



Building Capacity for Water Resources Management in Southern Africa

# 4<sup>th</sup> Progress Report Phase IIb: 2008-2011

January to June, 2010



A strategic programme of the  
SADC Water Sector

December 2010





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## Highlights

### **7<sup>th</sup> WaterNet Management Board Meeting**

The 7<sup>th</sup> Management Board meeting was held on 27-28 May 2010 in Johannesburg, South Africa. The meeting discussed a range of issues including human resource and financial management of the network, planning for Phase III and the appointments of the Research Coordinator and the Professorial Chair at the University of Malawi.

### **Executive Management (Secretariat)**

Mr Jean-Marie Kileshye-Onema was recruited to replace the Research Leader, Dr Bongani Ncube, and the position was diverted to Research Coordinator. The 2009 AGM agreed that the Executive Management should remain hosted at the University of Zimbabwe until end of Phase IIb. This decision was implemented in the period under review and a new hosting agreement was signed with the University of Zimbabwe on 16 February 2010.

### **Financial Management and Financial Sustainability**

New control systems have been introduced at the WaterNet office and improved financial systems are being implemented. The contributions of members through their subscriptions and the impact of future research projects are contributing to the sustainability of the network.

### **Masters Programme 2009 Intake**

The thirty-four enrolled students completed their studies.

### **Masters Programme 2010 Intake**

Thirty-three students were recruited (28 with WaterNet funding). All completed their coursework except one who dropped out.

### **Professorial Chairs**

Four of the five Chairs are in post and have had their workplans approved. The fifth should be recruited and start work in late 2010

### **The Challenge Program on Water and Food Phase 1**

The project report was submitted and accepted by the Challenge Program Management Team.

### **New Research Projects**

During the reporting period, 2 Challenge Program on Water and Food Phase 2 projects, 1 EC FP7 project and 1 UPaRF project were secured, and a SPLASH proposal was submitted. In addition to the research these projects support, they will contribute to the sustainability of the network, through provision of Master fellowships and support for training courses and the Professorial Chairs – as well as overhead.

### **11<sup>th</sup> WaterNet/WARFSA/GWP-SA Symposium**

Preparations for the 11<sup>th</sup> WaterNet/WARFSA/GWP-SA Symposium, with the theme “*IWRM for National and Regional Integration: Where science, policy and practice meet*” scheduled for 27<sup>th</sup> to the 29<sup>th</sup> of October 2010 in Victoria Falls, Zimbabwe were underway during this reporting period.

### **WaterNet News**

During the reporting period two issues of the WaterNet newsletter were produced and circulated.

**Physics and Chemistry of the Earth Journal**

Articles for the 2010 edition of the *Physics and Chemistry of the Earth Journal* were under peer-review during the reporting period.

**Catchment Partnerships**

The first WaterNet catchment partnership was completed in the Mzingwane Catchment, Zimbabwe, building on work from the Challenge Program on Water and Food Phase 1. Funding for further work is under discussion with Cap-Net.

# 1 EXECUTIVE SUMMARY

The summary of achievements and challenges encountered for the reporting period based on workplan and budget for year 2010 (as amended approved at the 10<sup>th</sup> WaterNet Annual General Meeting, held in Entebbe, Uganda, on 29 October 2009) are indicated in Table 1.1.

**Table 1.1** Overview of achievements and challenges during the reporting period

Outputs	Activities	Progress (January to June 2010)
1. To forge a strong, demand driven and sustainable network	1.1 Establish WaterNet PCN23. Adopt the long-term (10 year) Strategy for WaterNet	On-going, progress satisfactory. Letter of application and Memorandum of Understanding for SADC subsidiary status prepared for submission. Submission will be made following revision to take into account new initiatives with SADC. Draft 10 year perspective plan prepared and used as input to Phase III strategy planning
	1.2 Promote member ownership	On-going, progress satisfactory. Some progress with Angola, but visit postponed. Two staff development fund applications approved, one deferred for revision.
	1.3 Fully staffed WaterNet Secretariat	Target achieved: Research Coordinator appointed following interviews in May 2010.
	1.4 Professional financial management	On-going, progress satisfactory. Financial Management Procedures Manual and Procurement Procedures Manual are being revised, the Finance Committee is operational and new financial procedures and controls have been introduced. All funds received by WaterNet now accounted, reported and audited in the same manner.
	1.5 WaterNet legal status	Target achieved.
	1.6 Financial sustainability	Funds raised from subscriptions and from Cap-Net and UPaRF projects. Target of 25% not reached but will be surpassed in 2011 with new projects secured during 2010 and commencing in 2011. Proposals will be submitted to Africa Water Facility and DANIDA before the end of the year.
	1.7 Monitoring, Evaluation	On-going, progress satisfactory, new contracting systems introduced, further compliance initiatives, Research Committee and a Curriculum Review and Quality Control Committee established
2. Deliver and strengthen the jointly owned WaterNet Master programme in IWRM.	2.1 Deliver Programme at 2 host institutions	Target achieved.
	2.2 Offer 6 specialisations	Target achieved.
	2.3 Fellowship Fund	Target approached: 28 students 2010-2011 intake funded through the WaterNet Fellowship Fund (2 others dropped out) and 4 from other sources.
	2.4 Review procedure Masters programme	Satisfactory, curriculum review work is being concluded and new programme structure operational 2011. Implementation of the 7 <sup>th</sup> Option (Specialisation) in 2011 subject to availability of funds.

<b>Outputs</b>	<b>Activities</b>	<b>Progress (January to June 2010)</b>
	2.5 Dissertation Research Fund	Ongoing activity, target approached: 34 students 2009-2010-2011 intake funded through the WaterNet Fellowship Fund and 4 from other sources
3. Professional training and education.	3.1 WaterNet professional training programme	Ongoing activity, progress good: 5 courses delivered and 4 more scheduled for second half of 2010
	3.2 WaterNet professional training officer	Deviated to Research Coordinator
	3.3 Catchment partnerships	On-going, progress good: first catchment partnership reported and nearly completed.
	3.4 English for Water Managers	Target achieved
4. Research capacity building	4.1 Research capacity building	Funding for WARFSA from Sida will not be resumed. Research capacity building will be led in the future by the Chairs, and with use of the Staff Development Fund.
	4.2 WaterNet partner in IWRM research	Target achieved
	4.3 Funding new research activities	Target achieved: one project secured from the European Community FP7 (DEWFORA), one from SPLASH (TSAPIA) and one further from UPaRF (EcoHydro-Zambezi). Two proposals submitted to the Challenge Program on Water and Food (CPWF L1 & L5).
	4.4 Appoint 5 WaterNet Professorial Chairs IWRM	On-going, progress good. 4 Chairs appointed and leading research: the chairs supervised 8 PhD fellows, authored 39 papers and secured funding for 6 research projects. Interviews for the 5 <sup>th</sup> Chair to be held
5. Raise awareness and understanding of IWRM	5.1 Develop and implement WaterNet Outreach activities	On-going, progress good. WaterNet is preparing special issue in Volume 35 of <i>Physics and Chemistry of the Earth</i> Journal and two issues of its newsletter. WaterNet participated in several international and regional meetings on IWRM. Alumni Association active and held workshops.
	5.2 Hold WaterNet/WARFSA/GWP-SA Symposia	Ongoing, progress good. 11 <sup>th</sup> Symposium preparations well in hand.

## **2 INTRODUCTION**

### **2.1 BASIC DATA**

Country:	Southern Africa Development Community (SADC)
Project name:	WaterNet Strategy Phase Iib, 2008-2011: Building Capacity for Water Resources Management in Southern Africa
Sida contribution number	51050010
DGIS activity number:	16706
Executing organisation:	WaterNet Trust
Secretariat Host Institute:	University of Zimbabwe, Harare, Zimbabwe
Project period:	1 July 2008 - 30 June 2011
Progress Report No.:	4
Reporting period:	1 January to 30 June 2010

### **2.2 CONTEXT**

This document is the fourth progress report of WaterNet Phase Iib (2008-2011) covering the period 1 January to 30 June 2010, under funding from DGIS and Sida.

WaterNet, a network of tertiary education and research institutions in Southern Africa, was established in year 2000. By the end of December 2009 WaterNet membership consisted of 58 member institutions, two associate members and six supporting members.

### **2.3 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.

### 3 PROGRAMME TARGETS

#### 3.1 PLANNED ACTIVITIES JANUARY TO JUNE 2010

The following activities were planned to be addressed during the reporting period (as amended and approved at the 10<sup>th</sup> WaterNet Annual General Meeting, held in Entebbe, Uganda, on 29 October 2009). The corresponding budget is also shown.

**Table 3.1** Work Plan January to December 2010

<b>OUTPUT 1 To forge a strong, demand driven and sustainable network</b>
Activity 1.1 Finalise the establishment of WaterNet PCN 23: Complete the establishment of WaterNet as a SADC subsidiary institution as per the “Guidelines Governing Relations between SADC and Organisations executing SADC Programmes and Projects Under the Principle of Subsidiarity”. Adopt the long-term (10 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, including at least one visit to each of these states. Award at least 4 NSF, 4 SDF, and 30 SEF, soliciting applications for NSF and SDF to ensure regional diversity.
Activity 1.3 Fully staffed Executive Management: maintain current staff positions, except for varying the Research Leader position to Research Coordinator. Implement human resources procedures including a performance evaluation system. Implement AGM’s decision on the hosting of the Executive Management.
Activity 1.4 Professional financial management achieved: Manage the WaterNet Funds in a professional and transparent manner. Receive and disburse external funds according to international auditing requirements and review detailed financial management procedures. Financial and procurement manuals operational.
Activity 1.5 WaterNet Legal Status established
Activity 1.6 Financial sustainability through income generation and contributed funds: Generate contributed project funding and external income of up to at least 25 % of the overall WaterNet budget. Implement income generation per Strategic Plan and through subscriptions, course fees and overhead. Submit proposal for groundwater management capacity building with AGWnet to Danida.
Activity 1.7 Monitoring, evaluation and reporting procedures in place: Harmonize and streamline reporting internally (e.g. trustees, management board, members) and externally (e.g. donors, SADC, collaborating partners, other stakeholders). Implement the recommendations from the Impact Assessment Report. Refine and implement WaterNet Gender and HIV/AIDS strategies.
<b>OUTPUT 2 To deliver and strengthen the jointly owned regional master degree programme in IWRM</b>
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 40 fellowships for the Master programme for 2010 (30 from current funding and minimal 10 external funded fellowships).
Activity 2.4 Establish Review procedure and quality control system for WaterNet Masters

<p>programme: Hold the Curriculum Review Workshop and implement its outcomes in the Master Degree Programme. Implement the recommendations of the Review of the WaterNet Masters Programme in regard to the delivery of the programme. Further strengthen the WaterNet Alumni Association and continue the tracer survey. Develop the 7<sup>th</sup> Specialisation and have all modules registered at the specialisation and core host institutions.</p>
<p>Activity 2.5 WaterNet MSc Dissertation Fund to offer 35 fellowships for the dissertation part of the Master programme for 2010 (30 from current funding and minimal 5 external funded fellowships).</p>
<p><b>OUTPUT 3 To develop and deliver demand driven training and education for practicing water sector professionals from the Southern African region</b></p>
<p>Activity 3.1 In collaboration with Global Water Partnership Southern Africa (GWP-SA) and SADC Directorate for Infrastructure and Services, Water Division, and other international partners offer 8 regional professional and short courses in IWRM, collaboration with Cap-Net including funding shall be solicited for 4.</p>
<p>Activity 3.2 Deviated to Research Coordinator.</p>
<p>Activity 3.3 Implement two catchment partnerships for demonstration and learning on translating IWRM principles to management jointly with Global Water Partnership Southern Africa (GWP-SA).</p>
<p>Activity 3.4 Offer the English for Water Managers Course as a stand alone short course targeting Master students and professionals from Democratic Republic of Congo, Madagascar, Mozambique, and Angola. Offer writing and communication skills training to IWRM Masters students.</p>
<p><b>OUTPUT 4 To stimulate, regionalise and strengthen research in the field of IWRM in the Southern Africa Region</b></p>
<p>Activity 4.1 Research capacity building (training and mentoring) together with WARFSA.</p>
<p>Activity 4.2 WaterNet a partner in integrated IWRM research: Support and facilitate member institutions: POWER2FLOW, other projects per 4.3 if successful.</p>
<p>Activity 4.3 Seek funding for new research activities: Challenge Program on Water and Food in the Limpopo Basin Phase 2, European Community FP7 Projects in the Zambezi and Nile Basins, the WaterNet PhD programme. Submit at least two proposals to other donors.</p>
<p>Activity 4.4 The WaterNet - SADC Professorial Chairs in IWRM to lead research activities and the Research Committee to operate.</p>
<p><b>OUTPUT 5 To raise awareness and understanding of IWRM and its implementation at catchments and trans-boundary scale</b></p>
<p>Activity 5.1 Develop and implement WaterNet Outreach activities: To consolidate the knowledge base of WaterNet from its post-graduate education programmes, its involvement in research advancement and the strengths of its members on IWRM carry out synthesis review of WaterNet member reports, and actively support the WaterNet Alumni Association. Continue and finalise the synthesis review of the Physics and Chemistry of the Earth Journal papers so as to inform policy and IWRM on the ground.</p>
<p>Activity 5.2 Hold the 11<sup>th</sup> WaterNet/WARFSA/GWP-SA Symposium in Victoria Falls, Zimbabwe. Initiate planning for 12<sup>th</sup> WaterNet/WARFSA/GWP-SA.</p>

**Table 3.2** WaterNet revised budget for 2010

<b>WaterNet Tentative Budget (Euros) DGIS and Sida Funding, Phase IIb *</b>	<b>Budget 2008-2011</b>	<b>Expenditure Jan-Dec 2008</b>	<b>Budget Jan-Dec 2009</b>	<b>Expenditure Jan-Jun 2009</b>	<b>Budget Jan-Dec 2010</b>
WaterNet Management Fund	1,242,240	504,096	436,000	243,646	395,000
International Scientific Backstopping	230,000	50,960	90,000	14,000	90,000
Nodal Strengthening Fund	75,000	7,225	25,000	0	35,000
Symposium Fund	270,000	22,807	90,000	17,844	96,000
Publication Fund	90,000	913	30,000	6,785	30,000
Fellowship Fund	1,020,000	442,382	365,000	234,258	360,000
MSc Dissertation Fund	300,000	71,200	90,000	807	90,000
Curriculum Development Fund	36,000	0	12,000	0	18,000
Staff Exchange Fund	200,000	6,112	72,500	1,289	75,000
Professorial Chair Fund	483,000	12,762	100,000	9,604	150,000
Catchment Partnership Fund	52,500	0	17,500	0	35,000
Professional Training Fund	325,000	2,688	115,000	27,136	120,000
Language Course Fund	40,000	802	20,000	0	5,000
Staff Development Fund	60,000	0	25,000	0	25,000
Alumni Association Fund	50,000	3,873	18,000	1,249	18,000
Contingencies	96,260	5,500	31,000	0	35,000
<b>Total</b>	<b>4,570,000</b>	<b>1,131,320</b>	<b>1,537,000</b>	<b>556,617</b>	<b>1,577,000</b>
<b>Other Income Streams</b>	<b>Source of income</b>				
WaterNet Management Fund	Subscriptions	0	0	0	15,000
Professional Training Fund	Course fees	0	0	0	1,600
Staff Development Fund	Overhead	0	0	0	15,000
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>31,600</b>

\* for breakdown, see page 15

<b>WaterNet Tentative Budget (Euros) Phase IIb</b>		<b>Budget</b>	<b>Expenditure Jan-Dec 2008</b>	<b>Budget Jan-Dec 2009</b>	<b>Expenditure Jan-Jun 2009</b>	<b>Budget Jan-Dec 2010</b>
<b>Special Projects</b>	<b>Years</b>	<b>Budget</b>				
EU Water Facility / Cap-Net					28,510	0
POWER2FLOW	2009-2011	38,000	0	6,750	0	11,750
Challenge Program Phase 1	2004-2009	1,166,615	379,748	206,140	177,907	0
<b>Total</b>			<b>379,748</b>	<b>212,890</b>	<b>206,417</b>	<b>11,750</b>
<b>Contributed Funds</b>	<b>Contribution</b>					
Symposium Fund	Subsistence allowances					
Professorial Chairs Fund	Salaries					
Scientific Backstopping Fund	Per workplans					
Professional Training Fund	Stafftime					
Other						
<b>Total</b>			<i>not calculated</i>	<i>not calculated</i>	<i>to be calculated</i>	<i>to be calculated</i>

<b>WaterNet Phase Iib Tentative Budget (Euros)</b>		<b>Budget 2010</b>
<b>Breakdown of core funding</b>		
<b>DGIS Funding</b>		
WaterNet Management Fund		395,000
International Scientific Backstopping		90,000
Nodal Strengthening Fund		35,000
Symposium Fund		96,000
Publication Fund		30,000
Curriculum Development Fund		18,000
Staff Exchange Fund		75,000
Professorial Chair Fund		0
Catchment Partnership Fund		35,000
Professional Training Fund		120,000
Language Course Fund		5,000
Staff Development Fund		25,000
Alumni Association Fund		18,000
Subtotal		942,000
Contingencies		20,000
<b>Total</b>		<b>962,000</b>
<b>SIDA Funding</b>		
Fellowship Fund		360,000
MSc Dissertation Fund		90,000
Professorial Chair Fund		150,000
Subtotal		<b>600,000</b>
Contingencies		15,000
<b>Total</b>		<b>615,000</b>
<b>Total DGIS and Sida</b>		<b>1,577,000</b>

## 4 ACHIEVEMENTS

WaterNet Phase IIa had a phased closure with authority to use DGIS funds up to 30 June 2008 and the Sida subsidy to bridge the start of Phase IIa and IIb for the months of July and August 2008 i.e. closure as of 31 August 2008. The final report for Phase IIa was prepared and submitted in the first half of 2009. However, after the signing of the Sida-WaterNet agreement and the re-opening of books for Sida Phase IIa remaining funds, the final report had to be revised. This was done and the revised Phase IIa final report was submitted in September 2009.

The State of the Netherlands, through the Head of the Development Cooperation Section of the Embassy of the Kingdom of the Netherlands in Maputo, Mozambique, entered into a contract with the WaterNet Trust for funding WaterNet Phase IIb Project with a subsidy up to a maximum of € **2,860,000.00 (€ 2.86 Million)**. The four instalments of € **580,000** and € **318,014**, € **387,177** and € **483,066** were paid into the WaterNet Euro denominated bank account in Gaborone, Botswana during the previous reporting periods..

A contract between Sida and the WaterNet Trust for WaterNet Phase IIb (Agreement No A 5100035) was finalised on 7 May 2009, with a value of **SEK10,000,000**. The initial disbursement of **SEK5,000,000** (received as € 477,490.02) was made in December 2009.

The following sections deal with the planned activities which were undertaken during the reporting period.

## 4.1 FORGING A STRONG, DEMAND DRIVEN AND SUSTAINABLE NETWORK

### 4.1.1 Establishing WaterNet PCN 23

During the reporting period WaterNet continued with planning on a number of activities through collaboration with other regional and international capacity building initiatives in-line with the objectives of WaterNet PCN23.

### 4.1.2 Promote member ownership of the network

The 7<sup>th</sup> Management Board meeting was held on 27-28 May 2010 in Johannesburg, South Africa. The meeting discussed a range of issues including human resource and financial management of the network, planning for Phase III and the appointments of the Research Coordinator and the Professorial Chair at the University of Malawi.

The Board received applications from four institutions and recommended the acceptance of the Faculty of Geo-Information Science and Earth Observation of the University of Twente (ITC) as a supporting member (considering the MoU signed in the previous reporting period) and Tshwane University of Technology as a member. Both of these are of strategic importance: the first providing WaterNet with new partnerships and access to scientific backstopping from a field lead in earth observation and GIS and the second strengthening WaterNet's position in South Africa. The Board recommended that the applicant Irrigation and Water Engineering Dept, Chinhoyi University of Technology work with the existing member from the same faculty and deferred consideration of an application from the International Centre for Water Economics and Governance in Africa (IWEGA), Mozambique. Whilst the Board welcome partnership with IWEGA and was excited by the capacity it can bring to the network, it was necessary to examine the relationship between IWEGA and its host, the Faculty of Agronomy and Forestry of Eduardo Mondlane University, which is a WaterNet member, to determine whether IWEGA is an independent institute – in which case its application would be approved – or a part of the Faculty – in which case it is already a member.

Expansion of membership in Angola shall be facilitated by a visit by Board members and Management. Expansion of membership into Madagascar was complicated by that country's suspension from SADC.

The Board approved three applications for use of the Staff Development.



### 4.1.3 Fully staffed Executive Management<sup>1</sup>

The 2009 AGM agreed that the Executive Management should remain hosted at the University of Zimbabwe until end of Phase IIb and should try to secure new technology for improved communications. This decision was implemented in the period under review and a new hosting agreement was signed with the University of Zimbabwe on 16 February 2010. The agreement was signed by the Vice-Chancellor of the University of Zimbabwe and the Chairman of the WaterNet Trust and witnessed by the Minister

<sup>1</sup> The term *Executive Management* is in used in line with the Notarial Deed of Trust, in preference to the term *Secretariat*.

of Water Resources, Management and Sweden. At this ceremony, the new V-SAT satellite internet link was commissioned, which now allows rapid internet access at the Management offices (previously a major bottleneck) and the use of Skype calling and conference facilities, which decrease expenditure on telephones – and also on travel in some cases.



Minister Sam Sipepa Nkomo commissions the V-SAT link

The Research Leader, Dr Bongani Ncube, resigned from WaterNet with effect from 30 June 2009. The position was advertised but the Board was not satisfied with the diversity of applications received. On recommendation of the Board, the AGM agreed to deviate the position to Research Coordinator, and the new position was advertised. Following interviews at the 7<sup>th</sup> Management Board Meeting, Mr Jean-Marie Kileshye-Onema was offered the position and will assume duty later in 2010. Mr Kileshye-Onema is well known within the WaterNet family, as a Masters graduate of the Challenge Program on Water and Food (PN17), through his involvement with GWP-SA activities and more recently served as the founding Chairperson of the Interim Steering Committee of the WaterNet Alumni Association.



Jean-Marie  
Kileshye-Onema

#### **4.1.4 Professional financial management achieved**

The Finance Committee of the Board commenced operations, reviewing the bimonthly cash reports (financial transactions carried out in cash by the Executive Management) and the biannual financial reports, and advising the Board on financial matters.

Reviewing and finalising the Financial Procedures and Procurement Procedures manuals, is in progress, being undertaken by KPMG and the Finance Committee of the Board.

A suite of new financial procedures and controls were introduced to provide for proper documentation and professional procedures in procurement, cash management and so on.

#### **4.1.5 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.

The law firm Molatlhegi and Associates drafted a Memorandum of Understanding (MoU) with SADC and a letter of application for SADC subsidiary status addressed to the Executive Secretary of SADC during the reporting period. These documents have been further revised and will be submitted to the SADC Secretariat.

#### **4.1.6 Financial sustainability through income generation and contributed funds**

Membership Subscription payments began in 2009 but came in from a minority of members. The AGM agreed that a member which fails to pay by August of the membership year would be warned and would be suspended on the second offence. Members at the AGM committed

to paying subscriptions timeously. During the first half of 2010, a substantial improvement in membership payments was recorded.

Two other income streams have been identified for 2010 and were approved by the AGM as part of the 2010 budget:

- For courses funded by WaterNet, participants who are not funded by WaterNet or a collaborating partner (mainly those who are sponsored by their employer or are self-funding) pay a registration fee to the host institution. From 2010, there shall be a 10 % levy payable to WaterNet on this registration fee. Note this does not apply to participants funded by a collaborating partner such as Cap-Net or GWP-SA.
- For research projects and other special projects that the WaterNet Trust enters into (such as the Challenge Program or EC FP7 projects), WaterNet shall charge an overhead fee in line with the policies of the funder of that special project.

It is expected that these two income streams, together with subscriptions, should raise over €31,000 in 2010.

Mechanisms are being developed to capture accurately members' in kind contributions and will be presented to the 2010 AGM.

#### **4.1.7 Monitoring, evaluation and reporting procedures in place**

WaterNet continually strives to improve its reporting, monitoring and evaluation procedures to enable assessments on the impacts and sustainability of the programme to be made in an objective and informed fashion. During the period under review:

- Contracting of members (e.g. for running short courses) provides for a maximum of 75% to be paid upfront, with 25% withheld until all reports have been submitted
- The workplans and progress reports of Chairs went through rigorous review by both the Executive Management and the Board
- The Research Committee and Curriculum Review and Quality Control Committee of the Management Board met and reported to the Board on their reviews of WaterNet's research and educational activities respectively
- Contracts for the Master programme were rigorously followed to ensure that all verifiable indicators (theses, students' reviews of modules, finances etc) were submitted
- The mailing lists were updated and expanded.

Refer also to **section 4.1.4** and **section 5** of this report.

## **4.2 DELIVER AND STRENGTHEN THE REGIONAL MASTERS PROGRAMME**

### **4.2.1 Deliver the masters programme at two host institutions**

A total of 32 MSc IWRM students from the 2009/2010 intake completed their dissertations and hence completed their programme at both the University of Zimbabwe and University of Dar-es-Salaam by end of June 2010. Table 4.1 presents a summary of dissertation title of the current intake. However, it has been noted by the core host institutions that some students lacked adequate supervision during the data collection phase for their dissertations in their respective countries. This issue has since been discussed extensively by the Curriculum Review and Quality Control Committee and the Management Board and new arrangements proposed. 26 out of the 32 students were sponsored by Waternet and the remaining 5 from the University of Dar-es-Salaam had other sponsorship (private,

local government or nongovernmental organisations). The students will be conferred their degrees in October and December 2010 at the University of Zimbabwe (UZ) and University of Dar-es-Salaam (UDSM) respectively.

**Table 4.1** Dissertation titles for IWRM masters students, 2010

<b>Name</b>	<b>Dissertation title</b>	<b>University</b>	<b>Sponsorship</b>
Benedictor Anthony	Impact of policy of Institution changes in the Water Sector in incidence of Water Diseases in Urban Centers	UDSM	Other
Chintengo Mavuto	Effects of traditional water allocation practices on the environmental flows in Ntcheu-Malawi	UZ	WaterNet
Chinyepe Andrew	Reliability of remote sensing and GIS in determining evaporation and its implications on surface water resources(Case of Lake Mutirikwi, Zimbabwe)	UZ	WaterNet
Kaluba Victor	Investigating the effect of social dynamics on water resources management during drought,. A case of Mazabuka, Zambia.	UZ	WaterNet
Kisakye Violet	Economic valuation of selected ecosystem services in Lubigi wetland	UDSM	WaterNet
Kufasi Shela	The influence of rainfall Season Quality on Maize Yield under Conservation Agriculture in Some Selected Districts of Malawi	UZ	WaterNet
Machiwana Vimbai	An assessment of livelihoods improvement due to rural water supply and sanitation in Chivi district.	UZ	WaterNet
Mavima Godwin	Reservoir sedimentation as a function of land use and land cover change (Case of Mufure Causeway and Mutemasango Dams in Mazoe and Sanyati sub catchments, Zimbabwe)	UZ	WaterNet
Mbazumutima Jean-Berchmans	Assessing and mapping rainfall variability impact on crop production in Burundi.	UDSM	Other
Mhlanga Ncamiso	The Evaluation of the Impact of climate change on the inflow to Lubovane reservoir – Ushio Catchment	UDSM	WaterNet
Mnisi Lucky	The assessment of the water quality of the Mzimnene river, Swaziland	UZ	WaterNet
Mohammed Asha	Influence of land cover on total evaporation in a semi arid catchment	UZ	WaterNet
Msengi John	Assessment of Spatial Water Balance, case: Wami Basin	UDSM	Other
Msuku Alex	Assessment of Performance and	UDSM	WaterNet

Name	Dissertation title	University	Sponsorship
	Independence of Water Utility in Malawi		
Mucunguzi Dominic	Assessment of Sustainability of Ecological Sanitation using Multi Criteria analysis. Case of Kabale, Uganda	UDSM	WaterNet
Muisa Norah	The impacts of Alum used at Morton Jeffrey water works on the biological and physico-chemical quality of receiving waters	UZ	WaterNet
Mwale Joseph	Bioenergy feedstock production and its implications from green, blue and virtual water flows in agriculture (Case of Chibombo district in Zambia)	UZ	WaterNet
Mwalwega Beatrice	Sustainable financing mechanisms for sanitation in slums – Case study of Temeke Municipality.	UDSM	Other
Nayeja Patricia	Regulation, Enforcement & Compliance A Case of Industry & H <sub>2</sub> O Pollution in the City of Blantyre.	UDSM	WaterNet
Ncube Sifiso	Development of Multi-purpose Reservoir Operating and allocation Rules for coping with climate change : Case of Rozva Dam ,Bikita District in Zimbabwe	UZ	WaterNet
Nenguke Alleta	Water use and management in the post land and water reform era: case of upper Manyame subcatchment.	UDSM	WaterNet
Obeko Eric Juma	Investigating the impact of land use change on stream flows case study of Amala and Nyangores	UDSM	WaterNet
Ogwe Nesline	Application of Weap to evaluate current demand and future water resources development in Nywado basin	UDSM	WaterNet
Opere Samuel	Investigating the opportunities to formalize Small Scale Independent Providers of water Services in Dar es Salaam city, Tanzania	UZ	WaterNet
Oyella Jackline	Domestic Rainwater harvesting, Gulu: Status and Prospects	UDSM	WaterNet
Palege Susartino	Development of relationship between rainfall variability in the Limpopo basin and Sea Surface Temperature anomalies.	UDSM	WaterNet
Sethlogile Tshepo	Economic evaluation of the Makgadikgadi Wetland, Botswana	UZ	WaterNet
Tanu Deule	Constraints and opportunities to the sustainability of rural water supply in Tanzania a case of Ruvu District.	UDSM	Other
Thabo Semana	Assessing acceptability of IWRM within Basotho culture in Caledon subcatchment	UDSM	WaterNet
Thobosi Reneilwe	Assessment of ecological status of an	UDSM	WaterNet

Name	Dissertation title	University	Sponsorship
	effluent dominated river in an urban catchment		
Tirimboi Auxillia	Assessment of Harare Water Utility performance	UDSM	WaterNet
Twisa Sekela	Agricultural drought assessment using simulated soil moisture in Ruvu River Basin - Tanzania	UDSM	Other

An English course targeted at potential Masters Students from Lusophone and Francophone countries was delivered in January 2010. This was done to equip potential Masters Students with necessary English skills required to study the IWRM Masters programme at all the host institutions.



2010 intake at University of Zimbabwe

A total of 33 students (29 WaterNet sponsored) initially enrolled for the Masters Programme in February 2010 at both core host institutions. However one student from the University of Dar-es-Salaam who was being sponsored by WaterNet dropped out of the programme after completing only the first core module. All the other students have since completed their core modules and will be going for their options (specialisations) in July. Table 4.2 presents student's country of origin as well as their specialisation.

**Table 4.2** The 2010-2011 intake

Student	Gender	Specialisation	Country	Sponsor
Gode Bola	M	W&S	DRC	WaterNet
Dube Farayi	M	W&L	Zimbabwe	WaterNet
Ekanjo Mikael N	M	Hyd	Namibia	WaterNet
Macuacua Eurico Braz C	M	W&L	Mozambique	WaterNet
Makhanya Saneliso	M	Hyd	Swaziland	WaterNet
Masuku Precious T	F	WfP	South Africa	WaterNet
Matete Phatoli Bernard	M	Hyd	Lesotho	WaterNet
Mero Rose E	F	W&E	Tanzania	WaterNet
Monyamane Yaone	F	WfP	Botswana	WaterNet
Mubambe Chipso Gift	M	W&L	Zambia	WaterNet
Muhonda Park M	M	W&S	Malawi	WaterNet
Mulengera Bahal'okwibale	M	W&S	DRC	WaterNet
Murinda Sharon	F	W&S	Zimbabwe	WaterNet
Ncube Belindah	F	WfP	Zimbabwe	WaterNet
Phiri Mabvuto	M	WRM	Zambia	WaterNet
Phuthologo Botlhe	F	HYD	Botswana	WaterNet
Kulimushi Lucien	M	W&E	DRC	WaterNet

Student	Gender	Specialisation	Country	Sponsor
Obwato Elly W	M	W&E	Kenya	WaterNet
Mugo Margaret W	F	W&L	Kenya	WaterNet
Motsoane Thabo P	M	W&L	Lesotho	WaterNet
Mzumara Grace	F	WRM	Malawi	WaterNet
Sithole Daniel H	M	WfP	Swaziland	WaterNet
Ngonzi Lydia	F	HYD	Uganda	WaterNet
Babita Elizabeth	F	W&E	Uganda	WaterNet
Malambo Mutinta Jessie	F	W&E	Zambia	WaterNet
Hantembe Lee W	M	WRM	Zambia	WaterNet
Mathlodi Bothle	F	WRM	Botswana	WaterNet
Bhunu Kudzai D	M	WRM	Zimbabwe	WaterNet
Swai Aaron	M	WfP	Tanzania	Belgium Technical Cooperation, Tanzania
Kirenga Elietha	M	HYD	Tanzania	Self
Elietha Wolta Sifuel	M	HYD	Tanzania	Karagwe District Council, Tanzania
Mcharo Joseph	M	HYD	Tanzania	Belgium Technical Cooperation, Tanzania

WRM = Water Resources Management, University of Zimbabwe  
WSS = Water Supply and Sanitation (Water for People), Polytechnic of Namibia  
W&S = Water and Society, University of the Western Cape  
W&E = Water and Environment, University of Malawi  
HYD = Hydrology, University of Dar-es-Salaam  
W&L = Water and Land, University of Botswana

The advert for the 2011/2012 intake was sent and applications were still being received both electronically and hard copy formats by the end of the reporting period. The pre-selection meeting was scheduled for end of August 2010 at the University of Dar-es-Salaam. The meeting will be attended by representatives of the two core host institutions. The meeting will be attended by representatives of the two core host institutions, Polytechnic Namibia and the University of KwaZulu-Natal (specialisation hosts).

#### 4.2.2 Offer six specialisations

WaterNet will be offering six options (specialisations) for the 2010/2011 intake during the second half of 2010 as per approved Workplan for the year. As usual, the options will be hosted as follows:

- Water Resources Management, University of Zimbabwe
- Water Supply and Sanitation (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

It is anticipated that each options (specialisation) will enrol at least 5 students.

There are plans to increase the specialisations in future with University of KwaZulu-Natal hosting the seventh one (see 4.2.4).

The Polytechnic of Namibia will shortly introduce its own Master in IWRM programme, which WaterNet students will join for the Water for People Specialisation. This goes a long way towards the sustainability of the specialisation as the modules will be offered whether or not WaterNet fellowships are available. The same is true for the long-standing Master programme at the University of the Western Cape and its support to the Water and Society Specialisation.

#### 4.2.3 Fellowship Fund established

The 10<sup>th</sup> AGM approved granting of 30 fellowships from the Fellowship Fund to deserving candidates as per the Work plan of 2010.

#### 4.2.4 Establish review procedure and quality control system for the Masters programme



Participants of the Curriculum Review Workshop

A curriculum review workshop took place at the end of January 2010 in Johannesburg as per recommendations from the Masters Programme review process that was led by Prof Graham Jewitt. Participants of the workshop included host coordinators, professorial chairs and representatives from ITC, UNESCO IHE, DelPHE project, IWEGA and the WaterNet Secretariat. Major changes to the structure of the Masters Programme included:

- A change of name from *specialisation* to *Option*
- A change of name from *Water for People specialisation* to *Water Supply and Sanitation option*
- Abolishment of electives and addition a new core module covering *GIS, database management and analytical tools*
- Addition of a new module to each option.
- Addition of a new option in *Earth observation and GIS* which will be hosted by the University of KwaZulu-Natal starting in 2011<sup>2</sup>.

The participants proposed and agreed that a review and development of module outlines for existing and new modules respectively should be carried out. Seven teams (a team per Option) were set up for this purpose and a number of modules had draft outlines by end of June 2010.

<sup>2</sup> The decision to offer a new option (specialisation) in Earth Observation and GIS, and the hosting arrangements for it, was made at the 4th Management Board meeting in October 2008. The inclusion of this option, and its content, were agreed in the Curriculum Review Workshop of January 2010 and approved by the 7<sup>th</sup> Management Board meeting in May 2010, on the basis of the Report of the Curriculum Review and Quality Control Committee. The commencement of the option in 2011, subject to finding sufficient additional fellowships, was approved by the 11<sup>th</sup> Annual General Meeting in October 2010, as part of the 2011 workplan.

A Curriculum Review and Quality Control Committee of the WaterNet Management Board was set up in October 2009 and met in May 2010. The agenda of the meeting included an assessment of progress on the current modules' outlines review process and the quality of the degree programme and the dissertations among other issues. All changes to the Masters curriculum were discussed and accepted by the committee. The WaterNet Management Board resolved that the process to complete the curriculum review process should be led by the Chairs, with backstopping from UNESCO-IHE as needed. The review process will be complete by end of the next reporting period.

A number of recommendations on quality control of the Masters degree were made and submitted to the WaterNet Management Board, which, after considering the recommendations, made decisions that could strengthen and improve the quality of the Master in IWRM degree if they are implemented at both the core and options host institutions. One of the decisions pertaining to the quality of dissertations was ensuring that students undertaking fieldwork outside core host countries have a local co-supervisor who should be involved during proposal development and data collection. The co-supervisor should be formally recognised and have an agreement with the core host institution.

#### **4.2.5 Establish with WARFSA the WaterNet MSc Dissertation Fund**

Refer to section 4.4.1.

### **4.3 DEVELOP AND DELIVER PROFESSIONAL TRAINING**

#### **4.3.1 WaterNet professional training programme**

The WaterNet Professional Training Programme facilitates competency training through short courses. The courses are mainly targeted at meeting the needs of practicing water professionals in river basin organisations, water utilities, municipalities, country water partnerships and other organisations. The programme is implemented by WaterNet members in close collaboration with the SADC Water Division, the Gender and Water Alliance, ITC and Cap-Net; the global network of Integrated Water Resources Management capacity building networks. During the reporting period WaterNet and its collaborating partners planned five professional short courses and successfully delivered all of them.

*Water Resources Assessment in Sub-Saharan Africa: Prediction in Ungauged and Data Scarce Basins in Sub-Saharan Africa: 15-19 March 2010, Cape Town, South Africa*

The course was hosted by the University of the Western Cape, a WaterNet member and the facilitating team was from UNESCO-Institute for Water Education, Delft University of Technology and the University of Botswana, as well as the host. The course aimed to develop skills for water resources assessment with a focus on ungauged basins. In addition the course aimed at developing knowledge about the potential uses of satellite derived data for water resources planning and management. The emphasis of the course was on skills development and thus the participants spent over half of their time carrying out practical exercises in the laboratory.

The course received an overwhelming response from the region over. A total of 100 applications were received and 30 participants were funded to attend the course. Twelve countries from the SADC and East African regions were represented. The course had some

participants with private funding, a good indicator of demand. Eight participants were female, a positive departure from the 1<sup>st</sup> course on the same topic which was only attended by male participants. Follow up actions include: publishing the training materials online in English, French and Portuguese - the official languages of the Southern Africa Development Community. A post course evaluation will be conducted after 6 months. From the evaluation, there may emerge some good stories on good practice in data management resulting in part from the training and lastly we intend to further develop the training material and replicate the course in Portuguese in collaboration with Cap-Net Brasil.

*Economic and Financial Instruments for Implementation of Sustainable Water, Sanitation and Hygiene (WASH) programmes: 22-26 March 2010, Maseru, Lesotho*

The course on Economic and Financial Instruments for Implementation of Sustainable Water, Sanitation and Hygiene (WASH) programmes was organised by the National University of Lesotho and the Institute of Water and Sanitation Development. The overall objective of the training course was to improve awareness and skills among water professionals working in the region on the value and application of financial and economic instruments in the provision of water, sanitation and hygiene programmes. A total of 60 applications were received and 27 attended the course, with 11 of the participants being female. The course participants were from Botswana, Lesotho, Malawi, Swaziland, South Africa, Tanzania, Uganda, Zambia and Zimbabwe. Fifteen of the participants were sponsored by WaterNet while ten were sponsored by Cap-Net. The workshop was largely participatory with the aim of teasing out participant's knowledge and experience so as to strengthen interactive learning. Sessions were to a large extent introduced with short presentations and case studies in order to draw the attention of the participants to experiences from selected countries in the region.

More than 70% of the participants rated achievements of workshop objectives at 70% although 20% felt there was need for case studies to be drawn from their countries of origin. An area which was cited was the section on analysis of pricing regimes which most participants felt was not adequately covered. More than 70% of the participants indicated that the workshop content was adequate for their level. The inclusion of a presentation from the Water and Sewerage Authority (WASA) which focused on water tariffs was greatly appreciated by the majority of the participants although a small percentage highlighted the need for tariff systems and models to be drawn from their countries so as to enhance understanding and relevance. One striking general comment from participants was the need for practical examples and case studies from the Southern and East Africa and not limiting these to Southern Africa. Ultimately, it emerged that engaging Water and Sewer Utility Managers in workshops short courses on Economic and Financial instruments could assist in pricing regimes being set as well as allow appropriate cost recovery methods at such operations.

*Postgraduate certificate course Applications of Earth Observation and GIS in Integrated Water Resources Management, 18 January - 7 May 2010, Nairobi, Kenya*

The aforementioned course was organized by the International Institute for Geo-information Science and Earth Observation (ITC, a candidate supporting member of WaterNet) in collaboration with the Regional Centre for Mapping of Resources for Development (RCMRD), Egerton University and the department of Earth Sciences of Addis Ababa University (AAU). The course addressed the concepts of (geo-) hydrology, earth observation

(EO), GIS, primary and secondary data collection and their integration in order to investigate water resources related issues on a (small) basin scale. Specifically the course focused on the following advances:

- new developments in the field of IWRM and computational methods for water resources
- innovations in data collection (sensors, satellite observation, loggers and GPS)
- development of web-based public domain data acquisition
- new advances in EO-GIS, modelling and scenario analyses techniques.

WaterNet funded five participants from Southern Africa to attend the course; two female and 3 male participants. Upon completion of the selected modules participants affirmed that they were now able to:

- Apply Remote Sensing and GIS in water related projects
- Produce maps based on GIS-Remote Sensing analysis and are
- Aware of the developments in Remote Sensing and GIS related to Water Resources Management.

*Catchment Hydrology Field School; towards a better understanding of runoff generation and infiltration: 25-29 May 2010, Pietermaritzburg, South Africa*



Participants in the Potshini Catchment

The course was organised by the University of KwaZulu-Natal, School of Bioresources Engineering and Environmental Hydrology in collaboration with the Water Research Commission and Institut de Recherche pour le Développement (IRD). The research school aimed to improve the understanding of infiltration and runoff dynamics within hill slopes and the consequences for recharge of water tables and catchment scale stream flow. The course combined intensive field experiments and lectures. The research school was done in Potshini, in the Kwa-Zulu Natal Province of South Africa. A

total of twelve postgraduate students from Zimbabwe, South Africa, the Democratic Republic of Congo, Malawi and Tanzania attended the course. The participants were predominantly Postgraduate students (Masters and PhD scholars) with a soil and hydrology background. Since many participants were not field hydrologists, specialists of processes analysis and insitu data collection; the course process consisted of limited but up to date scientific knowledge on hydrological processes and methods of investigation with minimum supply of hand outs to further enhance imagination and creativeness among the participants in an attempt to design and run their own field experiment. During the 5 days period, the process ran from the problem assessment, experiment design, data collection, data analysis to data interpretation and scientific writing of data.

*Gender mainstreaming and Gender Responsive Budgeting in Integrated Water Resources Management (IWRM): 21-25 June, Dar - es - Salaam, Tanzania*

The course was organised by the University of Dar-es-Salaam with support from WaterNet, Cap-net and the Gender and Water Alliance. The objective of the training course was:

- To build capacity of water resources managers and planners to equip them with necessary skills and tools to mainstream gender in IWRM and
- To critically analyse government budgets with a gender lens so as to ensure effective and sustainable



Role play during the gender mainstreaming training course

## implementation of Integrated Water Resources Management.

Twenty multidisciplinary participants attended the course and they were drawn from East, North and Southern Africa (9 men and 11 women). As evidence of demand, there were seven self-funding participants who had indicated interest in attending the course but eventually only three managed to attend as the other four could not secure flights due to the increased influx of travellers in the region owing to the FIFA World Cup in South Africa. The course successfully raised awareness and appreciation amongst water sector professionals on the link between Gender Mainstreaming and realisation of IWRM goals and objectives. The course increased understanding of gender responsive budgeting and specifically demonstrated how gender budgets can be used as tools for promoting gender equity, accountability as well as efficiency and transparency in budget policies. The majority of participants stated that the course gave them practical skills on how to develop a Gender responsive budget, to allocate resources such that water projects respond to both men and women's priorities.

### *Prospective plans: Professional Training Programme*

Efforts are underway to seek external funding for the Professional Training programme. The programme will continue to be informed by the capacity gaps and priorities as identified by the SADC Water Division and other such partners as the Global Water Partnership and Cap-Net. WaterNet has submitted a proposal to SADC and the East African Community to run the professional training programme on capacity building in large water infrastructure.

### **4.3.2 WaterNet Professional Training Officer**

A decision was made at the 7<sup>th</sup> AGM to employ a Research Leader in lieu of the Network Professional Training Officer. This position was deviated to Research Coordinator by the 10<sup>th</sup> AGM.

### **4.3.3 Catchment partnership on translating IWRM principles to management**



Participants at a Gwanda workshop discussing roles

This activity is on-going and the collaborating partners are WaterNet, CapNet and the Global Water Partnership - Southern Africa. The first of the WaterNet Catchment Partnerships focuses on a catchments where there was active research: the Mzingwane Catchment for the Challenge Program on Water and Food. The activity commenced at the end of the previous reporting period and is now concluded, except for submission of the final report. The activity was implemented by the Mzingwane Catchment Council and the University of Zimbabwe, in collaboration with the Zimbabwe

Water Partnership. The partnership implemented action research and outreach on appropriate institutional models for water resources management with financial support from the Challenge Program Project number 17. The objectives of were to:

- a) provide feedback to local communities with respect to the acceptability of their suggestions by higher order level institutions.
- b) bring awareness to sub-catchment council's local level perceptions on how institutions could best be structured.
- c) establish pilot structures (ward water users associations) and
- d) enhance the capacity of the Mzingwane catchment to plan and disseminate information about its activities.

The following outputs were achieved:

- A ward water users association was formed in one ward, there was a promise to form one in Makwe while in Hwabayi a modified version was formed;
- Sub-catchment councillors and local communities adopted the suggested local level structures;
- Local communities modified and implemented the suggested local level structures at three participatory workshops;
- Corporate logos were developed for all the four sub-catchments and the catchment council;
- The Mzingwane catchment produced a stakeholder participation strategy; and
- Three awareness brochures, a calendar and DVD were produced.

Some of the important outcomes of the work included;

- a conceptual contribution to two students, one MSc and another Mphil;
- conceptual contribution to one PhD thesis; and,
- impact on on-going catchment elections and on the propagation of relationship with Cap-Net.
- Contribution to a book being developed by the participants of the project

Cap-Net convened a pilot workshop on performance indicators strategic planning for River Basin Organisations/Catchments in May 2010. WaterNet co-financed the project with travel grants to some participants from the Mzingwane Catchment Council, in order to share their experiences with counterparts from two basins in Kenya, who were funded by Cap-Net. The major outputs of this workshop included: the prioritisation of water resources management objectives by RBOs; the definition of indicators to monitor progress towards these objectives; an agreement across basins of a minimum set of indicators and monitoring framework that can be compared across different basins; initial data gathering on the indicators by RBO management; and a work plan for how the rest of the data will be gathered.



Participants of the indicators workshop

#### **4.3.4 English for water managers course**

*Premasters English for Water Managers: 18 January - 5 February, 2010, University of Dar-es-Salaam, Tanzania*

The Department of English (Africa University) a member of WaterNet organised and facilitated the Premasters English for Water manager's course. The overall objective of the training course was to equip Masters in Integrated Water Resources Management students with skills and knowledge in all aspects of English as a foreign or second language, to develop all language skills moving towards greater fluency and more precise use of the English vocabulary. Water practitioners from Lusophone and Francophone countries were included in the training. A total of 9 participants from Angola, the Democratic Republic of Congo, Mozambique, Burundi and Rwanda were trained. Eight of the participants were male and one was female.

The following course materials were developed and are available on the WaterNet website:

- A course book covering communication, listening and speaking skills, developing academic, technical and scientific writing skills, and some aspects of English Language Structures.
- Everyday dialogues course book.

The following electronic resources are available upon request from the WaterNet secretariat:

- DVDs covering the Art of Listening, Effective Listening, Critical Listening, Speaking with Confidence – organizing and outlining a speech, How to give and receive criticism, powerful ways to persuade people, Mass communication in society and Cross cultural communication in diverse settings.
- Audio CDs containing recorded speeches, lectures, music for Listening exercises - linked to the listening exercises in the Course Book.

## 4.4 REGIONALISE AND STRENGTHEN RESEARCH IN IWRM

### 4.4.1 Research capacity building

This is an ongoing activity which is executed jointly through WARFSA and WaterNet. WaterNet has been closely monitoring developments in efforts to revive WARFSA. It has been noted that the absence of WARFSA is now affecting the quality of papers presented at the symposia. The implementation of this activity assumed a functional and operational WARFSA.

The WaterNet Management Board set up a 4 member Research Committee that met for the first time at the end of May 2010. The committee noted that the standards of research in IWRM was declining and recommended that WARFSA be resuscitated by WaterNet. The committee also recommended that in the meantime, research capacity could be enhanced by:

- Targeted use of the Staff Development Fund for postgraduate research
- Mentorship of young lecturers from WaterNet member institutions by Chairs using Staff Development Fund (SDF) or Staff Exchange Fund (SEF).
- For young researchers and PhD students, capacity can also be built through field schools in the professional training programme.

More shall be reported on the Chairs' role in this process in the next report.

### 4.4.2 IWRM research

#### *Challenge Program on Water and Food Phase I*

The Challenge Programme on Water and Food (CPWF) Phase I Project 17 project took on the challenge of developing a framework for new



Integrated Water Resources Management (IWRM) based water governance from village to basin scale in the Limpopo Basin. The project goal was 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 within the basin. The project research thrust was to build evidence that improving water management at any scale leads to improvements in livelihoods, at least at that scale.

In addition to essential baseline work, research included:

1. Mapping, analysing, monitoring and modelling climate, runoff and groundwater in order to improve the understanding of water resources in the Limpopo Basin.
2. Farmer-field based action research, studying conservation agriculture, rainwater harvesting, water management under irrigation and supplementary irrigation, in partnership with farmers who tried out the proposed innovations.

The final outputs from these activities include:

- Basin to (sub) basin scale water resource models, flood forecasting models and innovative ways to access and use groundwater in (surface) water scarce areas.
- Soil and water management interventions, mitigation options and improved crop productivity models that have been tested under real farm conditions.
- Decision support system development through integrating hydrological, agricultural and socioeconomic modelling.
- Understanding existing institutional models and the role they play in rural people's lives (especially smallholder farmers) and
- Developing new institutional and planning models to better promote the principles of IWRM and support innovations developed in the field.

In terms of capacity building, implementation of key research in PN17 was undertaken by seven Ph.D. fellows. Each one of them linked to WaterNet Masters Students from the SADC region (a total of 31, mostly NARES staff) who undertook their dissertation projects within PN17. The project also involved capacity building at community and water manager level. This included participatory on-farm pilot experiments (involving farmers and extension officers) and participatory development of institutional and water resources models (involving water managers). Direct training and extension were also provided in key areas. Project outputs achieved include 39 journal articles (some still under review), 2 books, 14 book or proceedings chapters, 19 institutional working papers, 90 conference papers, 34 MSc dissertations and 13 BSc dissertations. The other achievement of the project was building and strengthening of partnerships between the different organisations that took part in the research project.

WaterNet submitted the completion and final reports respectively of the CPWF Project Number 17 (PN17) to CGIAR in March 2010. The reviewers rated the project as being one of the best Phase I projects and recommended the publication of the final report, with no changes, on the web. The report is attached.

### ***Upscaling small-scale land and water system innovations in dryland agro-ecosystems (SSI -2)***

The UPaRF funded second phase of SSI (SSI-2) focuses on moving towards sustainability and livelihood improvements through upscaling land and water systems innovations - especially those developed in the first phase of SSI. The project (SSI-2) focuses on the socio-economic and bio-physical conditions and impacts of upscaling these innovations. The project covers multidisciplinary fields of farming systems research, agronomy, ecology, hydrology, institutional analysis and knowledge science. It focuses on the conditions for upscaling of innovations as well as their subsequent socio-economic and biophysical impact, and how this knowledge can inform policies and improve institutions.

As a contribution to the project, WaterNet is expected to connect 8 students (1 per year in each basin) from the Masters programme to PhD research within SSI-2. However, no students had been assigned to the project for the 2010 field season and this will be implemented next year.

### ***Risk-based operational water management for the Incomati River Basin (RISKOMAN)***

The main objective of the Riskoman research project is to assist water managers and stakeholders in identifying, implementing and continuously adjusting efficient allocation policies in a dynamic and uncertain hydrologic environment. The research project, is been carried out by a multidisciplinary partnership of UNESCO-IHE Institute for Water Education, the University of KwaZulu-Natal, Eduardo Mondlane University and the Komati Basin Water Authority KOBWA. A Post Doc, 1 PhD and 6 MSc students shall carry out research activities in the Incomati River Basin. 4 out of the 6 MSc students shall be provided by WaterNet from its Master in IWRM programme as co-funding to the project under the supervision of two WaterNet members (the University of KwaZulu-Natal in Pietermaritzburg and the Eduardo Mondlane University in Maputo). No student from the IWRM Masters programme had been assigned to the 2010 field season by the end of June. The project had not identified a PhD student, who is supposed to be linked with the MSc students. However, a student from UNESCO IHE completed an MSc dissertation entitled “Experimental Investigation of Water Fluxes in Irrigated Sugarcane using Environmental Isotopes: A Case Study of Mhlume Plantations, Incomati Catchment, Swaziland” in April 2010.

### ***Hydropower-to-environment water transfers in the Zambezi Basin: balancing ecosystems health with hydropower generation in hydropower-dominated Basins (Power2Flow)***



This research project aim at analysing the reallocation of water between the hydropower sectors to the environment in the Zambezi basin. The work builds on research in the basin and links to ongoing and new initiatives such the African Dams Research project (ADAPT, Swiss Funded research project) and the WWF Zambezi E-Flows implementation initiatives. The implementing partners are: UNESCO-IHE, WaterNet, Eduardo Mondlane University, Swiss Federal Institute of Technology and World Wide Fund for Nature.

The research is based on local consultations with end user institutions, thus ensuring that any findings and outcomes stemming from the project have local relevance and applicability. Research results will be fed back to WaterNet Masters in IWRM and professional training programmes. The results and findings shall also be made publicly accessible on a website dedicated to the Power2flow project. In terms of capacity building, there shall be a total of 4PhD student and at least four MSc students. There will also be on job training of end user institutions’ staff members. The role of WaterNet in the project shall be to:

1. Provide 2 MSc students from the Masters in IWRM Programme and scientific guidance to MSc student involved in various activities.
2. Provide support and supervision of 1 PhD student (PhD #2) in collaboration with UNESCO-IHE and
3. Contribute to the write up of the final project report.

An inception workshop for the project took place early February 2010 in Harare. This was followed by a field trip to Mana Pools National Park and World Heritage Site. The purpose of the fieldtrip was to identify suitable field sites and to apply for a research permit from the local authorities. By the end of June, 2 PhD students and 4 MSc students had been identified and they were in the process of developing research proposals.

#### 4.4.3 Funding for new research activities

##### *Improved Drought Early Warning and FORecasting to strengthen preparedness and adaptation to droughts in Africa (DEWFORA)*



WaterNet, in collaboration with 18 organisations from Africa and Europe, developed and submitted the DEWFORA project proposal to the European Community 7<sup>th</sup> Framework Programme (EC FP7) funded projects at the end of February 2010. The proposal was accepted for funding in mid May.

The main objective of the DEWFORA project is to develop a structure for the provision of early warning and response through drought impact mitigation for Africa. The structure will cover monitoring and vulnerability assessment, forecasting, warning, response, and knowledge dissemination. DEWFORA will address existing capabilities for drought monitoring in Africa and develop improved drought indicators that consider the wider domain of water use and water users, and their dependence on variable water resources. Through these improved indicators vulnerability to drought at different scales across Africa will be assessed. These indicators will be applied to map drought vulnerability in the current climate, but also the change in drought hazard and vulnerability in the future. Through this understanding, drought preparedness and adaptation strategies appropriate to the African context will be developed. Warning thresholds that can be reliably forecasted and advanced meteorological, hydrological and agricultural forecasting methods to predict these thresholds will be developed. Four regional case studies; the Eastern-Nile basin, the Limpopo Basin, the Niger basin, and the Oum-er-Rbia basin, as well as one pan-African case study, will facilitate knowledge development. The project will also carry out an inter-comparison study of approaches applied in the case studies of the DEWFORA project, and those applied in other EU projects, particularly in Southern Europe.

WaterNet will be involved in the Limpopo basin case study where the focus is on the flow of information during drought early warning and implementation of improved methodologies. Information will be generated by a forecasting system that will be developed in the project. This information will flow from the warning system through the institutional framework from regional to local scale. In close collaboration with other stakeholders in the region, improvements in the institutional framework and procedures will be suggested and implemented, building on the technical developments.

The main role of WaterNet in DEWFORA shall be leading a team of partners that are involved in ensuring stakeholder participation, effective and widespread dissemination and uptake of project research results and capacity building in Africa. The team shall achieve these through:

- Policy briefs
- Development of a web-based communication and Knowledge Sharing Platform
- Implementation of the Stakeholders Platform

- End-user workshops
- Training courses
- YouTube movie and
- Publications and external presentations

***Challenge Programme on Water and Food (CPWF)  
Phase II: Limpopo Basin Development Challenge (LBDC)- Integrated management of rainwater to improve smallholder productivity and livelihoods and reduce risk***



Challenge Programme on Water and Food's Phase II Research aim to contribute to solving an important and pressing basin development challenge (BDC). The Limpopo Basin Development Challenge is made up of the following five inter-related projects:

- Project L1 – Targeting and scaling out
- Project L2 – Small-scale infrastructure
- Project L3 – Farm systems and risk management
- Project L4 – Water governance
- Project L5 – Coordination and learning for adaptive management and change (coordination and change project).

A call for express of interest to be involved in the 5 projects (EOI) was issued by CGIAR in March 2010. Waternet expressed interest all the five projects. Projects L1 and L5 accepted the expression of interest, hence WaterNet id involved in the two projects.

***Project L1: Targeting and Scaling Out***

This research project is being carried out collaboratively by Stockholm Environmental Institute (SEI), WaterNet, University of Witwatersrand and Council for Scientific and Industrial Research (CSIR) under the leadership of SEI. The project aim to develop a framework or 'decision- support system' (DSS) for what successful agricultural land and water management interventions can be outscaled and where they may have high potential of successful out scaling. The project will draw from existing developed DSS tools and include new approaches. The following is a proposed approach:

Step 1: Identify and consolidate relevant basin-scale biophysical and social-economic relevant information from previous Challenge Programme on Water and Food (CPWF) activities, and other relevant projects among current partners. The project will build on the CPWF Limpopo Phase 1 project outcomes and combine with current Limpopo basin spatial information as hosted by the CPWF Limpopo basin partners (Projects L1-L5).

Step 2: Identify success cases: Through a basin-wide consultation, combined with findings of CP phase 1 identify what is perceived as successful interventions, and where in the basin these may be found. Ideally, a selection of 'failed' cases should be paired, to enable to study what conditions did not enable successful cases

Step 3: Determine what constitutes potentially successful cases: Develop protocols and assess what biophysical and social-economic conditions constitute successful and failed cases, including aspects of resilience and vulnerability, for example using Participatory GIS methodologies. This should be partially or fully carried out in close collaboration with Projects L2 and L3.

Step 4: Application of Bayesian network analysis within a GIS framework to provide local, regional or global targeting of interventions: This approach was applied in CPWF-funded research under the rubric of "extrapolation domains" and will be extended to include more socio-economic (incl. institutional) factors in addition to biophysical variables. This will enable representation of the geographic 'reach' of projects -with probability assessments-, making final predictions more defensible, relevant and useful. This may be complemented by poverty-mapping exercises as carried out under the CPWF Basin Focal Projects. These outputs may further be directly linked to the basin scale water management domain as was carried out in the Mekong (i.e., V4) and in the Nile basin (N4). It is envisaged that this will enable research outputs with probability intervals, making final predictions more relevant and useful.

Step 5: Compare Bayesian network analysis outputs with conventional/existing DSS tools outcomes.

Step 6: Organising, presenting and making research deliverables (tools and knowledge) available through various channels of communication such as direct involvement of key stakeholders, an online knowledge-sharing platform, end-user workshops, professional training courses and special sessions at regional scientific conference such as the WaterNet/WARFSA/GWP-SA Symposia and FANRPAN Regional Policy Dialogues.

WaterNet will be involved in the identification and research of case studies on interventions on food and water. There shall be 3 MSc IWRM full fellowships for the year 2011 from the project and a number of other WaterNet MSc students will be involved in various research activities in the project. In addition, WaterNet will be responsible for offering professional courses to relevant stakeholders in the project.

***Project L5: Coordination and learning for adaptive management and change***

The research is being carried out collaboratively by Food Agriculture and Natural Resources Policy Analysis Network (FANRPAN), which is the lead organisation, Global Water Partnership South Africa (GWP-SA) and WaterNet. The role of the Coordination and Change Project (L5) is to help Limpopo BDC projects conduct quality, coherent and problem oriented research to contribute to beneficial change in the basin. The following are the main focus areas that will frame the collaboration between L5 and the other four BDC projects to reach this goal:

- Coordination of quality research- Each project (L1-L4) shall develop Impact pathways that shall be used to, among other things, diagnose gaps and overlaps between projects. A logical framework for the whole project shall also be developed by Project L5.
- Fostering Change-This shall be done mainly through policy dialogues with policy makers and relevant stakeholders
- Communications- Various communication means shall used to facilitate interaction between the participants in the project and disseminate project results to end users, including a web-based communication and knowledge sharing platform that will be developed by WaterNet.
- Adaptive Management-Various methods including impact pathways, stakeholder surveys and reflection workshops shall be used for regular reflection of projects.

- Innovation Research- Waternet will be involved in studies on how research lead to change. This will involve an analysis of knowledge generation and uptake of innovation.
- Capacity building- of researchers and various stakeholders including policy makers and practitioners through training courses. This shall be WaterNet's responsibility.

A workshop for Phase 2 of the Challenge Program on Water and Food (CPWF) was held from the 4<sup>th</sup> to the 7<sup>th</sup> of May 2010 in Pretoria, South Africa. Among the outputs and outcomes of the workshop were an understanding of roles and linkages between the different projects, selection of study sites and project proposal components, including sharing roles amongst partners involved in a project. The project proposals were submitted by end of June 2010.

***Eco-technologies-Targeted Sanitation Approaches for Poor Income Areas in Sub-Saharan Africa (SPLASH TSAPIA)***



A concept note on the project was developed and submitted to SPLASH in April 2010 and the revised proposal in September 2010. This project is the first water and sanitation project to be put together by WaterNet. The main objective of the research is to contribute to the millennium development goals (MDG) particularly health and environment and sustainability, through sustainable sanitation systems in low income formal and informal urban settlements focusing on innovation, policy and implementation. This will be achieved by adopting a strategy that considers sustainable municipal sanitation service chains and the individual components of the chain in low income urban areas, including informal and peri-urban areas. The study will cover mainly onsite but also decentralised systems and resource utilisation. The approach includes training, information as well as research and development (R&D) support to provide local and national stakeholders with capacities and tools to generate solutions that are tailored to their specific needs. The research is trans-disciplinary and will be carried out collaboratively by WaterNet Trust, 7 WaterNet member institutions (UNESCO-IHE, University of Zimbabwe's Department of Civil Engineering, Institute of Water and Sanitation Development, University of Dar-es-Salaam, University of the Western Cape, Makerere University, Polytechnic of Namibia) and University of Zimbabwe's Institute of Environmental Studies.

The project addresses specifically the needs of low income urban areas in Africa by formulating sustainable solutions for wastewater management in the context of the complete municipal water cycle. Emphasis of the project shall not be on technology only but on the whole system in its totality. The project will be carried out on both functioning and non functioning Eco-technological systems. However, the case study sites are still to be identified. The output of the project would be knowledge impartation on issues of sanitation as well as transfer and out scaling of eco-technology. The project was shortlisted for funding at the beginning of June 2010 and a full proposal to SPLASH is being developed to be submitted by the 25<sup>th</sup> of August.

***Integrating Social and Natural Systems in Enhancing Environmental Sustainability in the Middle Zambezi Valley (Eco-hydro Zambezi)***

Land-use management along Transboundary Rivers in the Southern Africa Development Community (SADC) region is a challenge especially in the most remote parts of riparian areas. The Middle Zambezi Valley is greatly influenced by how water is managed upstream and also downstream in the Cabora Bassa Dam. The poor in this area are the most vulnerable

in society and this vulnerability is exacerbated by floods and droughts which have become more frequent in recent years. All indications are these will become worse in future because of climate change. The idea of this project is to investigate how these poor and vulnerable communities are impacted on by the temporal changes in the flow regimes of rivers and how these communities respond to the changes. This is essential for the development of appropriate coping mechanisms.

The one year research project is based on 5 linked MSc studies and is centered on the central theme of sustainable environmental management of river basin for ecosystem protection and improved livelihoods. By basing it on MSc studies, the project will be able to collect baseline data that could be used for further PhD studies in subsequent projects. The research will follow the concept of integrated water and natural resources management and it will look at reservoir operations in the Middle Zambezi Valley, including its seasonal impacts on land-use and livelihoods. For hydrological studies, a broader part of the basin will be used while a case study approach will be used for the environment and socio-economic part of the study. The research will investigate how the environment is impacted and impacting the communities and vice versa. Ways in which communities should be organized in a manner that best responds and safeguards the environment will then be explored. Climate change adaptation is a crosscutting issue in this project.

In addition to providing 5 MSc students from its IWRM Masters program, WaterNet will manage the research funds on behalf of its members who will be involved in the project. The proposal was approved for funding under UPaRF Category III.

#### **4.4.4 WaterNet-SADC Professorial Chairs in IWRM**

##### ***University of Dar-es-Salaam (UDSM)***

The University of Dar-es-Salaam appointed Prof Felix Mtalo as the Chair Holder with effect from 1 December 2007. Prof Mtalo effectively started his Professorial Chair duties as from 1 February 2008 and has been conducting and reporting on his activities since then.



Prof Mtalo

##### ***Polytechnic of Namibia (PON)***

The Polytechnic of Namibia appointed Prof Damas Mashauri as the Chair holder and he assumed duties on 27 February 2010. Prof Mashauri has been instrumental in the development of the new Master in IWRM programme at PON, which goes a long way towards the sustainability of the Water Supply and Sanitation Option (Water for People Specialisation).



Prof Mashauri

##### ***University of Zimbabwe (UZ)***

The University of Zimbabwe appointed Prof Innocent Nhapi as the Chair holder with effect from 1 October 2009. Prof Nhapi assumed his post and his workplan was approved by the Board



Prof Nhapi

##### ***University of Malawi (UNIMA)***

The University of Malawi (UNIMA) readvertised the position and the applicants were considered by the Board meeting in May 2010. The results of this meeting were communicated to UNIMA and interviews shall be arranged by UNIMA in the next reporting period.

**University of the Western Cape (UWC)**

Interviews for the position of Chair at UWC were held for the shortlisted candidate on 2 December 2008. With her promotion to Associate Professor, the arrangement for Prof Mazvimavi, a Trustee based at UWC, to assist in supervision of Prof Goldin was terminated by agreement with UWC.



Prof Goldin

**4.5 RAISE AWARENESS AND UNDERSTANDING IN IWRM**

**4.5.1 Publications**

During the reporting period two issues of the WaterNet newsletter (WaterNet News Volume 6 Issue 1 and 2) were produced and circulated to members and the water sector through electronic media. The two publications are available on the WaterNet website. The newsletter continues to be a useful and quick method of sharing information on WaterNet activities and on-going initiatives in the Water Sector in Southern Africa and beyond.

During the period under review, the processing and review of papers from the 10<sup>th</sup> WaterNet/WARFSA/GWP-SA Symposium took place and selected papers were published in a special issue of the Journal of Physics and Chemistry of the Earth.

**4.5.2 WaterNet/ WARFSA/ GWP-SA Symposium**

Preparations for the 11<sup>th</sup> WaterNet/WARFSA/GWP-SA Symposium, with the theme “IWRM for National and Regional Integration: Where science, policy and practice meet” scheduled for 27<sup>th</sup> to the 29<sup>th</sup> of October 2010 in Victoria Falls, Zimbabwe were underway during this reporting period. To this end, two calls for abstracts for the 11<sup>th</sup> WaterNet/WARFSA/GWP-SA symposium were sent out. In excess of three hundred abstracts were received and a multi-disciplinary Scientific Committee was constituted to review the abstracts. The breakdown of abstracts received by theme is below:

<b>Sub-theme</b>	<b>abstracts accepted</b>
Hydrology	51
Water and Environment	63
Water and Land	50
Water and Society	64
Water Resources Management	27
Water Supply and Sanitation	64
<b>Total abstracts</b>	<b>319</b>

A guide for writing good abstracts was developed by Professor Innocent Nhapi (SADC-WaterNet professorial Chair in Integrated Water Resources Management at the University of Zimbabwe). This was in an effort to improve the quality of Symposium abstracts and

subsequently papers published. In addition, the Secretariat copy edited all abstracts and the Scientists were requested to submit revised abstracts for publication in the 11<sup>th</sup> Symposium volume of abstracts. This year's call for abstracts invited Water, Sanitation and Environmentally orientated organisations and companies to exhibit at the Symposium. This was an effort to attract a more diverse group of Symposium attendants and specifically to encourage the participation of the private sector, and practitioners to take part in the annual IWRM showcase. In addition the exhibition was aimed at increasing revenue for the Local Organising Committee.

The Secretariat and selected members of the Symposium Local Organising Committee (LOC) went to Victoria Falls to assess and identify possible Symposium venue and to identify accommodation options for the Symposium delegates. An inspection of the conference facilities and accommodation rooms was conducted at the Elephant Hills Resort and six other hotels were visited. A Memorandum of Understanding was signed with the Institute of Water and Sanitation Development (Secretariat to the 11<sup>th</sup> Symposium Local Organising Committee) on behalf of the LOC.

#### **4.5.3 Alumni Association**

The WaterNet Alumni Association was launched in November 2007 and they have been very active in WaterNet activities since their inception. The Association is headed by a steering committee and the following were achieved in the current reporting period:

#### **Alumni Workshop at the Tamal Hotel in Mwenge Dar -es- Salaam on the 15th of May 2010**

The WaterNet Alumni Association held the 1<sup>st</sup> ever Alumni Workshop at the Tamal Hotel in Mwenge Dar -es- Salaam on the 15<sup>th</sup> of May 2010. A total of 36 past and present Masters in Integrated Water Resources Management students were in attendance. The workshop was attended by the IWRM Master Coordinator at the University of Dar - es- Salaam; Dr Joel Norbert, WaterNet Alumni Association Chairperson; Ezrah Natumanya, the Association Secretary; Ms Doris Twikirize, Alumni Board member, Dr Victor Kongo and the WaterNet programme officer; Ms Rennie



Chioreso. The workshop discussed the successes and challenges of the Alumni. The Alumni members present at the workshop acknowledged that the Masters in Integrated Water Resources Management created a career path for them and has greatly contributed to their appreciation of IWRM challenges within their respective countries. They also affirmed that the Masters programme, though very intensive, equipped them with skills to address the challenges they are faced with in their daily operations within their respective countries. However, most Alumni expressed the desire to be integrated in WaterNet's mainstream activities such as organising and running Professional Training Courses, being involved in teaching selected modules of the Masters in IWRM programme and taking an active role in organising the WaterNet/WARFSA/ GWP-SA symposium. One key outcome of the workshop is the general consensus that the WaterNet Alumni will take a leading role in creating Country Water Chapters so as to enhance peer to peer networking and to enhance the role that Young Water Professionals play in identifying and addressing key IWRM challenges in their respective countries.

## **Progress and future planned activities**

The Alumni steering committee continued to update the Alumni database. The interactive database continues to be a useful tool where information on upcoming events and opportunities for career growth are shared.

Below are the Association plans for the remainder of 2010:

- Second Alumni workshop is scheduled for the 23<sup>rd</sup> of October 2010 at the University of Zimbabwe
- Engagement of members of the Alumni in career development initiatives including relevant short training courses.
- Creating an interactive, dynamic web platform for association activities
- Partnering with WaterNet for pioneering a mentorship programme
- Supporting Alumni in water sector to link MIWRM modules and students to field work
- Publicity, and Promotional activities joint with WaterNet
- Association strengthening and promoting member participation in WaterNet and WaterNet Alumni Association
- Fundraising to supplement funding from WaterNet
- Creating links and partnerships with other similar associations and organisations
- Establishment of SADC-EAC country Young Water Professional Chapters
- Strategic and long term financing planning
- Recruiting an intern or part-time alumni to work on Alumni affairs
- Contributing to organisation/running and participation in WaterNet symposium

### **4.5.4 Other outreach activities**

During the reporting period, WaterNet also participated in the following events:

#### **1<sup>st</sup> Regional Conference of the Southern Africa Young Water Professionals**

The 1<sup>st</sup> Regional Conference of the Southern Africa Young Water Professionals was held on the 19<sup>th</sup> and 20<sup>th</sup> of January 2010 in Pretoria, South Africa. The conference was organised by the Southern African Young Water Professionals under the auspices of the International Water Association (IWA) and the Water Institute of Southern Africa (WISA). The conference aimed to provide a forum for young researchers and practitioners in water and wastewater science, governance, engineering, technology, management and other areas of the water sector, to present their work and meet their peers in multi-disciplinary fields of water research to further career development. WaterNet exhibited at this conference and has since encouraged the WaterNet Alumni Association to establish Young Water Country Water Chapters in Southern and East Africa.

#### **The Water Sector Capacity and Skills Development Conference**

WaterNet exhibited and participated in the Water Sector Capacity and Skills Development Conference convened under the theme of 'addressing challenges on the ground in the South African Water Sector'. This conference, presented by the Department of Water Affairs and the Water Institute of Southern Africa, aimed at addressing the challenges regarding capacity and

skills in the South African water sector. Topics covered included, among others, poverty and unemployment, workplace needs, professionalism, mentorship, the role of young professionals and changes in skills development regulations. Presentations at the Water Sector Capacity and Skills Development Conference held in Port Elizabeth painted a bleak picture of the current state of skills in the water services sector in South Africa. Nine percent of municipalities, it was said are "in severe crisis", 38 percent are likely to reach the same level of crisis within eight months, and 42 percent are at risk of reaching the same high risk profile if no intervention takes place. Approximately 70 percent of municipalities were described as having "insufficient capacity" to deal with the provision of water services. WaterNet made a presentation during the conference and offered the South Africa Water Sector professionals an opportunity for collaboration in addressing the skills gap.

**Young Researchers’ Seminar and Global Conference on Agriculture for Development**

The Manager attended this event in March 2010, presented his PhD work from Challenge Prig ram Phase 1 and participated in discussions around the realignment of the international agricultural research system.



## REPORTING, BUDGET AND EXPENDITURE ANALYSIS

### 4.5.5 Budget and expenditure analysis

This section integrates the narrative progress report, achievements and the budget and elaborates on the expenditure statement as presented in the report as **Annex 1**.

**Table 5.1** provides a summary of the Phase IIb realisation per Fund for the reporting period, the variation between the two and comments.

Based on the comparison of the budget and expenditures the following can be noted:

1. Membership subscription (and other income) funding is now operational and financed Trustee honoraria, among other costs.
2. Apparent over-expenditure on Language Fund and Curriculum Development Fund is due to use of funding carried over from the 2009 budget.
3. High expenditure on the Management Fund has been incurred due to exchange rate issues: most costs on this fund are invoiced in United States Dollars, so the fall in Euro : Dollar exchange rates negatively impacted the budget. At the time of budgeting, the Management Fund budget of € 395,000 was worth \$ 632,000 – but by June 2010 it was worth only \$450,300, which is about 30% less. Although the Euro has recovered in value since June 2010, cuts in expenditure during the next reporting period are required.

### 4.5.6 Reporting

The four months period after the lapse of the reporting period to conclude progress reports is deemed to be sufficient to allow time for the Secretariat to gather all the reports from the members (financial and narrative) before compiling them into one document to be sent to the Management Board and Cooperating partners.

The process of financial reporting has been delayed by the assignment of staff at the Secretariat and KPMG to the audit and sub-audits for 2009, otherwise the report would have been submitted substantially before the deadline.

**Table 5.1** Budget and expenditure analysis for the reporting period

CONSOLIDATED RECEIPTS AND EXPENDITURES STATEMENT PERIOD From 1 January - 30 June 2010 (in Euro)										
Description	A1	A2	A3	B1	B2	B3	C1=A1-B1	C2=A2-B2	C3=A3-B3	Comment
	Phase IIb approved budget 2010			Phase IIb expenditures for the period at 30 June 2010			Balance 2010			
	DGIS	Sida	MEM	DGIS	Sida	MEM	DGIS	Sida	MEM	
<i>To forge a strong, demand driven and sustainable network</i>										
WaterNet Management Fund	395,000	-	15,000	292,242	136	6,987	102,758	(136)	8,013	Overexpenditure for half-year related to exchange rate issues.
International Scientific Backstopping	90,000	-	-	28,805	-	-	61,195	-	-	
Nodal Strengthening Fund	35,000	-	-	-	-	-	35,000	-	-	
<b>Subtotal</b>	<b>520,000</b>	<b>-</b>	<b>15,000</b>	<b>321,048</b>	<b>136</b>	<b>6,987</b>	<b>198,952</b>	<b>(136)</b>	<b>8,013</b>	
<i>To raise awareness and understanding on IWRM at catchment, basin and transboundary scales</i>										
Symposium Fund	96,000	-	-	4,665	-	-	91,335	-	-	
Publication Fund	30,000	-	-	3,067	-	-	26,933	-	-	
<b>Subtotal</b>	<b>126,000</b>	<b>-</b>	<b>-</b>	<b>7,732</b>	<b>-</b>	<b>-</b>	<b>118,268</b>	<b>-</b>	<b>-</b>	
<i>To support higher education in IWRM, by delivering and strengthening the jointly owned WaterNet Master programme in IWRM</i>										
Fellowship Fund	-	360,000	-	-	185,704	-	-	174,296	-	
MSc Dissertation Fund	-	90,000	-	-	30,000	-	-	60,000	-	
Curriculum Development Fund	18,000	-	-	29,810	-	-	(11,810)	-	-	Partially funded from 2009 budget.
Staff Exchange Fund	75,000	-	-	16,923	-	-	58,077	-	-	
Professorial Chair Fund	-	150,000	-	-	100,430	-	-	49,570	-	
<b>Subtotal</b>	<b>93,000</b>	<b>600,000</b>	<b>-</b>	<b>46,734</b>	<b>316,135</b>	<b>-</b>	<b>46,266</b>	<b>283,865</b>	<b>-</b>	
<i>To increase the accessibility to professional training and education in IWRM for staff in water related businesses in Southern Africa</i>										
Catchment Partnership Fund	35,000	-	-	10,813	-	-	24,187	-	-	
Professional Training Fund	120,000	-	1,600	93,543	-	9,951	26,457	-	(8,351)	Refundable advance to Univ. Botswana booked under MEM.
Language Course Fund	5,000	-	-	10,704	-	-	(5,704)	-	-	Partially funded from 2009 budget.
<b>Subtotal</b>	<b>160,000</b>	<b>-</b>	<b>1,600</b>	<b>115,060</b>	<b>-</b>	<b>9,951</b>	<b>44,940</b>	<b>-</b>	<b>(8,351)</b>	
<i>To stimulate, regionalise and strengthen research in the field of IWRM in the Southern Africa Region by offering opportunities to perform joint research</i>										
Staff Development Fund	25,000	-	15,000	17,870	-	-	7,130	-	15,000	
Alumni Association Fund	18,000	-	-	4,371	-	-	13,629	-	-	
<b>Subtotal</b>	<b>43,000</b>	<b>-</b>	<b>15,000</b>	<b>22,242</b>	<b>-</b>	<b>-</b>	<b>20,758</b>	<b>-</b>	<b>15,000</b>	
	<b>942,000</b>	<b>600,000</b>	<b>31,600</b>	<b>512,815</b>	<b>316,271</b>	<b>16,938</b>	<b>429,185</b>	<b>283,729</b>	<b>14,662</b>	
<b>Contingencies</b>	<b>20,000</b>	<b>15,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>20,000</b>	<b>15,000</b>	<b>-</b>	
<b>Total</b>	<b>962,000</b>	<b>615,000</b>	<b>31,600</b>	<b>512,815</b>	<b>316,271</b>	<b>16,938</b>	<b>449,185</b>	<b>298,729</b>	<b>14,662</b>	

## 5 DEVIATION FROM PLANNED ACTIVITIES

No substantial deviations.

## 6 Response to comments made on previous report

After making some minor corrections, there were no specific comments from DGIS or Sida on the 3<sup>rd</sup> Progress Report. However, there is further progress to report on earlier comments:

<i>Comment</i>	<i>Response by WaterNet</i>
<b>Increase efforts in the area of professional courses and training</b>	WaterNet will surpass the target of 8 courses in 2010 set out in the 2010 workplan. WaterNet has submitted a proposal to SADC and the East African Community to run the professional training programme on capacity building in large water infrastructure. Should this proposal be approved, it will substantially increase our professional training activities and also represent a significant response to demand.
<b>Plans to deal with delays in appointing Chairs</b>	With appoint of Prof Mashauri at the Polytechnic of Namibia (PON), only one Chair is outstanding. The University of Malawi (UNIMA) readvertised the position and the applicants were considered by the Board meeting in May 2010. The results of this meeting were communicated to UNIMA and interviews shall be arranged by UNIMA (see section 4.4.4).
<b>Consider reducing international travel where possible</b>	Efforts have commenced in this area and in addition to a number of trips which the Management and Board declined to undertake, the following savings can be reported: <ul style="list-style-type: none"> <li>(i) The Management Board meeting of May 2010 was originally planned for Harare, Zimbabwe. It was moved to the regional hub of Johannesburg, resulting in a saving of \$1,800 and a reduction in carbon footprint of 2.24 t.</li> <li>(ii) The interviews for the Research Coordinator were delayed and held immediately before the Management Board meeting of May 2010, resulting in a saving of \$4,500 and a reduction in carbon footprint of 1.67 t.</li> <li>(iii) Several planned meetings were replaced by Skype conference calls. One example was an annual planning meeting with Cap-Net. Replacing this with a Skype conference saved \$ 990 and resulted in and a reduction in carbon footprint of 0.37 t.</li> </ul>

Harare, October 2010

David Love MSc MWISA  
WaterNet Manager

Harare, October 2010

Wilson Rufaro Nyemba MSc  
WaterNet Trust, Chairman

**7 ANNEXES**

Annex 1: Consolidated Financial Report (1 JANUARY TO 30 JUNE 2010)..... 46

## **ANNEX 1: CONSOLIDATED FINANCIAL REPORT (1 JANUARY TO 30 JUNE 2010)**

CONSOLIDATED RECEIPTS AND EXPENDITURES STATEMENT PERIOD From 1 January - 30 June 2010 (in Euro)										
Description	A1	A2	A3	B1	B2	B3	C1=A1-B1	C2=A2-B2	C3=A3-B3	Comment
	Phase Iib approved budget 2010			Phase Iib expenditures for the period at 30 June 2010			Balance 2010			
	DGIS	Sida	MEM	DGIS	Sida	MEM	DGIS	Sida	MEM	
<i>To forge a strong, demand driven and sustainable network</i>										
WaterNet Management Fund	395,000	-	15,000	292,242	136	6,987	102,758	(136)	8,013	Overexpenditure for half-year related to exchange rate issues.
International Scientific Backstopping	90,000	-	-	28,805	-	-	61,195	-	-	
Nodal Strengthening Fund	35,000	-	-	-	-	-	35,000	-	-	
<b>Subtotal</b>	<b>520,000</b>	<b>-</b>	<b>15,000</b>	<b>321,048</b>	<b>136</b>	<b>6,987</b>	<b>198,952</b>	<b>(136)</b>	<b>8,013</b>	
<i>To raise awareness and understanding on IWRM at catchment, basin and transboundary scales</i>										
Symposium Fund	96,000	-	-	4,665	-	-	91,335	-	-	
Publication Fund	30,000	-	-	3,067	-	-	26,933	-	-	
<b>Subtotal</b>	<b>126,000</b>	<b>-</b>	<b>-</b>	<b>7,732</b>	<b>-</b>	<b>-</b>	<b>118,268</b>	<b>-</b>	<b>-</b>	
<i>To support higher education in IWRM, by delivering and strengthening the jointly owned WaterNet Master programme in IWRM</i>										
Fellowship Fund	-	360,000	-	-	185,704	-	-	174,296	-	
MSc Dissertation Fund	-	90,000	-	-	30,000	-	-	60,000	-	
Curriculum Development Fund	18,000	-	-	29,810	-	-	(11,810)	-	-	Partially funded from 2009 budget.
Staff Exchange Fund	75,000	-	-	16,923	-	-	58,077	-	-	
Professorial Chair Fund	-	150,000	-	-	100,430	-	-	49,570	-	
<b>Subtotal</b>	<b>93,000</b>	<b>600,000</b>	<b>-</b>	<b>46,734</b>	<b>316,135</b>	<b>-</b>	<b>46,266</b>	<b>283,865</b>	<b>-</b>	
<i>To increase the accessibility to professional training and education in IWRM for staff in water related businesses in Southern Africa</i>										
Catchment Partnership Fund	35,000	-	-	10,813	-	-	24,187	-	-	
Professional Training Fund	120,000	-	1,600	93,543	-	9,951	26,457	-	(8,351)	Refundable advance to Univ. Botswana booked under MEM.
Language Course Fund	5,000	-	-	10,704	-	-	(5,704)	-	-	Partially funded from 2009 budget.
<b>Subtotal</b>	<b>160,000</b>	<b>-</b>	<b>1,600</b>	<b>115,060</b>	<b>-</b>	<b>9,951</b>	<b>44,940</b>	<b>-</b>	<b>(8,351)</b>	
<i>To stimulate, regionalise and strengthen research in the field of IWRM in the Southern Africa Region by offering opportunities to perform joint research</i>										
Staff Development Fund	25,000	-	15,000	17,870	-	-	7,130	-	15,000	
Alumni Association Fund	18,000	-	-	4,371	-	-	13,629	-	-	
<b>Subtotal</b>	<b>43,000</b>	<b>-</b>	<b>15,000</b>	<b>22,242</b>	<b>-</b>	<b>-</b>	<b>20,758</b>	<b>-</b>	<b>15,000</b>	
<b>Contingencies</b>	<b>942,000</b>	<b>600,000</b>	<b>31,600</b>	<b>512,815</b>	<b>316,271</b>	<b>16,938</b>	<b>429,185</b>	<b>283,729</b>	<b>14,662</b>	
<b>Total</b>	<b>962,000</b>	<b>615,000</b>	<b>31,600</b>	<b>512,815</b>	<b>316,271</b>	<b>16,938</b>	<b>449,185</b>	<b>298,729</b>	<b>14,662</b>	

Description	Notes	Comments	B1	B2	B3	C1=B1+B2+B3	Comment
Phase IIb Receipts January to December 2010							
			DGIS	Sida	MEM	Total	
<b>Receipts</b>							
Grants received	1					-	
Interest income	2		216	-	2	218	
Membership subscriptions			-	-	6,621	6,621	
<b>Funding income</b>			<b>216</b>	<b>-</b>	<b>6,623</b>	<b>6,839</b>	
<b>Other Income</b>							
Gain on foreign currency exchange			-	1	-	1	
						-	
<b>Total receipts</b>			<b>216</b>	<b>1</b>	<b>6,623</b>	<b>6,840</b>	
<b>Opening cash and bank balances</b>			511,854	471,384	20,989	1,004,228	
			512,071	471,385	27,612	1,011,068	
<b>Total</b>			<b>512,071</b>	<b>471,385</b>	<b>27,612</b>	<b>1,011,068</b>	
Description	Notes	Comments	DGIS	Sida	MEM	Total	
Disbursements - per above			512,815	316,271	16,938	846,024	
						-	
Net interest earned on Sida funds	2		-	(399)	-	(399)	
Loss on foreign currency exchange			704	-	1	705	
Reimbursements made in relation to Phase IIa	3		394	-	-	394	
Movements in advances	4		29,797	1,815	-	31,612	
Movements in prepayments	5		(564)	-	-	(564)	
Movements in commitments	6		(30,147)	(45,844)	(2,333)	(78,325)	
Movements in subscriptions receivable			-	-	(600)	(600)	
Movements in other receivables	7		8,530	-	-		
Challenge Program	8		14,149	19,929	3,743	37,821	
Power2Flow	9		1,924	-	3,116	5,040	Will be reported under a new column (UPaRF: B4) in the future reporting
Balance of funds owed by Sida	10/11		(71,105)	71,105	-	-	
Balance of funds owed to Members Fund	12		(291)	-	291	-	
Cap-Net - repayments of grants from 2009			(2,542)	-	-	(2,542)	
UNOPS - repayments of grants from 2009			(6,256)	-	-	(6,256)	
<b>Total disbursements</b>			<b>457,408</b>	<b>362,877</b>	<b>21,155</b>	<b>841,440</b>	
<b>Net increase of cash receipts</b>			<b>54,663</b>	<b>108,509</b>	<b>6,457</b>	<b>169,628</b>	
<b>Evidenced by cash and bank balances</b>	13		<b>54,663</b>	<b>108,509</b>	<b>6,457</b>	<b>169,628</b>	



**NOTES TO THE CONSOLIDATED RECEIPTS AND EXPENDITURES STATEMENT PERIOD 1 January - 30 June 2010**  
(In Euro)

	<b>1 Jan - 30 June 2010</b>
<b>1. Grants received</b>	
Received as follows during the period under review:	
Netherlands Ministry of Development Cooperation (DGIS)	
Swedish International Development Cooperation Agency (Sida)	
	-
There were no grants received during the period under review.	
<b>2. Interest income</b>	
<i>On DGIS funds:</i>	
The DGIS agreement states that interest earned on grants received should be used to finance the agreed upon activities. It further states that the interest should not be used for capital formation.	
	216
<i>On Sida funds:</i>	
The Sida agreement states that the interest income should be refunded to Sida within six months of the end of the programme.	
	399
<i>On Membership fund</i>	
	2
<b>Total</b>	<b>617</b>
<b>3. Balance of funds from Phase IIa</b>	
This represents funds from the Phase IIa project that are yet to be repatriated to UNESCO-IHE Institute for Water Education after final closure of the project. Eur 394 was repatriated to UNESCO-IHE during the period under review.	
	<b>17,832</b>
<b>4. Advances</b>	
Included in advances are amounts issued by the Secretariat office. These will be allocated accordingly once the receipts and necessary information is received.	
	<b>31,612</b>
<b>5. Prepayments</b>	
Lockton vehicle insurance - July 2010	
	<b>8,530</b>
<b>6. Commitments</b>	
These represent pledges made by the Trust at period-end as follows:	
<b>DGIS</b>	
Nyati Travel (Pvt) Ltd (USD 630)	485
University of Lesotho - Hosting of Economic and Financial Instruments for Implementation of Sustainable WASH Programs	2,074
IWRM Zambezi programme 2010 - Ramboll Natura	14,208
Honoraria Jan-Jun 2010	2,000
Staff development grant: M. Zvidzai	7,500
KPMG - April - June 2010 accounting fee's & manual reviews (BWP 113,542)	12,673
	<b>38,940</b>

**Sida**

University of the Western Cape - Dr Goldin Professorial Chair (Feb 2009-Apr 2010)	22,688
Nyati Travel (Pvt) Ltd - airfares for travel in relation to the Fellowship Fund (USD 26,720)	21,406
D. Mashauri - Professorial Chair (June 2010)	1,750
	<u>45,844</u>

**Members**

F. Kansime - Honoraria (Jan-Jun 10)	1,000
D. Mashauri - Honoraria (Jan-Feb 10)	333
D. Mazvimavi - Honoraria (Jan-Jun 10)	1,000
	<u>2,333</u>

**Total****87,117****7. Other receivables**

This represents the value outstanding from Stanbic Botswana in relation to a processing error, through the use of incorrect exchange rates. The outstanding value was received in August 2010.

**8,530****8. Challenge Program**

These are costs incurred which must be reimbursed from the Challenge Program. The Challenge Program is a special project whose accounts are presented, reported and audited separately.

**9,027****9. Power2Flow**

These are costs incurred which must be reimbursed from Power2Flow. This is a special UPaRF project but its accounts will be audited with all other Trust accounts.

**5,040****10. Balance of funds owed by Sida**

This represents the balance of funds owed to DGIS from the inception of Phase 11b for payment of the Fellowship Fund, Professorial Fund and the MSC Dissertation Fund, which are funded by Sida. These cover the period from July 2008 to June 2010.

**193,534****11. Balance of funds owed by DGIS**

This represents the balance of funds owed to Sida for payments made on behalf of DGIS during May-June 2010 whilst awaiting the DGIS grant receipt. This has been subsequently re-imbursed to the Sida Fund in July 2010.

**87,669****12. Balance of funds owed to Members Fund**

This represents the balance of funds owed to the Members Fund for receipts received into the DGIS bank account.

**291****13. Cash and bank balances**

Cash balances	38,719
Bank balances	130,909
	<u>169,628</u>

