwane Catchment, Zimbabwe, 2004/5 – 2005/6	5.4	September 2006	WaterNet Working Paper 3	D Love	No
WP05. Short Report on Masters research cofunded by RELMA-in-ICRAF in the Mzingwane Catchment, Zimbabwe, 2004/5	5.4	November 2006	WaterNet Working Paper 4	D Love	No
WP06. Short Report on Doctoral research within WaterNet Challenge Program Project PN17	5.5	November 2006	WaterNet Working Paper 5	D Love, W Nyabeze	No
WP07. Short Report on Masters research in progress in the Mzingwane Catchment, Zimbabwe, 2006/7	5.5	May 2007	WaterNet Working Paper 6	D Love	No
Type/title PAPERS	Activity Number	Date	Publisher	Authors	Template completed?
<i>Papers for national seminar/conference / workshop</i> These are reviewed by the conference organisers.					
NP1. The Impact Of Land Cover And Land Use On Hydrological Response In The Olifants Catchment	2.1	August 2005	Special Colloquium, Water Research Showcase, Univ. of Johannesburg, Pretoria & The Witwatersrand	M Ncube, AE Taigbenu	No
NP2. Resources Management In Agriculture: Convergence Of Needs And Opportunities	1.6	September 2005	12 th SANCHIAS symposium	AE Taigbenu, M Ncube, RJ Boroto	No
<i>Papers for international seminar/ conference /workshop</i> These are reviewed by the conference organisers. In the case of the WaterNet/WARFSA/GWP-SA Annual Symposia, this includes WaterNet					
P01. The Challenge of Integrated Water Resource Management for Improved Rural Livelihoods in the Limpopo Basin – an introduction to WaterNet's first network research program	Synthesis	November 2004	WaterNet/WARFSA/GWP-SA Annual Symposium, Namibia	D Love, L Jonker, J Rockström, P van der Zaag, S Twomlow	Yes
P02. An integrated evaluation of a small reservoir and its contribution to improved rural livelihoods: Sibasa Dam, Limpopo Basin, Zimbabwe	1.3 3.1	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	L Basima Busane, T Sawunyama, G Chinoda, D Twikirize, A Senzanje, D Love, Z Hoko, E Manzungu, P Mangeya, N Matura, A Mhizha, P Sithole	Yes
P03. Influence of human activities on the hydrology of the Insiza River, Limpopo Basin, Zimbabwe - implications for catchment planning	2.1	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	JM Kileshye Onema, J Rockström, D Mazvimavi, D Love, M Mul, A van Rooyen, S Twomlow	Yes
P04. Implementing the millennium development food security goals - challenges of the southern African context	1.6 2.2	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	D Love, S Twomlow, W Mupangwa, P van der Zaag, B Gumbo	Yes
P05. Analysis of hydrological change for IWRM planning: case study of the Mzingwane River, Limpopo Basin, Zimbabwe	1.3	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	D Love, S Uhlenbrook, W Nyabeze, RJS Owen, S Twomlow, H Savenije, L Woltering, P van der Zaag	Yes
P06. Alluvial aquifers in the Mzingwane Catchment: their distribution, properties, current usage and potential expansion and risk	1.3	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	W Moyce, P Mangeya, RJ Owen, D Love	Yes
P07. A model for reservoir yield	1.3	November	WaterNet/WARFSA/GWP-	B Moyo, E Madamombe	Yes

Type/title PAPERS	Activity Number	Date	Publisher	Authors	Template completed?
under climate change scenarios for the water-stressed City of Bulawayo, Zimbabwe	2.1	2005	SA Annual Symposium, Swaziland	D Love	
P08. Impact and sustainability of drip irrigation kits in the semi-arid Lower Mzingwane Subcatchment, Limpopo Basin, Zimbabwe	2.2	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	R Moyo, D Love, S Twomlow, W Mupangwa, M Mul	Yes
P09. Cultivating livelihoods: an assessment of water allocation and management practices in small-scale irrigation schemes -case studies in Mzingwane Catchment	1.6 3.1	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	M Munamati, A Mhizha, P Sithole	Yes
P10. Soil-water conservation and other rainwater harvesting strategies in the semi-arid Mzingwane Catchments, Limpopo Basin, Zimbabwe	1.6 2.2	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	W Mupangwa, D Love, S Twomlow	Yes
P11. Involvement of stakeholders in the water quality monitoring and surveillance system: the case of Mzingwane Catchment	3.1	November 2005	WaterNet/WARFSA/GWP-SA Annual Symposium, Swaziland	L Nare, D Love, Z Hoko	Yes
P12. Managing risk, mitigating drought and improving water productivity in the water scarce Limpopo Basin: highlights of some integrated water resources management solutions	Synthesis	December 2005	CGIAR Challenge Program on Water and Food International Workshop on "Enhancing human and ecological well-being in Africa through sustainable increases in water productivity", Uganda	D Love, B Gumbo, W Nyabeze	Yes
P13. Managing risk, mitigating drought and improving water productivity in the water scarce Limpopo Basin: highlights of some integrated water resources management approaches	Synthesis	February 2006	SADC Land and Water Management Applied Research Programme Scientific Symposium "Land and Water Management for Sustainable Agriculture", Malawi	D Love, B Gumbo, W Nyabeze	Yes
P14. An evaluation of climate and runoff variability and associated livelihood risks in the Mzingwane Catchment, Limpopo Basin, Zimbabwe	1.3 2.1	May 2006	Water Institute of Southern Africa Biennial Conference and Exhibition, Durban, South Africa	D Love, S Uhlenbrook, E Madamombe, S Twomlow, P van der Zaag	Yes
P15. Conservation farming by basins breaths new life into smallholder farmers in Zimbabwe	2.2	February 2006	SADC Land and Water Management Applied Research Programme Scientific Symposium "Land and Water Management for Sustainable Agriculture", Malawi	S Twomlow, D Rohrbach, L Hove, W Mupangwa, N Mashingaidze, M Moyo, C Chiroro	Yes
P16. Alluvial aquifers as potential safe water storage in semi arid areas: case study of Lower Mzingwane Catchment, Limpopo Basin, Zimbabwe	1.3	August 2006	Stockholm Water Week, Sweden	W Moyce, P Mangeya, RJ Owen, D Love	No
P17. Livelihood challenges posed by water quality in the Mzingwane and Thuli River Catchments, Zimbabwe	1.3	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	D Love, W Moyce, S Ravengai	No
P18. An on farm comparison of conservation agriculture practices and conventional farmer practices on soil hydrology and maize yield	2.2	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	C Dhliwayo, H Makurira, W Mupangwa, D Love, S Twomlow	No
P19. Effects of grazing management on rangeland soil hydrology, Insiza, Zimbabwe	2.2	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	PT Ngwenya, D Love, A Mhizha, S Twomlow	No
P20. Effects of dams on river flows of Insiza River, Limpopo Basin Zimbabwe	1.3	August 2006	Stockholm Water Week, Sweden	JM Kileshye Onema, D Mazvimavi, D Love, M Mul	No
P21. Olifants river basin: the process of basin closure	2.8	August 2006	Stockholm Water Week, Sweden	W Nyabeze, B Gumbo, D Love	No

Type/title PAPERS	Activity Number	Date	Publisher	Authors	Template completed?
P22. Effect of mulching and minimum tillage on maize (<i>Zea mays</i> L.) yield and water content of clayey and sandy soils	2.2	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	W Mupangwa, S Twomlow, L Hove, S Walker	Yes
P23. Rainwater harvesting to enhance water productivity of rainfed agriculture in the semi-arid Zimbabwe	1.6	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	J Mwenge Kahinda, J Rockström, AE Taigbenu, J Dimes	No
P24. The impact of land cover and land use on the hydrologic response of the Olifants	2.1 2.8	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	M Ncube, AE Taigbenu	No
P25. Integrating hydrological and socio-economic aspects for sustainable catchment management: needs and opportunities	2.8	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	M Magombeyi, AE Taigbenu, D Rollin	No
P26. The use of the river basin game as a tool for the implementation of the Waternet CP project in South Africa	2.5	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	M Magombeyi, D Rollin, B Lankford	No
P27. Towards improving flood forecasting and early warning systems through integrated technology in the Limpopo Basin	2.1 2.8	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	A Vilanculos, A Mhizha, E Kaseke	No
P28. Community-based water resource management institutions: perspectives from the Mzingwane catchment, Zimbabwe	3.1	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	C Mabiza, P van der Zaag, E Manzungu, R Ahlers	No
P29. Mitigating risk, building social capital and crafting livelihoods strategies in Gwanda (Mzingwane, Zimbabwe): a synopsis on water, gender and institutions	3.1	November 2006	WaterNet/WARFSA/GWP-SA Annual Symposium, Malawi	P Sithole	No

Type/title DISSERTATIONS AND THESES	Activity Number	Date	Publisher	Authors	Template completed?
<i>MSc Dissertations (funded through PN17):</i>					
Quality control by awarding institution					
D01. A hydrological assessment of land use changes and human's effects on water resources in semi-arid Zimbabwe: the case of the Insiza sub-catchment.	2.1	September 2004	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Kileshye Onema, J.-M.	Yes
D02. An on-farm evaluation of the effects of low cost drip irrigation on water and crop productivity, compared to conventional surface irrigation system	2.2	September 2004	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Maisiri, N.	Yes
D03. Water productivity and yield gap analysis of water harvesting systems in the semi-arid Mzingwane catchment, Zimbabwe	1.6 2.2	September 2004	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Mwenge Kahinda, J.-M.	No
D04. Access to water for Improved Rural Livelihoods: An investigation of the perspectives, experiences and strategies of orphans and other vulnerable children: a case study of Insiza District Mzingwane Catchment	1.5	June 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Integrated Water Resources Management	Murata, R.	Yes
D05. Impact And Adaptation Of Climate Variability On Water Supply Reservoir yields For The City Of Bulawayo. (Mzingwane Catchment)	1.3 2.1	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Moyo, B.	No
D06. Impact and sustainability of low cost drip kits, in the semi-arid lower Mzingwane subcatchment, Limpopo Basin, Zimbabwe	2.2	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Moyo, R.	Yes
D07. Cultivating livelihoods: an assessment of water allocation and management practices in small-scale	1.6 3.1	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc.	Munamati, M.	Yes

Type/title DISSERTATIONS AND THESES	Activity Number	Date	Publisher	Authors	Template completed?
irrigation schemes -case studies in Mzingwane Catchment			Integrated Water Resources Management		
D08. A survey of current on-farm agricultural water management practices in Olifants Catchment – a diagnostic of quaternary catchment B72A	2.2	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Ntsheme, O.	Yes
D09. Estimating the influence of on-farm Conservation Practices on the Water Balance, Case of the Mzinyathini Catchment in Zimbabwe	2.2	September 2005	Delft University of Technology, Faculty of Civil Engineering, M.Sc.	Woltering, L.	Yes
D10. Involvement of stakeholders in the water quality monitoring and surveillance system: the case of Mzingwane Catchment	3	February 2006	University of Zimbabwe, Department of Civil Engineering, MSc dissertation	Nare, L.	No
D11. The nexus between formal organizations and informal networks from a gender perspective: a case study from South Africa	3	February 2006	University of Guelph Faculty of Graduate Studies, MSc dissertation	Panesar, J.	No
D12. On farm evaluation of the influence of different conservation agriculture practices on infiltration in rainfed agriculture, compared to conventional farming	2.1 2.2	June 2006	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Dhliwayo, C.	Yes
D13. Assessment of the soil water management practices for increased seasonal rain water productivity to mitigate against climatic risks	2.2	June 2006	University of Zimbabwe, Department of Civil Engineering, M.Sc. Water Resources Engineering and Management	Moyo, L.	Yes
D14. Effect of soil degradation from grazing pressure on rangeland soil hydrology	2.1	June 2006	University of Zimbabwe, Department of Civil Engineering, M.Sc. Integrated Water Resources Management	Ngwenya, P.T.	No
D15. Towards improving flood forecasting and early warning systems through integrated technology in the Limpopo basin	1.3 2.8	June 2006	University of Zimbabwe, Department of Civil Engineering, M.Sc. Integrated Water Resources Management	Vilanculos, A.	No
D16. Environmental impacts of small-scale natural resource exploitation, implications on water resources and rural livelihoods	1.3	May 2007	UNESCO IHE, Department of Environmental Resources	Tunhuma, N.	Yes
D17. A seat at the table: which table and at what costs? participation and institutional reform in the water sector in Zimbabwe: case of the Mzingwane Catchment	3	May 2007	UNESCO IHE, Department of Management and Institutions	Svubure, O.	Yes

Type/title DISSERTATIONS AND THESES	Activity Number	Date	Publisher	Authors	Template completed?
<i>MSc Dissertations (funded through linked CPW&F projects):</i> Quality control by awarding institution					
LD01. An assessment of plankton diversity as a water quality indicator in small man-made reservoirs in the Mzingwane Catchment, Limpopo Basin, Zimbabwe.	1.3	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Integrated Water Resources Management	Busane Basima, L.	No
LD02. Analytic Description of Indigenous water resources management practice and its impact on rural livelihoods in the Limpopo Basin in Botswana.	3.1	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Integrated Water Resources Management	Mpho, T.	No
LD03. Estimation of small reservoir storage capacities in Limpopo Basin using geographical information systems (GIS) and remotely sensed surface areas: a case of Mzingwane Catchment.	1.3	August 2005	University of Zimbabwe, Department of Civil Engineering, M.Sc. Integrated Water Resources Management	Saunyama, T.	Yes
LD04. An assessment of traditional water management practices and their	3.1	August 2005	University of Zimbabwe, Department of Civil	Twikirize, D.	Yes

Type/title DISSERTATIONS AND THESES	Activity Number	Date	Publisher	Authors	Template completed?
implications for improved water governance in the Limpopo Basin: c case of the Sibasa Dam in Mzingwane Catchment, Zimbabwe.			Engineering, M.Sc. Integrated Water Resources Management		
<i>BSc Dissertations (funded through PN17):</i> Quality control by awarding institution					
B01. Determinação do volume de água complementar a irrigação para agricultura de sequeiro na região de Chókwè. (Irrigation needs for supplementary irrigation in Chókwè)	1.6	August 2005	Eduardo Mondlane University, Department of Rural Engineering, Licentiate Thesis	Mudaca, J.D.	No
B02. Estratégias de gestão de água em situações de suficiência e insuficiência de água para a produção de tomate e repolho no regadio de Chókwè (Water management strategies for vegetable production in Chókwè, when water is a limiting factor)	1.6 2.2	August 2005	Eduardo Mondlane University, Department of Rural Engineering, Licentiate Thesis	Ibraimo, N.A.	No
B03. Análise do Efeito da Capacidade de Armazenamento de Água dos Solos no Rendimento do milho em Sequeiro na Região de Chókwè. (Effect of soil water storage capacity on maize yield in Chókwè)	1.6	October 2005	Eduardo Mondlane University, Department of Rural Engineering, Licentiate Thesis	Almeida, E.	No
Type/title PROJECT ACTIVITY REPORTS Final Activity Reports in bold.	Activity Number	Date	Publisher	Authors	Template completed?
AR01. Report on the project inception Workshop, Bilene, Moçambique, 14 – 18 March 2004.	6.2	September 2004	WaterNet	Love, D.	No
AR02. Field visit to Mzingwane Catchment, 12-16 December 2004.	6.1	December 2004	WaterNet	Love, D.	Not applicable
AR03. Report on the Mzingwane Pilot Stakeholder and Inception Workshop, 6-7 October 2004.	6.2	December 2004	ICRISAT	ICRISAT	Not applicable
AR04. Report on the First Stakeholders Workshop for the Challenge Program Water and Food in Sekororo area (B72A), Olifants basin, South Africa, 21-22 October 2004.	6.2	December 2004	IWMI	Rollin, D.	Not applicable
AR05. Bacia do Limpopo (Projectos CP 17 e CP 1) Relatório do 1º Encontro em Moçambique.	6.2	September 2005	Eduardo Mondlane University	Eduardo Mondlane University	No
AR06. Minutes of the Project Executive Committee Meeting, 09.10.2005	6.1	September 2005	WaterNet	WaterNet	Not applicable
AR07. Record of the Zimbabwe Research Progress and Integration Meeting, 20.02.2006	6.1	February 2006	WaterNet	WaterNet	Not applicable
AR08. Record of the South Africa Research Progress and Integration Meeting, 05.12.2005	6.1	December 2005	IWMI	IWMI	Not applicable
AR09. Study of drip irrigation, Sekororo, South Africa	2.2	January 2006	IWMI	L. Benohoud & M. Jolivet	No
AR10. Agrarian System in Sekororo, Limpopo Province	1.6	August 2005	IWMI	D. Ramay & M. Beullier	No
AR11. Geology of the Limpopo River Basin	1.2	August 2006	UZ MRC	N Matura, W Moyce, G Chinoda	No
AR12. Water chemistry field visits	1.3	April 2006	UZ MRC	D Love, W Moyce, S Ravengai	Not applicable
AR13. Alluvial aquifers in the Mzingwane Catchment A preliminary report	1.3	August 2006	UNESCO-IHE PhD	D Love	No
AR14. Field Photographic Report: Small dams in the Mzingwane Catchment	1.3	May 2006	UNESCO-IHE PhD	D Love	No

Type/title PROJECT ACTIVITY REPORTS Final Activity Reports in bold.	Activity Number	Date	Publisher	Authors	Template completed?
AR15. Preliminary report on hydrological gauging stations in the Mzingwane Catchment	1.3	July 2006	UNESCO-IHE PhD	D Love	No
AR16. Schematisation of the Thuli Basin	2.8	July 2006	UNESCO-IHE PhD	D Love	No
AR17. Schematisation of the Mwenezi Basin	2.8	August 2006	UNESCO-IHE PhD	D Love	No
AR18. Report on the Mzingwane Catchment Scientific Workshop	6.2	August 2006	ICRISAT	ICRISAT	Yes
AR19. Soils of the Limpopo Basin	1.2	August 2006	UZ SSAE	C Bangira, A Manyevere	Yes
AR20. Report on the Olifants Catchment Scientific Workshop	6.2	August 2006	IWMI	IWMI	No
AR21. Metadata & Database Development: Roles and Responsibilities of Scientists	1.6.4	August 2006	ICRISAT	A van Rooyen, X Ncube	Not applicable
Type/title	Activity Number	Date	Publisher	Authors	Template completed?
TRAINING MATERIALS					
<i>Course materials:</i>					
TM01. Integrated Groundwater and Surface Water Modelling A hands-on introduction to MIKE SHE	5.3	December 2004	Project partners	Jacobsen, T.	Not applicable
<i>Other:</i>					
SURVEY MATERIALS					
<i>Survey proforma:</i>					
SV01. CPWF Limpopo Basin Baseline Survey.	1.2 1.5	July 2005	Project partners		Not applicable
<i>Analysis proforma:</i>					
PROJECT INFORMATION MATERIALS					
<i>Project Progress Reports:</i>					
PR01. 3 monthly report	Synthesis	December 2004	WaterNet	WaterNet	Not applicable
PR02. 6 monthly report	Synthesis	March 2005	WaterNet	WaterNet	Not applicable
PR03. 3 monthly report	Synthesis	June 2005	WaterNet	WaterNet	Not applicable
PR04. Annual report	Synthesis	September 2005	WaterNet	WaterNet	Not applicable
PR05. 3 monthly report	Synthesis	December 2005	WaterNet	WaterNet	Not applicable
PR06. 6 monthly report	Synthesis	March 2006	WaterNet	WaterNet	Not applicable
PR07. 3 monthly report	Synthesis	June 2006	WaterNet	WaterNet	Not applicable
<i>Brochures:</i>					
BR01. The challenge of integrated water resource management for improved rural livelihoods in the Limpopo Basin – WaterNet's first network research program	All	September 2004	WaterNet	Love, D. & Jonker, L.	Not applicable
<i>Newsletters:</i>					
NL1. WaterNet newsletter (ongoing contribution)	All	Several times per year	WaterNet		Not applicable
NL2. Africa Water Update – IWMI newsletter (ongoing contribution)	All	Several times per year	IWMI		Not applicable
<i>Powerpoint Presentations are included in the activity reports of workshops</i>					

WaterNet Challenge Programme Masters Students, as at 31 May 2007

Diss. No.	Year	Fellow	Gender, Nationality	Partner, University	Funding	Catchment	Topic	Link to PhD Fellow	Project Status	Conference Paper	Journal Article	Email
D01	2003-2004	<u>Kileshve Onema, Jean-Marie</u>	M, DRC	Univ. Zim. Civil Eng.	CP PN17/ WaterNet	Mzingwane	A hydrological assessment of land use changes and human's effects on water resources in semi-arid Zimbabwe: the case of the Insiza sub-catchment.	Love	Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2005	Published in Physics and Chemistry of the Earth, vol.31 (2006), 870-875	kileshvei@ebe.pq.wits.ac.za
D02	2003-2004	<u>Maisiri, Norman</u>	M, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17	Mzingwane	An on-farm evaluation of the effects of low cost drip irrigation on water and crop productivity, compared to conventional surface irrigation system	Love, Mupangwa	Dissertation accepted		Published in Physics and Chemistry of the Earth, vol.30 (2005), 783-791	
D03	2003-2004	<u>Mwenge Kahinda, Jean-Marc</u>	M, DRC	Univ. Zim. Civil Eng.	CP PN17/ WaterNet	Mzingwane	Water productivity and yield gap analysis of water harvesting systems in the semi-arid Mzingwane catchment, Zimbabwe	Mupangwa, Love	Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2006	In preparation	kahindai@ebe.pq.wits.ac.za
D04	2003-2004	<u>Murata, Rosemary</u>	F, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17/ WaterNet	Mzingwane	Access to water for Improved Rural Livelihoods: An investigation of the perspectives, experiences and strategies of orphans and other vulnerable children: a case study of Insiza District Mzingwane		Dissertation accepted			
D05	2004-2005	<u>Moyo, Bekithemba</u>	M, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17/RELMA	Mzingwane	Impact And Adaptation Of Climate Variability On Water Supply Reservoir yields For The City Of Bulawayo. (Mzingwane Catchment)	Love	Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2005	In preparation	bekitembamoyo@yahoo.com
D06	2004-2005	<u>Moyo, Richard</u>	M, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17/ RELMA	Mzingwane	Impact and sustainability of low cost drip kits, in the semi-arid lower Mzingwane subcatchment, Limpopo Basin, Zimbabwe	Love, Mupangwa	Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2005	Published in Physics and Chemistry of the Earth, vol.31 (2006), 885-892	moyor@msu.ac.zw
D07	2004-2005	<u>Munamati, Muchaneta</u>	F, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17/ RELMA	Mzingwane	Cultivating livelihoods: an assessment of water allocation and management practices in small-scale irrigation schemes - case studies in mzingwane catchment	Sithole	Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2005	In preparation	muchiemunamati@yahoo.com
D08	2004-2005	<u>Ntseme, Osten</u>	M, Botswana	Univ. Wits. Civil & Env. Eng.	CP PN17	Olifants	A survey of the current on farm agricultural land and water management practices in the Olifants catchment	Magombeyi	Dissertation accepted			
D09	2004-2005	<u>Woltering, Lennart</u>	M, Netherlands	UNESCO-IHE / TU Delft	CP PN17/ RELMA / Lamminga	Mzingwane	Estimating the influence of on-farm Conservation Practices on the Water Balance, Case of the Mzinyathini Catchment in Zimbabwe	Love	Dissertation accepted			l.woltering@cqiir.org
D10	2003-2004	<u>Nare, Lerato</u>	M, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17/ WaterNet	Mzingwane	Involvement of stakeholders in the water quality monitoring and surveillance system: the case of Mzingwane Catchment		Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA Symposium 2005	Published in Physics and Chemistry of the Earth, vol.31 (2006), 707-712	leratonare@yahoo.com
D11	2005-2006	<u>Panesar, Jespal</u>	F, Canada	IWMI / Univ. Guelph	CP PN17	Olifants	The nexus between formal organizations and informal networks from a gender perspective: a case study from South Africa	Sithole	Dissertation accepted			
D12	2005-2006	<u>Dhliwayo, Clever</u>	M, Zimbabwe	Univ. Zim. Civil Eng./ ICRISAT	CP PN17	Mzingwane	On farm evaluation of the influence of different conservation agriculture practices on infiltration in rainfed agriculture, compared to conventional farming	Mupangwa, Love	Dissertation accepted		In preparation	cleverdhlwayo@yahoo.co.uk
D13	2005-2006	<u>Moyo, Liberty</u>	M, Zimbabwe	Univ. Zim. Civil Eng./ ICRISAT/ Univ. Zim. Soil Sci. & Agric. Eng.	CP PN17	Mzingwane	Assessment of the soil water management practices for increased seasonal rain water productivity to mitigate against climatic risks	Mupangwa	Dissertation accepted			libertiemoyo@yahoo.com
D14	2005-2006	<u>Ngwenya, Thobhekile</u>	F, South Africa	Univ. Zim. Civil Eng./ ICRISAT	CP PN17	Mzingwane	Effect of soil degradation from grazing pressure on rangeland soil hydrology	Love	Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2006	In preparation	prudencethobekile@yahoo.com
D15	2005-2006	<u>Vilanculos, Agostino</u>	M, Mozambique	Univ. Zim. Civil Eng./ Univ. Eduardo Mondlane FAEF	CP PN17	Chokwe	Towards improving flood forecasting and early warning systems through integrated technology in the Limpopo basin		Dissertation accepted	Presented at WaterNet/WARFSA/ GWP-SA 2006	Under review for Physics and Chemistry of the Earth, vol.32 (2007)	avilankulos@yahoo.com.br

WaterNet Challenge Programme Masters Students, as at 31 May 2007

Diss. No.	Year	Fellow	Gender, Nationality	Partner, University	Funding	Catchment	Topic	Link to PhD Fellow	Project Status	Conference Paper	Journal Article	Email
D16	2006-2007	Tunhuma, Nevin	M, Zimbabwe	WaterNet, UNESCO-IHE	CP PN17 / UNESCO-IHE	Mzingwane	Environmental Impacts of Small-Scale Natural Resource Exploitation, Implications on Water Resources and Rural Livelihoods	Love	Dissertation accepted	Abstract for WaterNet/WARFSA/GWP-SA 2007		nevinm79@yahoo.com
D17	2006-2007	Svubure, Oniward	M, Zimbabwe	WaterNet, UNESCO-IHE	CP PN17 / UNESCO-IHE	Mzingwane	A seat at the table: which table and at what costs? Participation and Institutional Reform in the Water Sector in Zimbabwe: Case of the Mzingwane Catchment	Mabiza	Dissertation accepted			osvub@yahoo.com
i	2004-2005	Mandivengerei, Stephen	M, Zimbabwe	Univ. Western Cape PLAAS / Univ. Zim. CASS	CP PN17	Mzingwane	Smallholder participation in water resources management after the land and water sector reforms in zimbabwe: a case study of the umzingwane catchment	Sithole	Doing write-up			
ii	2004-2006	<u>Chinoda, Greacious</u>	M, Zimbabwe	Univ. Zim. MRC	CP PN17	Mzingwane	The Limpopo Mobile Belt: Basin Structure and Potential for Groundwater Occurrence		Student has dropped out	Presented at WaterNet/WARFSA/GWP-SA Symposium 2005		gchinoda@yahoo.ca
iii	2004-2006	<u>Moyce, William</u>	M, Zimbabwe	Univ. Zim. MRC	CP PN17 / Res. Council Zim.	Mzingwane	Hydrochemistry of alluvial aquifers, Mzingwane Catchment, Limpopo Basin, Zimbabwe	Love	Fieldwork and analyses in progress	Presented at WaterNet/WARFSA/GWP-SA Symposium 2005	Published in Physics and Chemistry of the Earth, vol.31 (2006), 988-994. Won award.	moyce@science.uz.ac.zw
iv	2004-2006	Ncube, Mtokozihle	M, Zimbabwe	Univ. Wits. Civil & Env. Eng.	CP PN17	Olifants	The impact of land cover and land use on hydrological response in the Olifants Catchment	Magombeyi	Thesis being examined	Presented at WaterNet/WARFSA/GWP-SA 2006	Under review for Physics and Chemistry of the Earth, vol.32 (2007)	rmthoko@makproi.co.za
v	2005-2006	Nyalungu, Lucky	M, South Africa	IWMI / Univ. Limpopo	CP PN17	Olifants	Socio-economic conditions and water management as determinants of food security in smallholder irrigation schemes in Limpopo	Sithole	Doing write-up	Presented at Water Research Showcase, 2005 Johannesburg		
vi	2005-2006	Rasiuba, Thabo	M, South Africa	Univ. Wits. Civil & Env. Eng.	CP PN17	Olifants	Water budget allocation, water use efficiency in agriculture in Olifants basin	Magombeyi	Thesis being examined			
vii	2006-2007	<u>Dos Mucudos, Erasmo</u>	M, Mozambique	Univ. Eduardo Mondlane FAEF	CP PN17	Chokwe	Rainfed Agriculture Strategies	Munguambe	Fieldwork in progress			
viii	2006-2007	De Hamer, Wouter	M, Netherlands	WaterNet, Twente	CP PN17/ U Twente	Mzingwane	Groundwater – surface water relations in an alluvial aquifer, Bengu, Thuli Basin, Zimbabwe	Love	Doing write-up	Abstract for WaterNet/WARFSA/GWP-SA 2007		w.dehamer@student.utwente.nl
ix	2006-2007	Liebrand, Jan-Willem	M, Netherlands	IWMI / Wageningen	CP PN17	Olifants	Water management institutions, Maruleng municipality, South Africa	Sithole	Fieldwork in progress			
x	2006-2007	Chilundo, Mario	M, Mozambique	UNESCO-IHE/ Univ. Eduardo Mondlane FAEF	CP17	Chokwe	Water quality and water pollution in agricultural lands	Munguambe	Doing write-up			
xi	2006-2007	Ibraimo, Nadia	F, Mozambican	Univeristy of Pretoria, Univ. E. Mondlane, FAEF	CP17	Chokwe	Still to be defined (started her studies)	Still to be defined	Starting M.Sc Degree			nadiaalcinaibraimo@yahoo.com.br
xii	2006-2007	Chibulu, Brenda	F, Zambia	Univ. Zim. Civil Eng./ ICRISAT	CP PN17	Mzingwane	Effect of rainfall variability and options for adaptation on household food security under semi-arid conditions at sub-catchment level	Mupangwa, Mhizha	Thesis being examined			brendamwamba@yahoo.co.uk
xiii	2006-2007	Khosa, Sangwani	M, Zimbabwe	Univ. Zim. Civil Eng./ ICRISAT	CP PN17	Mzingwane	Evaluating the effect of water demand scenarios on downstream water availability in Thuli river basin, Zimbabwe	Love	Thesis being examined	Abstract for WaterNet/WARFSA/GWP-SA 2007		sangwanik@yahoo.co.uk

WaterNet Challenge Programme Masters Students, as at 31 May 2007

Diss. No.	Year	Fellow	Gender, Nationality	Partner, University	Funding	Catchment	Topic	Link to PhD Fellow	Project Status	Conference Paper	Journal Article	Email
xiv	2006-2007	<u>Dondofema, Faraj</u>	M, Zimbabwe	Univ. Zim. Civil Eng./ICRISAT	CP PN17	Mzingwane	Mapping vegetation, soil and gully erosion changes in Insiza sub-catchment using remote sensing and GIS	Mhizha	Thesis being examined			chinomukutu@gmail.com
xv	2006-2007	<u>Mufute, Ngonidzashe</u>	M, Zimbabwe	Univ. Zim. Civil Eng./Ag. Eng.	CP PN17/46	Mzingwane			Thesis being examined			
xvi	2007-8	<u>Masvopo, Taurai</u>	M, Zimbabwe	Univ. Zim. Civil Eng.	CP PN17	Mzingwane	Characterisation of the Mtetengwe alluvial aquifer, Lower Mzingwane river	Love	Doing coursework			masvopo@yahoo.co.uk
LD01	2004-2005	Busane Basima, Lefranc	M, DRC	Univ. Zim. Soil Sci. & Agric. Eng.	CP PN46	Mzingwane	Biological aspects of small dams		Dissertation accepted		Published in Physics and Chemistry of the Earth, vol.31 (2006), 821-831	
LD02	2004-2005	Mpho, Tiego	M, Botswana	Univ. Zim. Soil Sci. & Agric. Eng.	CP PN47	Motloutsi	Indigenous WRM practices in Botswana		Dissertation accepted			
LD03	2004-2005	<u>Saunvama, Tendai</u>	M, Zimbabwe	Univ. Zim. Soil Sci. & Agric. Eng.	CP PN46	Mzingwane	Estimation of small reservoir storage capacities in limpopo basin using gis and remotely sensed surface areas		Dissertation accepted	Presented at WaterNet/WARFSA/GWP-SA Symposium 2005	Published in Physics and Chemistry of the Earth, vol.31 (2006), 935-943	tintosawuz@yahoo.com
LD04	2004-2005	Tsvikirize, Doris	F, Kenya	Univ. Zim. Soil Sci. & Agric. Eng.	CP PN47	Mzingwane	An assessment of indigenous water management practices and their implication for effective water governance; a case study of different ethnic groups in the Limpopo Basin, Zimbabwe		Dissertation accepted			
LDi	2005	Sarron, Corralie	F, France	IWMI / Ecole Nat. Sup. Ag. Rennes	CP PN30	Olifants	Effects of wetland degradation on the hydrological regime of a quaternary catchment. Mohlapitse River, GaMampa valley, Limpopo Province, South Africa		Doing write-up			
LDii	2005-2006	Lefebvre, Marie	F, France	IWMI / Ecole Nat. Sup. Ag. Rennes	CP PN28	Olifants	Institutional framework, water pricing structures and costs of domestic water services in rural poor areas		Doing write-up			
LDiii	2005-2006	Malatji, Sylvia	F, South Africa	IWMI / Univ. Limpopo	CP PN28	Olifants	Economic instrument to address equity of water allocation and sustainability of small-scale irrigation schemes		Fieldwork in progress			
LDiv	2005-2006	<u>Rukuni, Sam</u>	M, Zimbabwe	Univ. Zim. Civil Eng./Univ. Zim. Soil Sci. & Agric. Eng.	CP PN46	Mzingwane	Hydrological modelling for the estimation of a cascade of reservoir storages: application of WEAP		Doing write-up			

Column Notes

Diss. No. Dissertations numbers are given once dissertation accepted

D# denotes masters projects funded primarily through CP17

LD# denotes masters projects funded primarily through other projects, but linked to CP17

Roman numerals refer to masters projects in progress

Fellow Underline indicates NARES staff

WaterNet Challenge Programme Doctoral Students, as at 31 May 2007

Code	Fellow	Partner budget	Registration	Host	Promotors & Supervisors	Project title or topic	Progress	Key Publications (does not include those with MSCs)
1	David Love	UNESCO-IHE	UNESCO-IHE Department of Water Engineering	WaterNet ICRISAT	Pieter van der Zaag, UNESCO-IHE Stefan Uhlenbrook, UNESCO-IHE Ann van Griensven, UNESCO-IHE Richard Owen, Univ. Zimbabwe Steve Twomlow, ICRISAT	Land/water/livelihood strategies and water resource availability	Proposal approved, fieldwork and analyses in progress.	Love, D, Twomlow, S, Mupangwa, W, van der Zaag, P, Gumbo, B. 2006. Implementing the millennium development food security goals – Challenges of the southern African context. <i>Physics and Chemistry of the Earth</i> , 31 , 731-737. Mupangwa, W, Love, D, Twomlow, S. Soil-water conservation and rainwater harvesting strategies in the semi-arid Mzingwane Catchment, Limpopo Basin, Zimbabwe. <i>Physics and Chemistry of the Earth</i> , 31 , 83-900. Love, D, Uhlenbrook, S, Madamombe, E, Twomlow, S, van der Zaag, P. 2006. An evaluation of climate and run-off variability and associated livelihood risks in the Mzingwane Catchment, Limpopo Basin, Zimbabwe. <i>Water Institute of Southern Africa Biennial Conference and Exhibition</i> , Durban, South Africa.
2	Walter Mupangwa	ICRISAT	University of the Free State Department of Soil, Crop and Climate Sciences	ICRISAT	Sue Walker, Free State Steve Twomlow, ICRISAT	Water and nitrogen management for risk mitigation in semi-arid cropping systems	Proposal approved, fieldwork and analyses in progress.	Mupangwa, W, Love, D, Twomlow, S. Soil-water conservation and rainwater harvesting strategies in the semi-arid Mzingwane Catchment, Limpopo Basin, Zimbabwe. <i>Physics and Chemistry of the Earth</i> , 31 , 83-900. Love, D, Twomlow, S, Mupangwa, W, van der Zaag, P, Gumbo, B. 2006. Implementing the millennium development food security goals – Challenges of the southern African context. <i>Physics and Chemistry of the Earth</i> , 31 , 731-737. Mupangwa, W, Twomlow, S, Hove, L, Walker, S. 2006. Effect of mulching and minimum tillage on maize (<i>Zea mays</i> L.) yield and water content of clayey and sandy soils. <i>7th WaterNet/WARFSA/GWP-SA Annual Symposium</i> , Lilongwe, Malawi.
3	Paiva Munguambe	Univ. Eduardo Mondlane FAEF	University of Pretoria Department of Plant Production and Soil Science	Univ. Eduardo Mondlane FAEF	J.G. Annandale & J.M. Steyn, Univ. Pretoria Rui Brito, Univ. Eduardo Mondlane FAEF	Nitrogen and salt leaching management on irrigated salt-affected soils in Chókwe Irrigation Scheme, Mozambique	Proposal approved, field sites identified.	
4	Manuel Magombeyi	Univ. Wits. Civil & Env. Eng.	University of the Witwatersrand School of Civil & Environmental Engineering	Univ. Wits. Civil & Env. Eng.	Akporfure Taigbenu, Univ. Wits. Civil & Env. Eng. <i>To be advised, IWMI</i>	Innovative coupling of Hydrological modelling for IWRM: Linking catchment functioning with socio-economic conditions in the Olifants River Basin	Proposal approved, fieldwork and analyses in progress.	Magombeyi, MS, Taigbenu, AE, Rollin, D. 2006. Integrating hydrological and socio-economic aspects for sustainable catchment management: needs and opportunities. <i>7th WaterNet/WARFSA/GWP-SA Annual Symposium</i> , Lilongwe, Malawi. Magombeyi, MS, Rollin, D, Lankford, B. 2006. The use of the river basin game as a tool for the implementation of the Waternet CP project in South Africa. <i>7th WaterNet/WARFSA/GWP-SA Annual Symposium</i> , Lilongwe, Malawi.
5	Collin Mabiza	Univ. Zim. Civil Eng.	UNESCO-IHE Department of Management and Institutions	Univ. Zim. Civil Eng.	Pieter van der Zaag & R. Ahlers, UNESCO-IHE Emmanuel Manzungu, University of Zimbabwe	Linkages between the environment, innovations and institutions and their impacts on livelihoods: Cases from the Mzingwane Catchment	PhD application accepted. Developing proposal. Fieldwork and analyses in progress.	Mabiza, C, van der Zaag, P, Manzungu, E, Ahlers, R. Community-based water resource management institutions: perspectives from the Mzingwane catchment, Zimbabwe. <i>7th WaterNet/WARFSA/GWP-SA Annual Symposium</i> , Lilongwe, Malawi.
6	Pinimidzai Sithole (provisional; not in PN17 project proposal)	IWMI	Univ. Western Cape Programme for Land and Agrarian Studies	IWMI	Frank Matose Univ. Western Cape PLAAS Bill Derman, Michigan State Univ & NORAGRIC Barbara van Koppen, IWMI	Property Rights, Gender and Livelihoods in the Shadow of Reforms: An Institutional Analysis of Women's and Men's Access and Use of Land and Water In Sekororo (Olifants, South Africa) and Gwanda (Mzingwane, Zimbabwe) - A Comparative Study	PhD application accepted. Developing proposal.	Sithole, P. 2006. Mitigating risk, building social capital and crafting livelihoods strategies in Gwanda (Mzingwane, Zimbabwe): a synopsis on water, gender and institutions. <i>7th WaterNet/WARFSA/GWP-SA Annual Symposium</i> , Lilongwe, Malawi.
7	Alexander Mhizha (provisional; not in PN17 project proposal)	Univ. Zim. Civil Eng.	Univ. Witwatersrand School of Civil & Environmental Engineering	Univ. Zim. Civil Eng.	John Ndiritu, Univ. Wits. Civil & Env. Eng.	Topic not finalised; project will focus on soil and water conservation for risk mitigation.	Preparing proposal and PhD application.	

ANNEX 10: GROUNDWATER CAPACITY BUILDING NEEDS ASSESSMENT STUDY

Groundwater Capacity Building Initiative Africa



Capacity Building for Groundwater Management in West and Southern Africa

Funded by:

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ANNEX 11: WATERNET NEWS VOLUME 3 ISSUE 1

Getting ready for the 8th Symposium

Preparations for the 8th WaterNet/WARFSA/GWP-SA symposium started with a meeting of the Local Organizing Committee (LOC) and the regional collaborating partners from 29 to 30 March. Following the meeting, the first call for abstracts was published. The Zambia Water Partnership will host the 8th Symposium which will be held from 31 October -2 November in Lusaka, Zambia. The main theme this year is "IWRM-from Concept to Practice". A second announcement will be circulated with the following revised important dates to

remember:

- Deadline for Submission of Abstracts: 18 June 2007
- Notification of Acceptance of Abstracts: 20 July 2007
- Deadline for Submission of Full Papers: 10 September 2007
- Deadline for Registration: 30 September 2007

Watch the following space for details which will be posted as they become available:

<http://www.zwp.org.zm>

<http://www.iwscd.co.zw>

<http://www.waternetonline.org>

<http://www.gwpsa.org>

IWRM Master Programme

IWRM Master Students took a mid-semester break from class for one week after completing 3 core modules in April at the Universities of Dar es Salaam (UDSM) and Zimbabwe (UZ).

The 2007 intake has 17 female and 15 male students who are due to start specializations in the second week of June. Applications are now invited for the 2008 intake that will begin classes in February next year. For any further information contact the WaterNet Secretariat.



Welcome reception for the students core hosted at UZ

Donors Meeting

The Donors meeting was successfully held at UNESCO-IHE Institute for Water Education, Delft, the Netherlands on 19 March 2007.

The meeting was forward looking primarily focusing on WaterNet as a newly incorporated independent regional non-profit organization and the resulting implications on its governance, project management and relationships with Southern African Development Community and other supporting members.

Its also explored views on the future of WaterNet in moving from being a project (5 year stop-start mode)

to a perpetual programme providing capacity building in water resources management in southern Africa. Also tabled were:

- The importance of linkages with the Water Research Fund for Southern Africa (WARFSA)
- Sida support for a training module in Anti-corruption in the water sector

The meeting was attended by Cooperating Partners, UNESCO-IHE, the Partnership for Water Education and Research (PoWER), Cap-Net, the WaterNet Secretariat and representatives of the WaterNet Board of Trustees.

WATERnet



Building Capacity for Water Resources Management in Southern Africa

Inside This Issue:

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Research Intern Attached to Challenge Program	2
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Celebrating 50 years of Wise Water @ UNESCO-IHE	3
Announcements	3

Professional Courses

Two professional courses have been held since the beginning of the year:

- Crop Requirements and Irrigation Scheduling: in Maseru, Lesotho-with FAO, University of Zimbabwe and National University of Lesotho.
- Wetlands Ecology and Management: in Maun, Botswana with University of Botswana and Ohio State University.
- Groundwater Development : in Cape Town, South Africa with the University of the Western Cape.

Course materials are available from participating institutions. For upcoming courses see the announcements in this and future issues of WaterNet news.



Course participants Golden Msilimba and Batsile Bathusi measuring stream velocity using a velocity probe in the Okavango Delta

Research Intern attached to Challenge Program

Wouter de Hamer (24) from the University of Twente in the Netherlands was on attachment with the Challenge program within the WaterNet secretariat since February until the end of May 2007 this year.

He has been carrying out his thesis research for an MSc in Water Engineering and Management.

Wouter's work is on modelling sustainable water supply from the small alluvial aquifer of the Mtshabezi River in the semi-arid region of southern Zimbabwe. He has been working with and contributing to the

work of PhD candidate David Love.

The work involves *inter alia* modelling hydrological processes using:

- (i) a rainfall runoff model, based on the SCS-method (USDA-SCS, 1986), to simulate the discharge from the catchment into the Mtshabezi Dam and;
- (ii) the MODFLOW-model to simulate the groundwater flow from the Mtshabezi Dam (seepage) and the Mtshabezi River.

Capacity Building for Groundwater

A regional workshop to review the draft report and elaborate on the way forward on "Assessment of the integration of groundwater management in the IWRM framework and identification of requirements for capacity development in SADC member states" was held in Johannesburg from 19-20 February 2007.

The workshop was convened by WaterNet, BGR (Federal Institute for Geosciences and Natural Resources; German Geological Survey) and Cap-Net the capacity building arm of Global Water Partnership (GWP).

The event essentially culminated from a regional sur-

vey on capacity building needs for the groundwater sector in sub-Saharan Africa carried out on behalf of WaterNet and BGR.

There was follow-up on the identified capacity building requirements with a focus on elaborating on the implementation plan.

Sincere gratitude is extended to those who participated in the needs assessment that formed the basis for the workshop.



Celebrating 50 yrs of wise water @ UNESCO-IHE !

Since 1957, UNESCO-IHE Institute for Water Education (a supporting member of WaterNet) has delivered more than 13,000 mid-level professionals from 162 countries.

To celebrate its 50th anniversary, UNESCO-IHE has organized a series of events involving partners, alumni, participants, networks, donors, Delft's citizens and other friends.

The major event will be a three day symposium from 13-15 June entitled: 'Water in a changing world: Enhancing local knowledge and capacity.'

Visit the following space for more details:

<http://www.unesco-ihe.org/news/50years.htm>



Comments, questions announcements ?

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About WaterNet

WaterNet is a regional network on capacity building in Integrated Water Resources Management (IWRM). Currently it has a membership of 52 institutions in southern and east Africa.

Vision

A future in which the Southern African Development Community (SADC) has the institutional and human capacity to educate and train its own water managers, capable to contribute to the equitable sharing and sustainable utilisation of water resources for poverty alleviation, economic development (livelihood security) and environmental security.

Mission

To build the regional institutional and human capacity in Integrated Water Resources Management (IWRM) through training, education, research and outreach by harnessing the complementary strengths of member institutions in the region and elsewhere.



A strategic programme of the
SADC Water Sector

Announcements

- Seeking a Symposium Intern: The Regional Collaborating Partners (WaterNet/WARFSA/GWP-SA) will be recruiting an intern to provide assistance to the scientific committee. For more details contact the WaterNet Secretariat.
- Kindly note that the secretariat has changed email addresses. The domain has changed from @eng.uz.ac.zw to @waternetonline.org but the same usernames are retained. Thus for example, the new inquiries address is waternet@waternetonline.org
- Environmental Flows Network: Are you interested the recently formed environmental flows network? Contact Katharine Cross (katharine.cross@iucn.org) or join the mailing list by writing to Env_Flows-owner@indaba.iucn.org
- Regional refresher seminar on water services: reaching the poor in peri-urban areas in sub-Saharan Africa. WaterNet and UNESCO-IHE: 25 - 30 June 2007, Lusaka, Zambia. Details available from: info@unesco-ihe.org
- First International WASH Practitioners Market Place Fair, 26-28 September 2007, Mombasa Kenya. For more information write to info@streams.net or visit www.streams.net

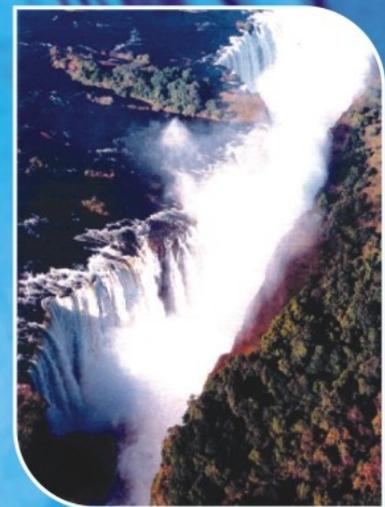


**ANNEX 12: 8TH WATERNET/WARFSA/GWPSA SYMPOSIUM
ANNOUNCEMENTS AND CALL FOR ABSTRACTS**

**8TH WATERNET / WARFSA / GWP-SA
SYMPOSIUM
IWRM - From Concept to Practice**

31 October - 2 November 2007

Livingstone, Zambia



Building Capacity for Water Resources Management in Southern Africa



Water Research Fund for Southern Africa

Background

The WaterNet/WARFSA/GWP-SA symposia have been held annually in the Southern African region for the past seven years. The purpose of the annual symposium is to facilitate the sharing and dissemination of research results in Integrated Water Resources Management (IWRM). It provides a platform for researchers, policymakers and other stakeholders to meet and exchange ideas and has become the premier IWRM event in Southern Africa. Great emphasis is placed on integration of knowledge, particularly involving scholars from the natural, medical and social sciences. The Zambia Water Partnership will host the 8th Symposium.

Main Theme

The main theme for this year's symposium is **IWRM - from Concept to Practice**. Interested participants can write papers on any aspect of integrated water resources management relevant to the main theme but specifically targeting sub- themes below.

Sub Themes

1. Hydrology

It is important to improve understanding of different components of the hydrological cycle and the spatial and temporal distribution of water now and in the future so as to improve the planning, engineering, management and operation of natural water resources. However, water balance dynamics are highly complex and require integration of information from multiple domains at different scales. Furthermore, in Southern Africa there is limited reliable data available for application of conventional prediction tools. This sub-theme therefore focuses on papers addressing innovations and models that enhance our understanding of the water cycle's response to the natural and man made changes at different scales.

2. Water and Environment

The natural environment is now well acknowledged as a legitimate and important user of water. It is increasingly realised that greater investment is needed to protect aquatic ecosystems from the impact of human developments. The challenge remains to strike the right balance between allocating water for direct human use (agriculture, power generation, domestic purposes and industry) and indirect use (sustenance of ecosystem goods and services). Papers are invited illustrating recent advances and best practices in, environmental impact assessment, determining environmental water requirements and the inclusion of the environment in catchment planning and management.

3. Water and Land

Agriculture is a major livelihood strategy in Southern Africa. It is also the greatest user of water and constitutes the major land use. Owing to a growing population, persistent droughts, erratic rainfall and extreme weather events, food production and the exploitation of forest products and biodiversity has been on the increase thus risking the resilience and stability of the interaction between surface and ground water resources including wetland ecosystems. This sub theme pulls together papers that demonstrate the impact of water management practices and policies on water and land productivity, livelihood security and wetlands ecology and management.



4. Water and Society

When available water is limited in quantity or quality or its distribution is uneven, it can be both a source of co-operation and/ or contestation among its different users. Water access and benefit sharing of it, are a source of power. Any governance system should therefore tackle the issue of resource access and benefit sharing. This session will address human development and socio - political aspects of water including conflict management and resolution, resource governance, HIV and AIDS, gender, education and communication.

5. Water for People

Globally water-borne and related diseases kill an estimated 5 million people mostly children. At the start of the water supply and sanitation decade an estimated 1 billion people lacked access to safe water while 2.2 billion lacked access to adequate sanitation. Lack of a sustainable approach to the provision of water and sanitation has resulted in decreased coverage in terms of percentage of the population with access to safe water and adequate sanitation, thus necessitating the need for appropriate and sustainable water and sanitation systems. This sub theme invites papers addressing sustainable water supply and sanitation.

6. Water Resources Management

Progress in developing and implementing Integrated Water Resources Management and Water Efficiency (WE) plans has so far been varied across countries in Southern Africa. The theme will demonstrate practical experiences of the opportunities and constraints to the implementation of IWRM by countries at different stages in the process. Papers will include any innovations and experiences in water resources planning and management and catchment management at different institutional and spatial scales.

Guidelines for Submission of Abstracts

Abstracts should be a maximum of 350 words long filled in the abstract template form provided. The format for all text (title, authors, abstract and key words) should be font size 12, Times New Roman and single spaced. The title should be no more than 16 words in title case. Authors will write names such that initials appear first and then the last name. The author names should indicate one corresponding author* (with an asterisk) and the email of the corresponding author. The affiliations of authors will be shown through letter superscripts (such as ^{a, b, c}) with only one affiliation per author. Five (5) keywords should be included in alphabetical order. Authors should consult the Author Guidelines and sample abstract provided for further information. Submissions should indicate the target sub-theme and also whether it is submitted for poster or oral presentation. Authors should note that the method of presentation whether oral or poster, does not necessarily reflect the quality of the papers. Due to the short duration of the Symposium, poster presentations are encouraged. All abstracts should be sent electronically as word documents to the **WaterNet Secretariat** symposium08@waternetonline.org and copied to WARFSA symposium08@iwsd.co.zw.



Participation

The Symposium is a key annual activity that promotes interaction among policymakers, academics, practitioners and ultimately all those involved in the water sector as well as key co-operating partners in identifying regional issues, gaps and priorities that require further research and support. The number of participants has been increasing in the last few years, from 90 in Maputo, Mozambique (2000) to about 200 at Ezulwini, Swaziland (2005) and 250 in Lilongwe, Malawi (2006).

Papers presented at the Symposium are reviewed and compiled as part of the conference proceedings. In the last five years, however, the best papers have been selected for review and publication in the *Journal of Physics and Chemistry of the Earth*.

Further Information

Details on the Symposium will be uploaded and updated at the web sites indicated as they become available.

<http://www.zwp.org.zm>

<http://www.waternetonline.org>

<http://www.gwpsa.org>

<http://www.iwsd.co.zw>

Key Dates to Remember

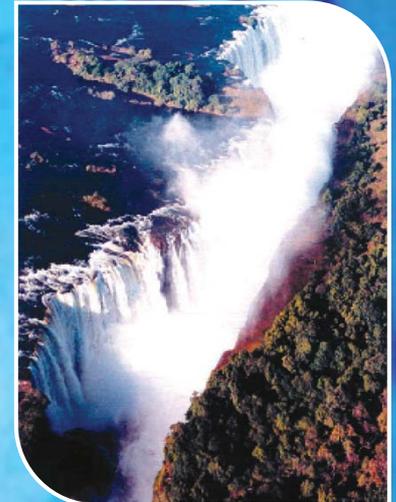
Deadline for Submission of Abstracts	31 May 2007
Notification of Acceptance of Abstracts	30 June 2007
Deadline for Submission of Full Pages	31 August 2007
Deadline for Registration	30 September 2007
Delegates Arrival	30 October 2007
Delegates Departure	03 November 2007



**8TH WATERNET / WARFSA / GWP-SA
SYMPOSIUM
IWRM - From Concept to Practice**

31 October - 2 November 2007

**Cresta Golf View Hotel
Lusaka, Zambia**



Building Capacity for Water Resources Management in Southern Africa



**Global Water
Partnership**
Southern Africa



**Global Water
Partnership**
Southern Africa

Zambia Water Partnership



Water Research Fund for Southern Africa

Background

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Progress in developing and implementing Integrated Water Resources Management and Water Efficiency (WE) plans have so far been varied across countries in Southern Africa. The theme will demonstrate practical experiences of the opportunities and constraints to the implementation of IWRM by countries at different stages in the process. Papers will include any innovations and experiences in water resources planning and management and catchment management at different institutional and spatial scales.

Guidelines for Submission of Abstracts

Abstracts should be a maximum of 350 words long. The format for all text (title, authors, abstract and key words) should be font size 12, Times New Roman and single-spaced. The title should be no more than 16 words in title case. Authors will write names such that initials appear first and then the last name. The author names should indicate one corresponding author* (with an asterisk) and the email of the corresponding author. The affiliations of authors will be shown through letter superscripts (such as ^{a, b, c}) with only one affiliation per author. Five (5) keywords should be included in alphabetical order. Authors should consult the Author Guidelines and sample abstract provided for further information. To ensure correct formatting, authors may fill in the abstract template form provided. Submissions should indicate the target sub-theme and also whether it is submitted for poster or oral presentation. Authors should note that the method of presentation whether oral or poster, does not necessarily reflect the quality of the papers. Due to the short duration of the Symposium, poster presentations are encouraged. All abstracts should be sent electronically as word documents to the WaterNet Secretariat symposium08@waternetonline.org and copied to WARFSA symposium08@iwsd.co.zw

Participation

The Symposium is a key annual activity that promotes interaction among policymakers, academics, practitioners and ultimately all those involved in the water sector as well as key cooperating partners in identifying regional issues, gaps and priorities that require further research and support. The number of participants has been increasing in the last few years, from 90 in Maputo, Mozambique (2000) to about 200 at Ezulwini, Swaziland (2005) and 250 in Lilongwe, Malawi (2006).

Papers presented at the Symposium are reviewed and compiled as part of conference proceedings. In the last five years, however, the best papers have been selected for review and publication in the Journal of Physics and Chemistry of the Earth.

For Further Information

<http://www.waternetonline.org>
<http://www.gwpsa.org>

<http://www.zwp.org.zm>
<http://www.iwsd.co.zw>

Key Dates to Remember

Deadline for Submission of Abstracts:	18 June 2007
Notification of Acceptance of Abstracts:	20 July 2007
Deadline for Submission of Full Papers:	10 September 2007
Deadline for Registration:	30 September 2007
Delegates Arrival:	30 October 2007
Delegates Departure:	03 November 2007



ANNEX 13: ADVERTISEMENT FOR THE SYMPOSIUM INTERN



SYMPOSIUM INTERN POST

The WaterNet/WARFSA/GWP-SA collaborating partners are inviting applications from SADC nationals for the post of Intern on a 1-year contract. The age limit is 30 years maximum.

Qualifications and Experience

Applicants should have at least a degree in the natural sciences, social sciences or any other relevant science discipline with an interest in Integrated Water Resources Management, (IWRM). Applicants should: -

- be working in an IWRM related discipline or interested in IWRM research.
- be willing to learn and share experiences from their countries of origin
- have an appreciation of event planning and management
- be self-motivated with a drive to succeed and to contribute to capacity and research development
- be able to learn quickly and work well under pressure
- have excellent writing and communication skills
- have excellent organisational, computer and internet skills.

The successful candidate will be expected to perform the following functions, among other things:

- to assist in the organisation, planning and implementation of the annual symposium
- to liaise with the Scientific Committee and to coordinate the committee's activities
- provide technical and administrative backup to the lead partner and the Local Organising Committee of the year
- produce technical and financial reports as and when required.
- assist in the promotion of the symposium in and out of country

In return

The collaborating partners offer an opportunity to develop research, organisational and reporting skills. The successful candidate will be provided with transport from their countries of origin, accommodation will be pre-arranged and the incumbent will be given a decent living allowance to see to their comfortable stay in Harare, Zimbabwe during their internship. Furthermore, the partners offer a pleasant working environment and an opportunity for personal and professional growth.

An application accompanied by a detailed curriculum vitae and copies of university/college transcripts should REACH:

symposium08@iwsd.co.zw **AND** symposium08@waternetonline.org **OR**

SYMPOSIUM08 INTERN
Institute of Water and Sanitation Development
P O Box MP422, Mount Pleasant
Harare, Zimbabwe

BY NO LATER THAN 7 MAY 2007.

ANNEX 14: EXPENDITURE STATEMENT

	Total budget Phase IIa & IIb Euro	Expenditure				Balance at 1/07/07 Euro
		1/04-31/12/05 Euro	1/1-30/06/06 Euro	1/06-31/12/06 Euro	1/1-30/06/07 Euro	
Management Fund	1,934,000.00	127,733.86	154,202.94	166,785.52	120,954.08	1,364,323.60
International Backstopping	441,000.00	69,278.69	69,532.32	56,160.60	51,572.95	194,455.44
Nodal Strengthening Fund	150,000.00	12,500.94	33,421.05	0.00	2,255.25	101,822.76
Symposium Fund	352,500.00	96,370.92	42,419.48	56,138.60	78,424.63	79,146.37
Publications Fund	75,000.00	0.00	0.00	0.00	0.00	75,000.00
Fellowship Fund	1,542,250.00	197,793.97	180,570.96	56,633.12	249,345.37	857,906.58
MSc Dissertation Fund	762,500.00	0.00	0.00	0.00	0.00	762,500.00
Curriculum Development Fund	66,000.00	0.00	0.00	0.00	0.00	66,000.00
Staff Exchange Fund	406,000.00	18,891.22	22,239.73	18,715.31	37,536.53	308,617.21
Professorial Chair Fund	672,000.00	0.00	0.00	0.00	0.00	672,000.00
Catchment Partnership Fund	35,000.00	0.00	0.00	0.00	0.00	35,000.00
Professional Training Fund	578,000.00	0.00	0.00	0.00	0.00	578,000.00
Language Course fund	100,000.00	0.00	0.00	0.00	0.00	100,000.00
Staff Development Fund	137,750.00	18,637.00	13,466.33	17,035.60	13,187.14	75,423.93
Challenge Programme	0.00	0.00	-177.55	0.00	0.00	177.55
Contingencies (2%)	148,000.00	0.00	1,431.00	1,500.00	0.00	145,069.00
Total	7,400,000.00	541,206.60	517,106.26	372,968.75	553,275.95	5,415,442.44

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