

Annual report

Phase III: 2012-2016

January - December, 2016



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Submitted by the WaterNet Trust



WATERnet

Building capacity for Water Resources Management in Southern Africa

Annual Report

Phase III: 2012-2016

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WaterNet Phase IV (2017-2021) - Sustainability

The year 2016 was very much characterised by efforts toward WaterNet sustainability and this resulted in the development of the WaterNet Phase IV (2017-2021) strategy. The new strategy emphasizes on the needs to financially sustain WaterNet operations by diversifying the source of funding. SADC members States are expected to contribute toward fellowships that will be awarded to their Nationals for the next phase. By the end of 2016, out of Euro 8.6 Million Budget for WaterNet Phase IV, International Cooperating Partners provided and committed the following; The Netherlands Government through DGIS (31%), the German and British Governments through GIZ (9%). The European Commission (EC) through the Horizon 2020 research project and other partners (IUCN, USAID) will also contribute toward funding WaterNet Phase IV. WaterNet will also be moving toward an outcome based results framework for the monitoring of progress in Phase IV.

Financial Sustainability

In 2016 out of a total budget of EURO 1,517,322, DGIS contribution represented 80% and the rest was shared with other cooperating partners and projects (DANIDA (5%), Membership inclusive of commissioned trainings (10%), GIZ (2%) and others (3%).

Masters Programme 2015- 2016 Intake (33 students)

Thirty-three students started the IWRM Masters Programme at the University of Zimbabwe (UZ) and the University of Dar Es Salaam (UDSM) in February 2015. Of these 28 students were sponsored through WaterNet while five students secured funding from other institutions. 30 students of this intake graduated in 2016.

Masters Programme 2016- 2017 Intake (25 students)

Twenty-Five students started the IWRM Masters Programme at the University of Zimbabwe and the University of Dar Es Salaam in February 2016. Of these 20 students were sponsored through WaterNet while five students secured funding from other sources. Four specialisations were offered in 2016.

Professional Training Programme

Eight face to face training courses were held and 165 participants were trained and one online course was convened under the UNDP/CapNet Virtual campus with 80 participants. Hence a total of 245 participants were trained under WaterNet in 2016

19th and 20th WaterNet Management Board Meeting

The 19th and 20th WaterNet Management Board meetings took place respectively in Maputo, Mozambique in May and Gaborone, Botswana in October 2016. The major highlights of these two meetings included the finalisation of the WaterNet phase IV (2017-2021). The Management Board lost through death in May 2016 Prof Firmino Mucavele from Mozambique. Dr Manta Nowbuth from Mauritius was elected in October 2016 for his replacement.

17th WaterNet/WARFSA/GWP-SA Symposium

The 17th WaterNet/ WARFSA/GWP-SA symposium was held at Gaborone International Conference Center in Gaborone, Botswana under the Chairmanship of Prof Joseph Mbaiwa from the University of Botswana. Out of 267 submissions received from authors of 34 different countries, the Scientific programme for the 17th Symposium had 119 oral session

papers, 6 papers for presentation in the Scientific Plenary Session, 5 Special Sessions and 40 posters . The theme of the symposium was Integrated Water Resources Management: Water Security, Sustainability and Development in Eastern and Southern Africa. 303 participants registered for the symposium

Executive Summary

The summary of achievements and challenges encountered in 2016 based on the yearly workplan and budget (as approved at the 16th WaterNet Annual General Meeting, held on 29th October 2015 at Pointes aux Piments, Mauritius) are indicated in Table 1.1.

Table 1.1 Overview of achievements and challenges during 2016

Objective 1: Sustaining the Network through better governance and deeper ownership	
<i>Output 1.1: Carry out the functions of a SADC Subsidiary Institution under the Fourth Regional Strategic Action Plan on Integrated Water Resources Development and Management (RSAP4)</i>	
<p>To implement Activities of RSAP4</p> <p>Lead Activities in the implementation of the SADC SHCP</p> <p>With SADC, identify WaterNet's role to support or implement at least three further activities of capacity development</p> <p>Report to SADC Water Resources Technical Committee and Ministers responsible for Water on current WaterNet activities</p>	<p>Achieved, WaterNet developed the training matrix for 2016-2020 based of the SADC SHCP.</p> <p>WaterNet to contribute to the WRTC annotated agenda for the meeting that took place in May in Swaziland. WaterNet contribute to the SADC WRSG meeting in Gaborone</p> <p>Contact have been established with GIZ for WaterNet to implement capacity building activities for the SADC water division from January 2017 to April 2019</p>
<i>Output 1.2: Promote member ownership of the network</i>	
<p>Increased membership in SADC states with few members (Angola, Madagascar, Seychelles)</p> <p>Promote active participation of members in WaterNet Activities (Education, Outreach, Research and Trainings)</p> <p>Members with staff development needs catered for in MSc, Post-Master and PhD programmes.</p>	<p>WaterNet 4 new members received their acceptance letters and Madagascar is now represented. Contacts with SADC WRTC focal points established in Botswana, D R Congo, Zambia and Zimbabwe.</p> <p>The PhD programme continues to support staff from UZ, UNZA and UKZN</p> <p>Msc Fellowship offered to UZ staff member</p> <p>SADC member States Namely Botswana,</p>

	Namibia, Lesotho and Zambia have indicated budget provision for 2017-2018 Masters students from their respective countries
<i>Output 1.3: Carry out actions in support of IWRM at continental level, on the basis of southern African perspective and in liaison with sister networks and GWP</i>	
Participation in AgWA and lead East and Southern Africa actions Participation in AMCOW Water, Climate and Development Programme Participation in Regional Capacity Building Programmes as identified under RSAP 4 and the SHCP	WaterNet was involved in March 2016 in the EU-AU Africa project under H2020 for knowledge and innovation coordination- WaterNet led AfriAlliance presentation at the Africa water week in Dar Es Salaam Tanzania-July 2016. WaterNet contributed to the AMCOW technical session at the Africa Water week. Institutionalization of the implementation of the SHCP has started with the GIZ WaterNet planned activities for the coming years.
<i>Output 1.4: Expand WaterNet activities in East Africa</i>	
With sister UNDP (Cap-Net) networks (WaterCap, Nile-IWRM, NBCBN) to jointly conduct research, trainings and educational activities in East Africa. GWP- East Africa to conduct project activities under AfriAlliance project	WaterNet worked with WaterCap from Kenya on developing online courses (April). With GWP East Africa, WaterNet has been involved in preparations of the IWL that took place in June 2016 in Kampala Uganda. Jointly with Watercap the online course on water supply and sanitation for peri-urban areas was successfully implemented (Sep-Oct 2016)
<i>Output 1.5: Efficient operating Executive Management responding to network needs</i>	
Executive Management fully staffed Implement WaterNet communication strategy to increase membership participation from the network Development of indicators for membership participation	The Secretariat is fully operational WaterNet has engaged CapNet and provide monthly news summary that are broadcast worldwide in addition to our quarterly newsletter, new website and

	social media presence. An intern for the AfriAlliance project has been hired and one WaterNet post-Doc devotes part of his time supporting the AfriAlliance project in terms of content.
<i>Output 1.6: Professional financial management</i>	
Running in house financial management system to ensure proper budgeting and control of expenditures All funds received by WaterNet to be managed in house and audited annually Sub-audits of two major recipient members and one minor recipient	The 2015 audit has been successfully completed for the Secretariat and those from core Hosts to be done later in the year (November-December 2016) The tax clearance certificate from BURS in Botswana has been received
<i>Output 1.7: Financial sustainability</i>	
Contracts to be finalised GIZ, CapNet-UNDP, ZAMCOM and Africa Water Facility Development of the WaterNet sustainability plan beyond 2016 Implementation of cost recovery models through overheads as appropriate Proposals and expression of interest to be submitted to potential donors 30% Contribution of the annual from donors other than DGIS Reduce governance and management costs from core funding by gradually decentralising activities and secure at least two projects that will provide staff time and overheads	Disbursements received from GIZ, IUCN and DGIS. Contract signed and funds received from FANRPAN for support of one Msc student research Five research proposals submitted in the course of the year and three training proposals prepared and funded by IUCN through RESILIM (2) by GWPSA through RESILIM (1), By UNESCO-IHP (1-Sida) with overheads model implemented UNESCO regional office for Southern Africa proposal submitted
<i>Output 1.8: Thematic working groups established</i>	
Continuation of the five thematic working group committees and implementation of the recommendations and action plans made by the committees (Committees on Curriculum Review and Quality Control; Research; Membership; Finance and Human Resources)	Recommendations from Board meetings have been implemented in the course of the year
<i>Output 1.9: : Development of WaterNet phase IV programme</i>	
Roadmap for the phase IV programme Development of the WaterNet phase IV strategy	Consultation workshop for the development of phase IV held in March 2016 WaterNet Phase IV strategy developed and submitted to the following ICPs (DGIS,

	Sida, USAID, DFID, JICA, BTC, CRIDF)
<i>Output 1.10: Monitoring, evaluation and reporting</i>	
Annual progress and financial reporting Conduct the end of phase III review	Audited financial statement and management letters prepared and submitted to GIZ, Danida and DGIS and SIWI, WaterNet Annual report prepared and submitted to all our ICPs
Objective 2: Deliver, sustain and expand the regional Master programme in IWRM	
<i>Output 2.1: Deliver the Master programme at two core host institutions</i>	
Register at least 20 students for the 2016-2017 intake	Output achieved - 32 students from 2015/2016 intake are conducting research and 14 graduated in September 2016 at UZ 25 students for the 2016/2017 started the programme in February 2016 (5 are self-sponsored).
<i>Output 2.2: Deliver the option modules (specialisations) at seven host institutions</i>	
To sustain the delivery of Option modules in specialisation hosts Implement the reduction in costs for running the IWRM masters Programme	In July 2016 four specialization hosts (UDSM, UZ, UWC and NUST) received students for specialisation.
<i>Output 2.3: Master students carry out relevant and high quality research, supported by core and specialization institutions</i>	
Students of 2015-2016 intake complete dissertations and at least half draft papers Masters Students to contribute to the PhD programme in their dissertations	31 students from 2015/2016 intake conducted their research and 17 are finalising their dissertation while 14 at UZ graduated. 12 oral presentations and 2 posters will be done during the 17th WaterNet symposium
<i>Output 2.4: Establish third core host institution and develop mechanism for Lusophone/Francophone delivery</i>	
Implementation of the Roadmap for Lusophone and Francophone delivery of the IWRM Masters programme Inclusion of third core host in the WaterNet Masterplan beyond 2016	Involvement of non-English speaking members in convening and translating call for the 2016 symposium. The third core host beyond 2016 is subject to funds availability and interests from non-English countries to lead the process

<i>Output 2.5: Improve embedding of option modules in local Master programmes at all option host institutions</i>	
Support the newly established Masters programme in Malawi Support the IWRM programme at member universities through the Staff Exchange Fund and the Backstopping	Backstopping provided in the running of the programme in Namibia. Training for Online materials provided for both programme in Malawi and Namibia. Staff Exchanged Fund was extended during implementation of the specialisations at NUST
<i>Output 2.6: On-going quality control</i>	
Curriculum Review and Quality Control Committee assists each host institution in quality control Conduct evaluation on the revised curriculum of the IWRM masters programme	Module evaluation done for the first four modules at UZ and UDSM The evaluation of the new IWRM curriculum was deferred subject to funds availability
<i>Output 2.7: On-going curriculum development</i>	
Finalisation of the development of the curriculum for Non-English speaking countries Continuous feedback on regional and national development priorities (SADC and GWP-SA) to target curriculum and case Studies for the IWRM toolbox.	IWRM case studies provide from the IWRM toolbox trainings at UZ and UDSM. WaterNet is contributing to the publication by GWP on IWRM training at universities. The publication is due to be published before the end of 2016
<i>Output 2.8: Deeper links developed with other relevant Masters programmes at SADC universities, as well as with international partners</i>	
Establishment of working relationship with other networks involved in Capacity development in the SADC region and beyond Concept papers prepared on mutual recognition and credit transfer with interested SADC universities (WaterNet members), UNESCO-IHE and ITC. Further south-south links developed, with the aim of student and staff exchange with other countries in Africa and Brazil	Through AfriAlliance, WaterNet is involved with UNESCO-IHE and ITC in a project where South South North relationship are deepened WaterNet was present for the kick-off meeting of the second phase of the NEPAD centres of excellence in the Month of May.
<i>Output 2.9: Implement web-based platform for Master lecture materials and develop distance and online learning modules (core and options)</i>	
Pilot the implementation of web-based platform for Master lecture materials Implement distant learning roadmap	The WaterNet online course conducted. Pilot cases to be implemented in the second semester by UZ, UDSM, NUST and UNIMA.

	The first online short professional training course was successfully implemented
<i>Output 2.10: Increased and more representative admissions</i>	
Register at least 5 students sponsored by SADC member states and employers	5 self-sponsored students for the 2016-2017 intake that started in February 2016
Objective 3: Deliver relevant and responsive professional training	
<i>Output 3.1: Systematic input and feedback from SADC and GWP-SA</i>	
Implement capacity building programmes under the framework of the SADC RSAP4 and SHCP this include sustainable water infrastructure development, water climate & development, river basin organization capacity, water law and negotiations, economic accounting for water , Disaster and risk management, Groundwater management as well as IWRM and ecosystem services	The four-year plan of training activities from the SHCP was developed Eight face to face and the first online course were conducted thus far in 2016. Two additional face to face courses will take place in November 2016
<i>Output 3.2: Increased partnerships for design and delivery of training courses</i>	
Work with GMISA in the development of a training on groundwater management and IWRM in the SADC region Deliver courses in partnerships with GWP-SA, CB Hydronet, NBCBN, Africa Groundwater Network. Complete publication of two training manuals	Courses delivered in partnership with GWPSA, WaterCap, CapNet, ITC, UNISA, IUCN , UNESCO-IHP Training materials on DRR to be ready by year end with GWPSA collaboration
<i>Output 3.3: Deliver at least ten relevant, responsive courses per year, and investigate options for distance and online learning</i>	
Deliver at least 6 relevant, responsive courses, including water law and negotiations , river basin organization capacity on benefits sharing, economic accounting for water , water integrity and accountability , IWRM and ecosystem services, Remote sensing applications to water resources management Deliver DGIS Professional Training programme At least twenty self-sponsored participants over the year To pilot two online trainings for the SADC region	8 face to face courses delivered for 2016. One online course delivered by WaterNet while six other online where directly coordinated by CapNet.
<i>Output 3.4: Increase delivery in Portuguese and French</i>	
Conduct trainings in French and Portuguese Implement language conversion for at least two existing courses, in partnership with SADC, UNDP (Cap-Net) and Francophone and Lusophone WaterNet members	French course organized by another affiliated CapNet network, CB Hydronet took place in DR Congo, WaterNet was represented by its membership from the University of Lubumbashi that self-sponsors its attendance
<i>Output 3.5: Build the capacity of young water professionals</i>	

Establish a mentorship programme for young water professionals Implement at least two young water professionals events, the WaterNet symposium included	WaterNet Alumni involved in the development of the WaterNet Phase IV and the online training. The refresher training course of Alumni is currently taking place as a pre-symposium events. Alumni sponsored for the 17th WaterNet symposium. In collaboration with IAHS youth –meet the expert during the symposium- should serves as a starting point for the mentorship programme.
<i>Output 3.6: Host institutions to offer Master modules as short courses</i>	
At least 2 modules are attended by short course participants	Modules identified and to be pilot as online course in the second half of 2016 at UZ, UDSM, UNIMA and NUST. Only NUST was part of the online course that was delivered.
<i>Output 3.7: Investigate possibilities for professional certification</i>	
Concept paper on professional certification	Concept paper currently under discussion with CapNet, finalisation delayed due to financial constraints from CapNet
Objective 4: Carry out IWRM research for development to achieve impact and uptake and expand IWRM research in the region	
<i>Output 4.1: WaterNet, WARFSA and GWPSA to lead regional research agenda, with an emphasis on uptake, through targeted stakeholder engagement processes in the region</i>	
Implementation of the research agenda for the SADC region Establishment of working relationship with WRCs in the SADC region	SADC research agenda thrusts included in the development of the WaterNet phase IV strategy
<i>Output 4.2: Implement collaborative research projects that are relevant, coordinated, and integrated into network activities and linked to uptake of results</i>	
Implement current research projects Intensify collaboration with WARFSA Produce at least one research brief per project	The Danida project on transboundary water resources management in the Zambezi is continuing with 3 PhD students. The AfriAlliance project has started. 8 proposals have been submitted in 2016
<i>Output 4.3: Seek funding for new research activities and establish new collaborative research projects</i>	
Submit at least two collaborative research proposals	Eight collaborative research

	proposals have been submitted during 2016.
<i>Output 4.4: : Capacity building in research through mentorship, training and the PhD programme</i>	
Running of the PhD programme and Development of new PhD projects Development of a mentorship programme for the YWP Sustaining the on-going PhD programme by securing additional resources beyond the current group	4 PhD students continue their work (3 Danida, 1 CPWF) PhD students are involved in the supervision of Msc students and they will all be presenting at the symposium. PhD students will not be done by December 2016. One student is likely to complete in the first half of 2017 and one by December 2017 while Danida funding is coming to an end in December 2016.
<i>Output 4.5: Establish Post-Masters facility</i>	
Engage new graduates on existing research projects	No activities done thus far but intern hired on successful proposals of the AfriAlliance project
<i>Output 4.6: Facilitate the establishment, through SADC, of a formalised regional research platform, linked to the regional research agenda</i>	
Strengthen the newly established WARFSA Joint implementation of the Research agenda for the SADC region	WaterNet was present at the launch of the ACE phase two that are leading the implementation of WARFSA. provision have been inserted in the submitted Research proposals
Objective 5: Promoting the understanding and implementation of IWRM at regional, national and local levels	
<i>Output 5.1: Outreach and advocacy through liaison with GWP-SA, AgWA and other partners.</i>	
Participate in outreach activities organized by AMCOW,SADC,GWP-SA, and facilitate the advocacy of new scientific results and new IWRM tools	WaterNet was present at the Africa water week WaterNet has an MOU with IAHS and ZAMCOM now.
<i>Output 5.2: Online outreach</i>	
Implementation of the WaterNet communication strategy Maintenance of the new Waternet website with social media inclusion Website online libraries of Symposium proceedings, training materials and research outputs upgraded	Monthly WaterNet news broadcast through CapNet Quarterly newsletter published News released prepared for the World water day
<i>Output 5.3: Annual WaterNet/WARFSA/GWP-SA Symposia</i>	

<p>Identification of the 2017 symposium host (18th symposium)</p> <p>Hold the 17th Symposium in 2016</p> <p>Publish a special issue of Physics and Chemistry of the Earth from proceedings of the 16th Symposium</p>	<p>Preparation for the 17th WaterNet symposium are well underway, the symposium to take place from 26-28 October 2016. Final programme now available</p> <p>Papers for the 16th are being finalised and should be available before the end of 2016</p>
<p><i>Output 5.4: Active WaterNet Alumni Association and Young Water Professional Chapters</i></p>	
<p>Establishment of social reporters with the WaterNet Alumni Alumni to play an increasing role in the professional and educational activities of the network, as well as in income generation. Outreach activities in home countries for funds raising for the masters programme</p>	<p>Alumni were involved in the consultation workshop and the online course, a refresher course has been organised as a pre-symposium activity. A dedicated special session will take place during the symposium as a starting point for the mentorship programme</p>

1 Introduction

1.1 Basic Data

Country:	Southern Africa Development Community (SADC)
Project name:	WaterNet Strategy Phase III, 2012-2016: Achieving sustainability by increasing impact
DGIS activity number:	23515
Executing organisation:	WaterNet Trust
Secretariat Host Institute:	University of Zimbabwe, Harare, Zimbabwe
Project period (DGIS):	1 Jan 2012 - 31 Dec 2016
Progress Report No.:	2016 Annual report
Reporting period:	1 January to 31 December 2016

2 Context

This document summarises the 2016 WaterNet activities under the current Phase III (2012-2016). The report covers the period 1 January to 31 December 2016, with financial support from DGIS, other International Cooperating Partners and WaterNet members.

WaterNet, a network of tertiary education and research institutions in Southern Africa, was established in year 2000. By the end of December 2016, WaterNet membership consisted of 79 member institutions, two associate members and seven supporting members.

2.1 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 sustain the Network through better governance and deeper ownership
2. To deliver, sustain and expand the regional Master programme in IWRM
3. To deliver relevant and responsive professional training
4. To carry out IWRM research for development to achieve impact and uptake and expand IWRM research in the region
5. Promoting the understanding and implementation of IWRM at regional, national and local levels

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 December 2016

The following activities were planned for 2016. Below is the workplan and budget for year 2016 (as approved at the 16th WaterNet Annual General Meeting, held at Pointes Aux piments, Mauritius on 29th October 2015).

Table 3.1 Work Plan January to December 2016

WaterNet Annual Workplan and Budget 2016 As approved by the Annual General Meeting, 29 th October 2015		
Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
Objective 1: Sustaining the Network through better governance and deeper ownership		
Output 1.1: Carry out the functions of a SADC Subsidiary Institution under the Fourth Regional Strategic Action Plan on Integrated Water Resources Development and Management (RSAP4)	To implement Activities of RSAP4 Lead Activities in the implementation of the SADC SHCP With SADC, identify WaterNet's role to support or implement at least three further activities of capacity development Report to SADC Water Resources Technical Committee and Ministers responsible for Water on current WaterNet activities	SADC to assist in mobilising funds DGIS, GIZ, ZAMCOM, ORASECOM Members, Secretariat
Output 1.2: Promote member ownership of the network	Increased membership in SADC states with few members (Angola, Madagascar, Seychelles) Promote active participation of members in WaterNet Activities (Education, Outreach, Research and Trainings) Members with staff development needs catered for in MSc, Post-Master and PhD programmes.	GWPSA, YWP, WaterNet Alumni, Members, DGIS, GIZ,
Output 1.3: Carry out actions in support of IWRM at continental level, on the basis of southern African perspective and in liaison	Participation in AgWA and lead East and Southern Africa actions Participation in AMCOW Water, Climate and Development Programme	AgWA, Africa Water Facility, Sida (Cap-Net/UNDP), DGIS, AMCOW, GWP, GIZ, UNESCO-IHE, Nile-

Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
with sister networks and GWP	Participation in Regional Capacity Building Programmes as identified under RSAP 4 and the SHCP	IWRM, NBCBN, CBHydroNet, ANBO
Output 1.4: Expand WaterNet activities in east Africa	With sister UNDP (Cap-Net) networks (WaterCap, Nile-IWRM, NBCBN) to jointly conduct research, trainings and educational activities in East Africa. GWP- East Africa to conduct project activities under H20202	DGIS, UNDP (Cap-Net), WaterCap, NBCBN, Nile-IWRM, GWP East Africa, Alumni, SIWI
Output 1.5: Efficient operating Executive Management responding to network needs	Executive Management fully staffed Implement WaterNet communication strategy to increase membership participation from the network Development of indicators for membership participation	DGIS, UNESCO-IHE, SADC Water division, members, Alumni
Output 1.6: Professional financial management	Running in house financial management system to ensure proper budgeting and control of expenditures All funds received by WaterNet to be managed in house and audited annually Sub-audits of two major recipient members and one minor recipient	DGIS, members, Auditors
Output 1.7: Financial sustainability	Contracts to be finalised GIZ, CapNet-UNDP, ZAMCOM and Africa Water Facility Development of the WaterNet sustainability plan beyond 2016 Implementation of cost recovery models through overheads as appropriate Proposals and expression of interest to be submitted to potential donors 30% Contribution of the annual from donors other than DGIS Reduce governance and management costs from core funding by gradually decentralising activities and secure at least two projects that will provide staff time and overheads	DGIS SADC to assist in mobilising funds , Member States, UNESCO-IHE, ITC GWP-SA, CapNet-UNDP, CGIAR, DFID, ZAMCOM, GIZ, Danida, IUCN, EC, Sida
Output 1.8: Thematic working groups established	Continuation of the five thematic working group committees and implementation of the recommendations and action plans made by the	Members, DGIS, Research and training Projects

Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
Output 1.9: Development of WaterNet phase IV programme	committees (Committees on Curriculum Review and Quality Control; Research; Membership; Finance and Human Resources) Roadmap for the phase IV programme Development of the WaterNet phase IV strategy	
Output 1.10: Monitoring, evaluation and reporting	Annual progress and financial reporting Conduct the end of phase III review	All- DGIS, Danida, CapNet-UNDP, GIZ, EC, members.
Objective 2: Deliver, sustain and expand the regional Master programme in IWRM		
Output 2.1: Deliver the Master programme at two core host institutions	Register at least 20 students for the 2016-2017 intake	DGIS, SADC member states, Danida, WRC
Output 2.2: Deliver the option modules (specialisations) at five host institutions	To sustain the delivery of Option modules in specialisation hosts Implement the reduction in costs for running the IWRM masters Programme	As per 2.1 and host universities
Output 2.3: Master students carry out relevant and high quality research, supported by core and specialization institutions	Students of 2015-2016 intake complete dissertations and at least half draft papers Masters Students to contribute to the PhD programme in their dissertations	As per 2.1 and host universities
Output 2.4: Work toward the establishment of the third core host institution and develop mechanism for Lusophone/Francophone delivery	Implementation of the Roadmap for Lusophone and Francophone delivery of the IWRM Masters programme Inclusion of third core host in the WaterNet Masterplan beyond 2016	SADC member states, DGIS, Francophone and Lusophone Institutions from the WaterNet membership
Output 2.5: Improve embedding of option modules in local Master programmes at all option host institutions	Support the newly established Masters programme in Malawi Support the IWRM programme at member universities through the Staff Exchange Fund and the Backstopping	SADC member states, DGIS, core and specialization institutions for the IWRM Masters Programme
Output 2.6: On-going quality control	Curriculum Review and Quality Control Committee assists each host institution in quality control Conduct evaluation on the revised curriculum of the IWRM masters programme	SADC member states, DGIS, Core and specialization institutions

Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
Output 2.7: On-going curriculum development	Finalisation of the development of the curriculum for Non-English speaking countries Continuous feedback on regional and national development priorities (SADC and GWP-SA) to target curriculum and case Studies for the IWRM toolbox.	Core and specialization institutions, Coordinators, Members, CapNet, UNESCO-IHE , Francophone and Lusophone Institutions from the WaterNet membership
Output 2.8: Deeper links developed with other relevant Masters programmes at SADC universities, as well as with international partners	Establishment of working relationship with other networks involved in Capacity development in the SADC region and beyond Concept papers prepared on mutual recognition and credit transfer with interested SADC universities (WaterNet members), UNESCO-IHE and ITC. Further south-south links developed, with the aim of student and staff exchange with other countries in Africa and Brazil	SADC member states, WaterNet Members, GMISA, AAS, DGIS, UNDP (Cap-Net), NEPAD centres of excellence
Output 2.9: Implement web-based platform for Master lecture materials and develop distance and online learning modules (core and options)	Pilot the implementation of web-based platform for Master lecture materials Implement distant learning roadmap	WaterNet Members, DGIS, UNDP (Cap-Net), UNESCO-IHE, UNISA
Output 2.10: Increased and more representative admissions	Register at least 5 students sponsored by SADC member states and employers	SADC member states, DGIS, NGOs, private sector
Objective 3: Deliver relevant and responsive professional training		
Output 3.1: Systematic input and feedback from SADC Secretariat and implementing partners	Implement capacity building programmes under the framework of the SADC RSAP4 and SHCP this include sustainable water infrastructure development, water climate & development, river basin organization capacity, water law and negotiations, economic accounting for water , Disaster and risk management, Groundwater management as well as IWRM and ecosystem services	SADC, GIZ, GWP-SA, DGIS, IUCN, GMISA, SIWI, Cap-Net/UNDP, EC
Output 3.2: Increased partnerships for design and delivery of training courses	Work with GMISA in the development of a training on groundwater management and IWRM in the SADC region	Cap-Net/UNDP, GWP-SA, DGIS, GMISA, IUCN, ZAMCOM,

Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
	Deliver courses in partnerships with GWP-SA, CB Hydronet, NBCBN, Africa Groundwater Network. Complete publication of two training manuals	ORASECOM
Output 3.3: Deliver at least 8 relevant, responsive courses per year, and investigate options for distance and online learning subject to Fund availability	Deliver at least 6 relevant, responsive courses, including water law and negotiations , river basin organization capacity on benefits sharing, economic accounting for water , water integrity and accountability , IWRM and ecosystem services, Remote sensing applications to water resources management Deliver DGIS Professional Training programme At least twenty self-sponsored participants over the year To pilot two online trainings for the SADC region	SADC, CapNet-UNDP, GIZ, TIGER, Africa Water Facility, DGIS, DFID, SADC member states, RBOS, UNISA, UNESCO-IHE, WaterCap, IWSD
Output 3.4: Increase delivery in Portuguese and French	Conduct trainings in French and Portuguese Implement language conversion for at least two existing courses, in partnership with SADC, UNDP (Cap-Net) and Francophone and Lusophone WaterNet members	CapNet-UNDP , DGIS, SADC
Output 3.5: Build the capacity of young water professionals	Establish a mentorship programme for young water professionals Implement at least two young water professionals events, the WaterNet symposium included	DGIS, SADC member states, WISA, WaterNet Alumni, GWPSA
Output 3.6: Host institutions to offer Master modules as short courses	At least 2 modules are attended by short course participants	SADC member states, private sector, DGIS, Core and specialisation host universities
Output 3.7: Investigate possibilities for professional certification	Concept paper on professional certification	Members, WISA, DGIS, IWRM hosts institutions
Objective 4: Carry out IWRM research for development to achieve impact and uptake and expand IWRM research in the region		
Output 4.1: WaterNet, WARFSA and GWPSA to lead regional research agenda, with an emphasis on uptake, through targeted	Implementation of the research agenda for the SADC region Establishment of working relationship with WRCs in the SADC region	DGIS,GWPSA, WARFSA (SANWATCE) members, all research projects, host universities,

Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
stakeholder engagement processes in the region		WaterNet Post-Doctoral fellows
Output 4.2: Implement collaborative research projects that are relevant, coordinated, and integrated into network activities and linked to uptake of results	Implement current research projects Intensify collaboration with WARFSA Produce at least one research brief per project	Danida, SANWATCE, DFID, ZAMCOM, UNESCO-IHE, CSIR, ANBO, 2Ei, GWP
Output 4.3: Seek funding for new research activities and establish new collaborative research projects	Submit at least two collaborative research proposals	Africa Water Facility, SIWI, DFID-NERC, DGIS, Private Sector, WRC
Output 4.4: Capacity building in research through mentorship, training and the PhD programme	Running of the PhD programme and Development of new PhD projects Development of a mentorship programme for the YWP Sustaining the on-going PhD programme by securing additional resources beyond the current group	Danida, Members, core and specialization institutions for the IWRM Masters Programme, WRC, Alumni
Output 4.5: Establish Post-Masters facility	Engage new graduates on existing research projects	WaterNet Alumni, DGIS, core and specialization institutions for the IWRM Masters Programme
Output 4.6: Facilitate the establishment, through SADC, of a formalised regional research platform, linked to the regional research agenda	Strengthen the newly established WARFSA Joint implementation of the Research agenda for the SADC region	SADC to assist in mobilising funds, DGIS, NEPAD- SANWATCE
Objective 5: Promoting the understanding and implementation of IWRM at regional, national and local levels		
Output 5.1: Outreach and advocacy through liaison with GWP-SA, AgWA and other partners	Participate in outreach activities organized by AMCOW, SADC, GWP-SA, and facilitate the advocacy of new scientific results and new IWRM tools	SADC, AMCOW, GWP-SA, Cap-Net/UNDP, members, DGIS
Output 5.2: Online outreach	Implementation of the WaterNet communication strategy Maintenance of the new Waternet website with social media	DGIS, UNESCO-IHE, GIZ, members, Cap-Net/UNDP, consultants,

Objectives and Outputs	Activities	Collaborating Partners & Contributing Projects
	inclusion Website online libraries of Symposium proceedings, training materials and research outputs upgraded	WaterNet Alumni
Output 5.3: Annual WaterNet/WARFSA/GWP-SA Symposia	Identification of the 2017 symposium host (18 th symposium) Hold the 17 th Symposium in 2016 Publish a special issue of <i>Physics and Chemistry of the Earth</i> from proceedings of the 16 th Symposium	DGIS, SADC member states, members, Danida, UPaRF, AgWA, Africa Water Facility, DFID, WaterNet Alumni, RBOs
Output 5.4: Active WaterNet Alumni Association and Young Water Professional Chapters	Establishment of social reporters with the WaterNet Alumni Alumni to play an increasing role in the professional and educational activities of the network, as well as in income generation. Outreach activities in home countries for funds raising for the masters programme	DGIS, members, CapNet/UNDP WISA, WaterNet Alumni

2016 Proposed Budget (In Euro)															
Fund	Workplan Output	2013 Audited Expenditure	2014 Audited Expenditure	2015 Projected expenditure to year end	2016 Required budget	Total Secured	DGIS	WN members	Danida	GIZ	SIWI Water Integrity	H2020	ICRISAT	CapNet	Balance /(Shortfall) 2016
Governance	1., 1.1, 1.5-7 and all others	130,944	99,926	145,616	128,000	120,000	108,000	12,000	-						(8,000)
Management	1.6, 1.7, 1.9, 5.2 and all others	285,646	259,856	252,921	266,898	266,898	222,000	-	6,059	8,800	5,732	8,807	2,750	12,750	0
Scientific Backstopping	2.1, 2.8, 2.9, 4.5	9,661	18,554	33,980	35,000	35,000	35,000								-
Symposium	3.5, 5.1, 5.3	71,286	75,715	87,933	60,000	60,000	60,000								-
Publications	5.3,	-	1,278	2,000	2,000	2,000	2,000								-
MSc	2.1-4, 4.5	26,573	501,383	694,377	433,800	433,800	408,800						25,000		-
Curriculum Development	2.5, 2.7, 2.8	-	12,862	13,169	15,000	15,000	15,000								-
Professorial Chairs	1.8, 2.4-6, 4.1, 4.2,	31,060	-			-		-	-						-
Post Doctoral	1.8, 2.4-6, 4.1, 4.2,	-	-	44,053	109,200	109,200	109,200								-
Catchment Partnerships	3.8,	3,634				-	-								-
Professional Training	1.3, 1.4, 3.1-9, 4.5, 2.10, 2.11	159,847	247,339	95,000	133,628	133,628	25,000				46,378			62,250	-
Post-Master Facility	4.6,	-	1,401	2,300	4,798	-	-								(4,798)
Alumni Association	5.4,	4,729	8,755	10,640	10,640	7,000	7,000	-							(3,640)
PhD	4.5, 4.7	-	34,937	41,385	43,678	43,678	-		43,678						-
Research Activities	4.3, 4.4,	212,634	2,650		16,702	16,702	-					16,702			-
Research Workshops	5.1,	3,977			-	-	-								-
Research Dissemination	4.8,	40,399	-			-	-								-
Program Review		-	16,296		35,000	35,000	35,000	-	-						-
Contingencies (unforeseen)		69,766	21,060	49,998	35,000	35,000	35,000	-							-
Prior Year Commitments		526,089	96,005	101,038		-		-	-						-
Phase IIb deficit		96,675				-		-	-						-
Other Projects (DUPC & ACCFP)		-	-	47,622	80,000	80,000		-	-	80,000	-				-
Staff time on other projects		72,997				-		-	-						-
Total		1,745,917	1,398,017	1,622,032	1,409,344	1,392,906	1,062,000	12,000	49,737	88,800	52,110	25,509	27,750	75,000	(16,438)
Notes															
1. Budget has been linked to the work plan steps to trace source of funding for each output.															
2. "2013 and 2014 Audited Expenditure" refers to the expenditure incurred by the Network in the respective years as per our audited financial report.															
3. "2015 Projected expenditure to year end" represents the total estimated expenditure for the year 2015 based on level of activities and contractual obligations.															
4. "2016 Required Budget" represents the total budget required to fully execute the 2016 workplan.															
5. "Total Secured" refers to the contractually secured budget with the various donors.															
6. The Msc budget includes all costs associated with running the fellowship programme which includes travel, meetings, Fees, Staff Exchange and Msc Dissertation.															

4 Achievements

The year 2016 marked the end of WaterNet phase III (2012-2016) and all efforts were geared toward developing the next phase. The development of WaterNet phase IV (2017-2021) was central to all activities that took place in the course of the year. The 2016 workplan was implemented without much deviation and the financial contributions saw an increase from new projects that were secured in the course of the year. Financial contributions for the year 2016 came from the following collaborating partners DGIS representing the Royal Netherlands Government contribution, GIZ as the fund manager of the European Union project on renewable energy, DANIDA representing contribution from The Danish Government, The AfriAlliance project under the European Commission H2020 research framework, The RESILIM project of USAID, The UNESCO Regional Office for Southern Africa, The International Union for Conservation of Nature (IUCN) and the WaterNet membership. The Secretariat was fully operational and hosted for six months an intern.

4.1 Sustaining the Network through better governance and deeper ownership

4.1.1 Carry out the functions of a SADC Subsidiary Institution under the Fourth Regional Strategic Action Plan on Integrated Water Resources Development and Management (RSAP4)

In 2016 WaterNet as a SADC subsidiary institution contributed to the following regional activities: the SADC WSRG meeting in March, Gaborone, the WRTC meeting in Swaziland in May and the Joint Water and energy ministerial meeting in July in Gaborone.

WaterNet established working contact with the Transboundary Water Management Programme of GIZ for WaterNet to lead the capacity building training courses for SADC member States from January 2017 to April 2019 under the SADC Strategic Human Capacity Plan (SHCP, 2014-2020).

WaterNet contributed to the annotated WRTC and Minister's meeting agendas. WaterNet phase IV (2017-2021) directions were presented to both platforms. Members States were reminded of their commitments to support the WaterNet IWRM Masters programme.

WaterNet carried out in 2016 the following capacity building trainings, Environmental flows for the Limpopo, Pungwe and Save basins in collaboration with IUCN and RESILIM/USAID. Further training on Disaster risk reduction was organised for the Limpopo basin in collaboration with GWPSA and RESILIM/USAID.

4.1.2 Promote member ownership of the network

The 19th and 20th WaterNet Management Board meetings took place respectively in Maputo, Mozambique in May and Gaborone, Botswana in October 2016. The major highlights of these two meetings included the finalisation of the WaterNet phase IV (2017-2021). The Management Board lost through death in May 2016 Prof Firmino Mucavele from Mozambique. Dr Manta Nowbuth from Mauritius was elected in October 2016 for his replacement. GWPSA was represented by the Chairperson in October 2016 as Mr Andrew Takawira was not available for the proceedings. The Annual General meeting in October 2016

re-elected Dr Kimwaga, Ms Muzamhindo and Dr Manta Nowbuth as trustees for a 4-year term. The total number of WaterNet members was 79 as of December 2016.

4.1.3 Carry out actions in support of IWRM at continental level, on the basis of southern African perspective and in liaison with sister networks and GWP

WaterNet continues to closely work with GWP-SA in the promotion of IWRM in the SADC region and across the continent. During 2016 activities were jointly convened during the annual symposium and short professional training courses under the RESILIM/USAID project.

WaterNet was involved in March 2016 in the EU-AU Africa project under H2020 for knowledge and innovation coordination- WaterNet led AfriAlliance presentation at the Africa water week in Dar Es Salaam Tanzania-July 2016. WaterNet contributed to the AMCOW technical session at the Africa Water week.

Institutionalization of the implementation of the SHCP has started with the GIZ WaterNet planned activities for the coming years.

WaterNet in collaboration with GWPSA convened a course on Enhancing Resilience in the Limpopo River Basin through Water Governance and Disaster Risk Preparedness, Held from 21 - 25 November, 2016, Bulawayo, Zimbabwe. 32 participants attended the course.

The PhD programme continues to support staff from UZ, UNZA and UKZN Msc Fellowship offered to UZ staff member.

SADC member States Namely Botswana, Namibia, Lesotho and Zambia have indicated budget provision for 2017-2018 Masters students from their respective countries.

4.1.4 Expand WaterNet activities in East Africa

WaterNet worked with WaterCap from Kenya on developing online courses (April). With GWP East Africa, WaterNet has been involved in preparations of the IWL that took place in June 2016 in Kampala Uganda.

Jointly with Watercap the online course on water supply and sanitation for peri-urban areas was successfully implemented (Sep-Oct 2016)

Students at the University of Dar Es Salaam continue to undertake their dissertation in Kenya, Uganda and Tanzania as part of WaterNet effort to maintain his presence in East Africa. Representatives from Uganda, Kenya, Tanzania and Rwanda were also present during the 17th WaterNet symposium held in Gaborone, Botswana.

4.1.5 Efficient operating Executive Management responding to network needs

The year 2016 had the Executive Management of WaterNet fully operational. WaterNet has engaged CapNet and provide monthly news summary that are broadcast worldwide in addition to our quarterly newsletter, new website and social media presence. An intern for the AfriAlliance project has been hired and one WaterNet post-Doc devotes part of his time supporting the AfriAlliance project in terms of content.

4.1.6 Professional financial management

In 2016, the financial accountant (Chartered accountant) and KPMG supported by the administrator conducted all financial processes procedurally and this resulted in an unqualified external audit. The taxation return in Botswana where the Trust is registered was

done by KPMG throughout 2016. The new DGIS format introduced in 2015 was implemented as appropriate. The tax clearance certificate from BURS in Botswana has been received.

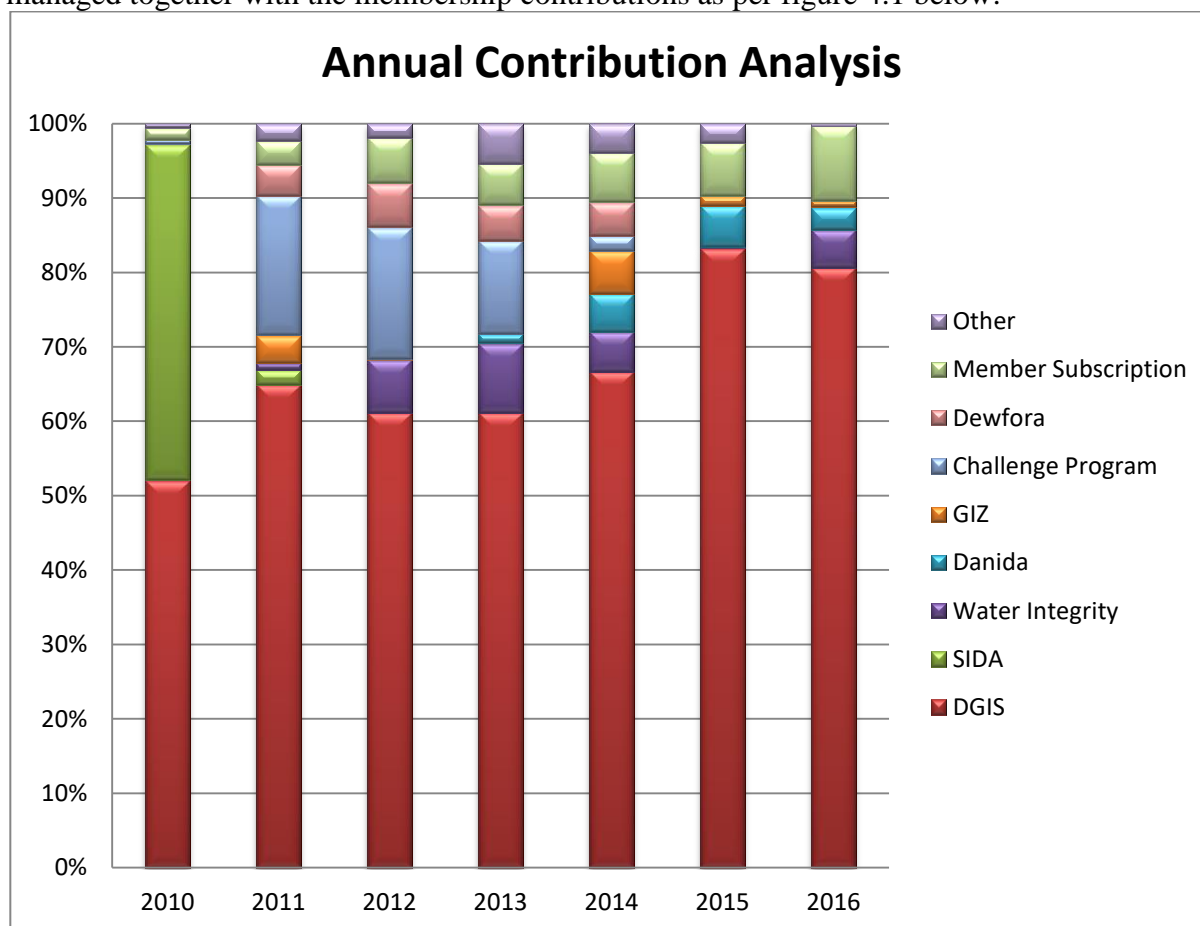
4.1.7 Financial sustainability

In 2016, Disbursements were received from GIZ, IUCN and DGIS. A contract was signed and funds received from FANRPAN for support of one Msc student research who is working on climate change policy as enabler to agricultural and food production.

Five research proposals were submitted in the course of 2016 and three training proposals prepared and funded by IUCN through RESILIM (2) by GWPSA through RESILIM (1), By UNESCO-IHP (1-Sida) with overheads model implemented.

An additional training proposal was submitted to UNESCO regional office for Southern Africa and the training on Drought Monitoring was conducted in Harare, Zimbabwe in Collaboration with the University of Princetown.

The target of securing additional funds from other partners beside DGIS up to 30% was not achieved in 2016 as only 20 % of the actual budget came from other partners (EC, IUCN, GIZ, RESILIM/USAID, UNESCO). WaterNet annual contributions from various partners over the past seven years indicates an increase in contributions from smaller projects that rae managed together with the membership contributions as per figure 4.1 below:



4.1.8 Thematic working groups established

In 2016, Recommendations from Board meetings have been implemented in the course of the year. Detailed action points are captured in the proceedings from the two management Board meetings. The five WaterNet's thrusts namely Governance & Management, Education, Trainings, Collaborative research and outreach

4.1.9 Development of WaterNet phase IV programme

In March 2016, a consultation workshop that brought together representatives of various governance structures of WaterNet Trust met and discussed the development of the WaterNet phase IV based on the initial concept note that was developed. The roadmap for the full development of the strategy was developed and the Executive Management represented by the Manager worked with Dr Amy Sullivan to prepare the initial version of the strategy that was presented during the management Board meeting of May 2016 in Maputo, Mozambique.

Feedback from the Royal embassy of the Netherlands in Maputo helped in the development of the final WaterNet phase IV strategy that was submitted on 30 June 2016 and resubmitted on 15 November 2016. The revised submission of the WaterNet phase IV was approved.

The WaterNet Phase IV strategy was submitted and shared with the following ICPs (DGIS, Sida, USAID, DFID, JICA, BTC, CRIDF)

4.1.10 Monitoring, evaluation and reporting procedures in place

In 2016, the important assignment of reporting, monitoring and evaluation was done as per contractual requirement from all our partners and funders. The executive management prepared all narrative and financial reports timeously and these were submitted as appropriate to relevant cooperating partners on behalf of the WaterNet Management Board. The executive management reports twice per year to the management through various committees.

Four trustees positions were up for elections in October 2016. Prof Jewitt, Dr Kimwaga, Ms Muzamhindo were re-elected for their second term and Dr Manta Nowbuth from the university of Mauritius joined the Board of Trustees. Below the composition of the WaterNet Management Board and the respective committees for the year 2016.

Composition of the Board of Trustees:

- Dr. L Magole (University of Botswana), Chairperson
- Prof G. Jewitt (University of KwaZulu Natal)
- Dr J Kileshye Onema (WaterNet). *ex-officio*
- Prof F. Ilunga (University of South Africa)
- Dr R. Kimwaga (University of Dar Es Salaam)
- Dr H. Makurira (University of Zimbabwe)
- Prof B. Mapani (University of Namibia)
- Prof T. Mkandawire (University of Malawi)
- Ms J. Muzamhindo (Africa University)
- Prof F Mucavele (Universidade Eduardo Mondlane)-(deceased May 2016)
- Dr Manta Nowbuth (University of Mauritius) –Elected in October 2016

Composition of Committees

- i. Finance Committee: Prof Mapani (Chair), Dr L Magole, Dr J Kileshye Onema, Prof F Mucavele⁺, Dr H Makurira serviced by the Manager and Financial Accountant
- ii. Human Resources Committee: Dr L Magole (Chair), Mr A Takawira (GWP-SA), Prof G Jewitt, Ms JMuzamhindo, Dr J Kileshye Onema serviced by Ms Muzamhindo.
- iii. Curriculum Review and Quality Control Committee: Dr Kimwaga (Chair), Ms J Fatch (Alumni), Eng Van Lieshout, Dr H Makurira, Coordinators representative, serviced by the Programmes Coordinator.
- iv. Research Committee: Prof G Jewitt (Chair), Prof van der Zaag (UNESCO-IHE), Eng Van Lieshout (ITC), Dr Manta Nowbuth, Prof F Ilunga, Dr Kileshye Onema; serviced by the Manager.
- v. Membership Committee: Prof T Mkandawire (Chair), Prof B Mapani, Dr R Kimwaga and Ms J Fatch (Alumni); serviced by the Programmes Coordinator.
- vi. Sustainability Committee: Prof G Jewitt (Chair), Mr PRamoeli (SADC), Dr L Magole, Mr A Takawira (GWP-SA), Prof F Mucavele, Dr J Kileshye Onema, Prof A Taigbenu*, Prof Mazvimavi*serviced by Dr J Kileshye Onema

*coopted members

4.2 Deliver, sustain and expand the regional Master programme in IWRM

4.2.1 Deliver the Master programme at two core host institutions

1. Masters in Integrated Water Resources Management (IWRM)

1.1. 2017/18 Intake

A total of 170 (117 male and 53 female) applications for the 2017/18 intake were received by the 26th August 2016. This was slightly less than the 187 applications received for the 2015/16 intake. The major reason behind a decline in applications was the requirement for support letters from the applicants' relevant water ministries. Applicants from some of the countries cited challenges in obtaining the support letters from their relevant Water Ministries. There were no applications from Mozambique, Madagascar, Seychelles and Mauritius. Delivery of the programme in English could be discouraging nationals from these countries from applying.

The selection process for the awarding of scholarships was done on the 8th of September 2016 at the Birchwood Hotel, Johannesburg, South Africa. This meeting was attended by members of WaterNet Secretariat, two representatives from the University of Dar es Salaam's College of Engineering (i.e. Dr Richard Kimwaga and Dr Joel Nobert), the University of the Western Cape (i.e. Dr Thokozani Kanyerere and Mr Fadli Wagiet) and University of Zimbabwe's Civil Engineering Department (i.e. Dr Collin Mabiza and Eng. Zvikomborero Hoko), National University of Science and Technology (Namibia), (i.e. Mr Liberty Moyo and Mr Andrea Vushe), Okavango Research Institute (i.e. Dr Mangaliso Gondwe and Dr G. Masunga) University of Malawi (i.e. Prof Cosmos Ngongondo and Dr Evance Mwatunga) and University of KwaZulu Natal (i.e. Ms Chetty Kershani).

A total of 24 applicants were selected for awarding of scholarships under priority 1 list. These are 12 males and 12 females. Priority 2 list has 25 selected applicants, i.e. 18 males and 7 females

2.UNIVERSITY OF ZIMBABWE UPDATE BY INTAKE

2.1 MSc IWRM 2014-15 Intake

This intake had some students who did not graduate because they had requested for an extension to the dissertation submission deadline. The affected students graduated on 29 September 2016 at a ceremony held at the University of Zimbabwe.

Unfortunately Chaki Zakaria, in the same intake, did not graduate. He requested to take an optional module at the University of Dar es Salaam in place of the Groundwater module which he had twice failed at UZ. By the time the result for the module he took at UDSM was available results for those graduating at UZ had already been considered. His complete results will be presented at the end of the August-December 2016 semester, and he is expected to graduate in 2017.

2.2 MSc IWRM 2015-16 Intake

Results for the students in this intake were published in September 2016, and students in the intake graduated on the 29th of September 2016. Martin Kabantu, in the same intake did not graduate as he still has courses outstanding. It must be highlighted that Martin failed a number of core courses at the beginning of the programme, that is courses offered in the first semester in 2015. He was allowed to proceed to Specialisation on condition that he would repeat the failed courses. He successfully completed the Specialisation courses which he undertook at UKZN. Upon returning to UZ Martin repeated the modules he had failed, and results published in September 2016 show that he passed all the courses he repeated. The published results allowed him to proceed to the dissertation stage. He is expected to repeat the module on Water Resources Analysis and Planning which will be offered in October-November 2016. He is expected to submit his dissertation at the end of the August-December 2016 semester. If he is successful he will graduate in 2017.

2.3 MSc IWRM 2016-17 INTAKE

Students in this intake completed all core modules offered before the Specialisations as scheduled and proceeded for Specialisation. Results for the modules offered in the first semester were published in September 2016. The results show that causes for concern are Ms. Chimbaza Chimwemwe who failed two modules, Mr. Carlos Chaguala failed one module, and Mr. Samuel Mudzviti who failed three modules.

Chewe Chishala, a student in this intake applied to UZ to defer his studies during the Specialisation period. He cited problems as the reason for his deferment of studies. He submitted a medical note in support of his application to defer studies. He was advised to apply for deferment of studies at NUST as well since he had been enrolled at NUST for the Specialisation modules.

3.UNIVERSITY OF DAR ES SALAAM

3.1. 2015/16 Intake

The 2015/2016 batch had a total of 17 students from the various SADC countries and beyond. The dissertations for the sixteen students were examined by both internal and external examiners as per UDSM regulations. Thirteen (13) students submitted the final approved dissertations by October 2016 and three students were still working on the comments from the examiners before being allowed to submit the final copy which was done by December 2016. The dissertation for one student was not yet ready for examination by year end.

3.2. 2016/17 Intake

The 2016/2017 batch has a total number of 13 students from the various SADC countries and beyond. Ten (10) students are sponsored by WaterNet and three students are under private sponsorship. The students have covered all core modules and attending specialization modules now. At UDSM (Hydrology specialization), the students have already covered the four modules i.e. Hydrogeology, River Engineering, Hydrological Process and Hydrological Modelling. The specialization class had a total of 8- students.

3.3. Specialisation

For the year 2016 some Specialisations were not offered, and the ones which were on offer were Water Resources Management (UZ), Hydrology (UDSM), Water and Society (UWC) and Water Supply and Sanitation (NUST). Water and land and water and environment were not offered due to financial constraints. GIS and Earth Observation was supposed to be offered but due to unavailability of relevant staff at the University of KwaZulu Natal, it was not offered.

4.2.2 *Deliver the option modules (specialisations) at seven host institutions*

In July 2016 four specialization hosts (UDSM, UZ, UWC and NUST) received students for specialisation. The University of KwaZulu Natal (South Africa) was not in a position to run the specialisation due to inadequate staff members. The university of Botswana and the University of Malawi specialisations did not receive enough students for optimally running the programme.

4.2.3 *Master students carry out relevant and high quality research, supported by core and specialisation host institutions*

WaterNet IWRM students are encouraged to present their research results at the annual WaterNet GWP-SA symposium.¹ Post-doc, 4 PhD students and 15 Msc students presented their work during the symposium in Gaborone, Botswana. In 2016, WaterNet supported the attendance of 7 students to the annual symposium. Table 4-4 shows the presentations made by the students. Last year, 4 papers based on Master research were published in the journal. Unfortunately this year there were no papers from students accepted in the special issue of the journal.

Table 4-4 presents the presentations made by WaterNet students (Msc, PhD and Post-Doc) at the 17th **WaterNet GWP-SA symposium in Gaborone, Botswana.**

Name	Title Of Presentation	Theme	Oral/ poster
A. Misi	An Assessment of Groundwater Potential and Vulnerability in the Upper Manyame Sub-Catchment of Zimbabwe.	Hydrology and global change	Oral-Msc
T. Nharo	Modeling floods in the Middle Zambezi Basin using remote sensing and hydrological modelling techniques.	Water, Land and Agriculture	Oral-Msc
M. Kabantu	Estimation of evapotranspiration and its relationship to land use and water resources in Lufumi catchment, D.R.Congo	Water, Land and Agriculture	Oral-Msc
F. Nyirenda	A GIS-Based approach for identifying suitable sites for rainwater harvesting technologies in Kasungu District, Malawi.	Water, Land and Agriculture	Oral-Msc
O. Masimba	Assessment of impacts of climate change on surface water resources for the Upper Manyame sub-catchment, Zimbabwe.	Hydrology and global change	Oral-Msc
M Mabuku	Coping and adaptation strategies to flooding and their determinants in Eastern Zambezi Region of Namibia and Mwindi District of Zambia.	Water and society	Oral-Phd
K. Mosimanegape	Assessment of the Water Quality of the Dikgathong Dam in Botswana using Remote Sensing Techniques	Water and Environment	Oral-Msc
W. Gumindoga	Hydrologic evaluation of bias corrected CMORPH rainfall estimates at the headwater catchment of the Zambezi River	Hydrology and global change	Oral –PhD
N. Matimba	An assessment of surface water availability in the Pungwe sub-catchment and development of an appropriate water allocation framework	Water resources and infrastructure management	Oral-Msc
H. Samboko	A remote sensing based approach to determine the water balance for the Mbire District of Zimbabwe.	Hydrology and global change	Oral-Msc
M. Kalumba	Impact of land use and land cover change on catchment hydrology in the Kafue Basin of Zambia.	Hydrology and global change	Oral-PhD
PM. Vushoma	Assessment of groundwater vulnerability in Norton town, Zimbabwe	Water and Environment	Oral-PhD
S. Sharaunga	Determinants of farmers' participation in collective maintenance of irrigation infrastructure in KwaZulu-Natal	Water resources and infrastructure management	Oral-P/ Doc
M. Mbula	Assessment of Socio-economic Impacts of Water Hyacinth on Kafubu River: Case Study of Ndola District, Zambia.	Water and society	Oral-Msc
J. Tembo	Evaluating the Effectiveness of Water Utility Improvement Projects: Case of Blantyre Water Board, Malawi	Sustainable water distribution and sanitation	Oral-Msc
F. Homerai	Sustainability of Chiredzi Town water supply and wastewater management in Zimbabwe.	Sustainable water distribution and sanitation	Oral-Msc
J. Fatch	The impact of the WaterNet Masters Programmes on the water sector in East and southern Africa,	Plenary	Oral-PhD
C. Kagume	Assessing Impacts of Climate change on Surface Water Flow	Hydrology and global change	Poster-Msc

4.2.4 Establish third core host institution and develop mechanism for Lusophone/Francophone delivery

The activity was deferred beyond the current phase III and it will be considered for the next phase 2017-2021 subject to funds availability.

4.2.5 Improve embedding of option modules in local Master programmes at all option host institutions

The Msc specialisations at the Namibia University of Sciences and Technology and the one at the University of the Western Cape continue to be run within existing programmes at the two

universities. Furthermore backstopping from UNESCO-IHE was provided in the running of the programme in Namibia. Training for online materials development was provided for both programmes in Malawi and Namibia. Staff Exchanged Fund was extended during implementation of the specialisations at NUST

4.2.6 On-going quality control

The Curriculum Review and Quality Control Committee continues to play a significant role in ensuring WaterNet activities and products are of high quality. The committee reviewed the following during the reporting period.

1. Reviewed the 17th symposium programme and led to the International scientific committee
2. Reviewed and assessed the progress reports from core and specialization hosts of the Masters Programme.
3. Advised the Management Board on the curriculum and quality of the Master Programme;
4. Provided strategic guidance in the development of the concepts notes of all the WaterNet training Programmes that were convened during this reporting period.

4.2.7 On-going curriculum development

The IWRM toolbox trainings at UZ and UDSM provided IWRM case studies. WaterNet through the core hosts and the Executive Management are working toward the publication of the IWRM manual for trainings at Universities and tertiary institutions. The publication is due to be published before by end of 2016 or early in 2017. The manual received contributions of authors from China, Panama, Brazil, Kazakhstan and Zimbabwe from Global water partnership office in Stockholm, Sweden.

4.2.8 Deeper links developed with other relevant Masters programmes at SADC universities, as well as with international partners

Under the facilitation of the SADC Water Division, WaterNet continues to work with SANWATCE in the search for broad links at the Masters Programme. Through AfriAlliance, WaterNet is involved with UNESCO-IHE and ITC in a project where South South North relationship are deepened

WaterNet was present for the kick-off meeting of the second phase of the NEPAD centres of excellence in the Month of May 2016.

4.2.9 Implement web-based platform for Master lecture materials and develop distance and online learning modules (core and options)

In 2016, the WaterNet online course on Sustainable water supply and sanitation systems for peri-urban areas was conducted jointly with WaterCap and the Institute of Water and Sanitation Development (IWSD).

In April 2016, core and specialisation hosts representatives of the WaterNet Masters programme were trained by the University of Twente (ITC) to develop online training materials.

4.2.10 Increased and more representative admissions

For the 2015-2016 intake 5 students out of 33 organised their fellowships from other sources than DGIS. Similarly 5 self-sponsored students for the 2016-2017 intake started their masters programme in IWRM in February 2016.

4.3 Deliver relevant and responsive professional training

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, GWPSA and Cap-Net and the global network of Integrated Water Resources Management capacity building networks. During 2016 eight face to face training courses and one online course were delivered to 245 participants.

4.3.1 Systematic input and feedback from SADC and GWP-SA

In 2016 WaterNet conducted short professional training courses in the framework of the RESILIM/USAID project for the riparian of the Limpopo Basin contracted by GWPSA. In the framework of the SADC strategic Human capacity Plan (SHCP 2014-2020) of the water sector, WaterNet started discussions with the transboundary water management programme of GIZ for the implementation of short professionals training courses for the period January 2017- April 2019 for SADC member States and river basin organisations.

4.3.2 Increased partnerships for design and delivery of training courses

In 2016, WaterNet partnered with the following institutions (CapNet/UNDP, WMO, GWPSA, WaterCap, UDSM, UZ, ITC, UNESCO-ROSA, IUCN, IWSD, RESILIM/USAID, AKVO and University of Princeton) for the joint delivery of short professional training courses.

4.3.3 Deliver at least eight relevant, responsive courses per year, and investigate options for distance and online learning

Eight face to face training courses were held and 165 participants were trained and one online course was convened under the UNDP/CapNet Virtual campus with 80 participants. Hence a total of 245 participants were trained under WaterNet in 2016 and the detailed breakdown is given below:

- a. Training for the development of online courses material, 26th - 29th April 2016, St Georges Hotel and Conference Centre, South Africa, attended by **14 participants**. This was funded under WaterNet's Professional Training Programme.
- b. International Water Law (IWL) for improved transboundary water management in Southern Africa, 5 – 12 June, 2016, Kampala, Uganda. This was a GWPSA training. WaterNet funded **5 participants** to attend the training.

- c. Promoting the application of environmental water requirements in the management of transboundary river basins in Southern Africa, 4 – 7 July, Park Inn Hotel, Cape Town, South Africa. September 2015. This was attended by **33 participants** from the Limpopo Basin countries. This was funded by the Resilience in the Limpopo Programme (USAID/RESILIM). WaterNet was contracted to provide the training through IUCN.
- d. Promoting the Application of Environmental Flows in the Management of Transboundary River Basins in Southern Africa: From Theory to Practical: E-Flows Indicators Training Course, 25 – 28 July 2016, Manica, Mozambique. The training was attended by **14 participants** from the Pungwe and Buzi Basins in Mozambique and Zimbabwe. WaterNet was contracted by IUCN to provide this training.
- e. Akvo Really Simple Reporting (RSR) Training, 9 September 2016, Birchwood Hotel, Johannesburg, South Africa. This was attended by 2 coordinators from each core host and specialization institutions excluding UKZN which was represented by one person and three members from the secretariat a total of **16 participants**.
- f. WaterNet Alumni Refresher Course: Introduction to open source QGIS for Geospatial and Earth Observation, the training was held from 20 - 25 October, 2016 Gaborone, Botswana, **19 participants** attended the course;
- g. Drought Monitoring, Held from 9 - 11 November, 2016, Harare, Zimbabwe. **32 participants** attended the course
- h. Enhancing Resilience in The Limpopo River Basin Through Water Governance And Disaster Risk Preparedness, Held From 21 - 25 November, 2016, Bulawayo, Zimbabwe. **32 participants** attended the course.

Online Short professional courses

- i. In 2016 WaterNet together with UNDP/CapNet, WaterCap, NUST and the Institute of Water and Sanitation Development launched the delivery of online courses. The first course to be piloted was on:
Sustainable water supply and sanitation systems for peri-urban areas. The course had **80 participants** from across Africa and some from Europe. It ran from 23 July 2016 – 7 October 2016.

4.3.4 Increase delivery in Portuguese and French

In 2015, the training of trainers on Strategic Implementation of IWRM at River Basin Level: Concepts and Operational Tools, 13 – 16 October 2015 was conducted in Portuguese in Maputo. As reported under 4.3.3 This was attended by 19 participants. Hosted by AQUASHARE – Mozambican Water Association and Faculty of Engineering – Eduardo Mondlane University with additional financial support from CapNet/UNDP.

4.3.5 Build the capacity of young water professionals

WaterNet Alumni were supported in 2016 to attend the annual symposium in Botswana. Alumni were sponsored to attend short professional training courses. Selected Alumni were also contracted to work toward the finalisation of the Alumni database. Selected Alumni joined the consultative workshop for the development of WaterNet phase IV in at Saint Georges in South Africa in April 2016.

4.3.6 Host institutions to offer Master modules as short courses

Modules identified and to be pilot as online course in the second half of 2016 at UZ, UDSM, UNIMA and NUST. Only NUST was part of the online course that was delivered. The University of Zimbabwe and the University of Dar Es Salaam conducted the IWRM toolbox training as part of the Water law module. Additional details of these activities were reported under short professional training courses (under 4.3.3).

4.3.7 Investigate possibilities for professional certification

WaterNet and CapNet/UNDP agreed on developing a concept note in order to explore the possibility of certification for the face to face course as well as those conducted online. A roadmap of the process has been defined in 2016 and the activities will be implemented in 2017 subject to funds availability.

4.4 Carry out IWRM research for development to achieve impact and uptake and expand IWRM research in the region

This is an on-going activity which is executed jointly through Water Research For Southern Africa (WARFSA) and WaterNet. WaterNet has been closely monitoring developments in efforts to revive WARFSA. In 2014, WaterNet jointly with GWPSA agreed to work toward the development of the SADC research agenda for the region. The research agenda was developed by WaterNet in 2015 and it has been integrated into the Fourth SADC Regional Strategic Action Plan (RSAP 4:2016-2020).

4.4.1 WaterNet, WARFSA and GWPSA to lead regional research agenda, with an emphasis on uptake, through targeted stakeholder engagement processes in the region

The initiative of WaterNet Professorial Chairs was evaluated in 2013 and the Management Board decided to discontinue the initiative as it was not yielding the expected results. The Board decided to launch an initiative that will build the capacity of new PhD graduates in a form of a Post-doc position or Research Fellows depending on models available in respective institutions. The position was open to the entire WaterNet membership not only to Masters of Science hosts institutions. On-going Research proposals funded by Danida and the European Commission (AfriAlliance) are implemented in line with The SADC research agenda. Submitted proposals developed in the course of the year have also been aligned to the SADC research agenda.

4.4.2 Implement collaborative research projects that are relevant, coordinated, and integrated into network activities and linked to uptake of results

1. Danida Project on Zambezi.

The Danida funded project in the Zambezi runs as part of the WaterNet PhD programme. All the 3 PhDs and 5 M.Sc. students have been identified. All 5 M.Sc. Students have now completed their studies the 3 PhDs students registered respectively at the University of Zambia, University of Kwazulu Natal and the University of Twente continue with their candidatures in 2016. Satisfactory progresses are made by two PhD fellows (UKZN and University of Twente), these are likely to complete their studies in 2017. Necessary support will be sought in order to support them even beyond 2016 when the DANIDA project is coming to an end.

2. SADC Water research agenda

The research agenda that was developed in the first half of the year 2015 and endorsed by SADC water Ministers during their meeting that took place in Harare in July 2015. The research agenda was generally welcomed and have been considered in the development of the 4th SADC Regional Strategic Action Plan that will be running from 2016 to 2020. The WaterNet Msc students dissertations and themes of the annual symposium are now aligned to the SADC research Agenda.

3. WaterNet Research Fellows

Two WaterNet Research Fellows from the University of Kwazulu Natal and The University of Dar Es Salaam were identified and contracted in 2015. The two fellows have been given the Post-Doctoral position in the two host universities. The WaterNet Research fellow is expected to provide academic and scientific support to the following WaterNet activities:

- The WaterNet Master Programme in Integrated Water Resources Management (IWRM) in terms of quality insurance and academic guidance;
- The acquisition and implementation of WaterNet collaborative research projects
- The implementation of the SADC water research agenda jointly with WARFSA
- The scientific guidance of the annual WaterNet symposium and the associated activities such as the publication of the JPCE special issue.
- Other areas of research and service assigned by WaterNet in collaboration with the host University

In 2016, the Post-doc fellow at the University of Kwazulu Natal was actively involved in the implementation of the AfriAlliance Innovation Bridge Event (IBE) that was convened as a side event to the 17th WaterNet symposium at the Gaborone International Convention Centre in Gaborone, Botswana.

The Post-Doc at the University of Dar Es Salaam in Tanzania mainly supported the development of research proposals that were submitted to the African Union. She also contributed to the proposal development and supervision of the WaterNet Msc students for the

2015-16 and 2016-17 intakes. Under the African Climate change Fellowship Programme (ACCFP), WaterNet hosted

4.4.3 Seek funding for new research activities and establish new collaborative research projects

The following proposals on collaborative research initiatives were submitted in 2016

Project	Title	Lead institution	Time line & status	Funding source
SHEAR 2015	Increasing resilience to droughts and floods in Sub-Saharan Africa through risk based monitoring, forecasting and warning	UNESCO-IHE, University of Birmingham, CSIR, Institute for Development Studies, Deltares, Universidad Politecnica de Madrid, Dabane Trust, WaterNet and Oxfam	full proposal developed and interviews were conducted. Outcome: unsuccessful	DfID-NERC, Uk
International Climate Initiative-German Federal Ministry of Environment	Sustainable water management for irrigation development within the context of climate change in the Zambezi basin	UZ (Dpt Soil Sciences), Sokoine University of Agriculture, Okavango Research Institute (ORI), Universidade Eduardo Mondlane (UEM), Namibia University of Sciences and Technology (NUST), University of Malawi (UNIMA) and WaterNet	Not successful. Should be considered for re-submission	Federal Ministry of Environment, Germany
OSISA 2016 Grant Application	Evidence-based Advocacy and Mobilisation of Partnerships against Pre-paid Water Meters to Enhance Water Security in Zimbabwean Urban Areas	WaterNet , UZ (DCE and Dpt Soil sciences, IWSD)	Submitted and under review; results expected before the end of 2016	Open Society Initiative for Southern Africa OSISA
REINFORCE	Increasing Resilience to Droughts and Floods in the Limpopo Basin through Risk based Monitoring and Seasonal Forecasting of Climatic Extremes	UNESCO-IHE (lead), with Deltares, CSIR, Un. Of Pretoria, UZ, WaterNet, Univ of California Santa Barbara, Dabane Trust	Original project not successful; Being revised for re-submission	NERC-UK
A4Labs	Arid African Alluvial Aquifers Labs securing water for development	UNESCO-IHE (lead), Oxfam family (Oxfam Novib, Oxfam Mozambique, Oxfam Zimbabwe), Acacia Water, Mekelle University, Dabane Trust, and others, including WaterNet	Oct 2016-Sep 2019 Proposal successful	DUPC2 call
A4A Action Group	Arid African Alluvial Aquifers for Agriculture	Mekelle University (lead) with many partners in Ethiopia, Kenya, Zimbabwe, Mozambique, Ghana, The Netherlands	Oct 2016-March 2018 Proposal successful, will be linked to A4Labs	AfriAlliance
SAISor	Sustainable agricultural intensification using natural and built water storage infrastructure. An adaptive investment approach	WaterNet (lead) with Mekelle University, Ethiopia, University of Energy and Natural Resources, Sunyani (UENR), Ghana, IWMI, Ghana, UNESCO-IHE	Submitted; No results yet	African Union Research Grants, supported by the EC

Project	Title	Lead institution	Time line & status	Funding source
S3I	S3I: From smart sensors to smart interventions. Towards sustainable smallholder agriculture in Africa	TU Delft (lead), with South Eastern Kenya University, Kenya, Hydraulic Research Centre, Sudan, WaterNet, Zimbabwe, University of Bonn, Germany	Submitted; No results yet	African Union Research Grants, supported by the EC
BREAD-Zambezi	Building REsilience through Action Research in Drought and flood prone regions of the Zambezi River basin	WaterNet (lead), with: UZ, UNZA, Un. of Malawi, UKZN, UDSM, UEM, ZamCom and UNESCO-IHE	Jan 2017-Dec 2018 Proposal submitted	DUPC2 – South South Call
BRECCIA	GCRF - Building research capacity for sustainable water and food security in drylands of sub-Saharan Africa (BRECCIA)	University of Southampton (lead), WaterNet, University of Malawi and 12 other partners	Full proposal Submitted	GCRF

4.4.4 Capacity building in research through mentorship, training and the PhD programme

As reported under 4.4.3 DANIDA continued its support toward the WaterNet PhD programme in 2016. The three (3) PhD fellows continued their candidatures as appropriate and their research works were presented during the 17th WaterNet symposium in Botswana. Six universities from the SADC region are still part of the supervision framework of the programme. ZAMCOM serves as the policy interface and seats on the steering committee of the programme as summarised below.

Regional WaterNet PhD Programme- Supervision Framework

	PhD Fellowship 1	PhD Fellowship 2	PhD Fellowship 3
Name and Surname	MulengaKalumba	Petrina Mabuku	Webster Gumindoga
Country	Zambia	Namibia	Zimbabwe
University	UNZA	UKZN	University of Twente
Focus Area	Eco-hydrology	Institutional and social	Water Resources Management
Supervisors from Host University	Dr E Nyirenda	Dr Aidan Senzanje Dr Maxwell Mudhara	Dr THM Rientjes Prof W Verhoef
Supervisors from WaterNet	Prof D Mazvimavi-UWC Prof D Nkhuwa-UNZA	Prof O W Mulwafu-UNIMA Prof G Jewitt-UKZN	Dr H Makurira-UZ Prof D Juizo-UEM
Policy interface	ZAMCOM	ZAMCOM	ZAMCOM
Funding	DANIDA	DANIDA	DANIDA
Coordination	WaterNet	WaterNet	WaterNet

Acronyms

DANIDA	Danish Development Assistance Programme
UEM	Universidade Eduardo Mondlane (Mozambique)
UKZN	University of Kwazulu Natal (South Africa)
UNIMA	University of Malawi
UNZA	University of Zambia
UWC	University of Western Cape (South Africa)
UZ	University of Zimbabwe
ZAMCOM	Zambezi Water course Commission

4.4.5 Establish Post-Masters facility

In 2016, as part of this initiative, no graduate was hired however in the framework of AfriAlliance Ms Jesca Mhazha was contracted for six months in order to support the implementation of above mentioned project. Her internship is expected to run up until the first semester of 2017.

4.4.6 Establish WaterNet PhD programme, under basket funding, under the leadership of the WaterNet Host institutions and in liaison with international partners

As reported under 4.4.5 with the financial support from Danida, the WaterNet PhD programme is continuing within the Zambezi Basin. Now all the three PhD students and five MSc students have been awarded the fellowships and the project was scheduled to run up to December 2016. Now, all the Msc students completed their dissertations that were contributing to PhDs. The Msc students came from Malawi (1) Zambia (1) and Zimbabwe (3).

4.4.7 Facilitate the establishment, through SADC, of a formalised regional research platform, linked to the regional research agenda

In April 2015, the SADC Water Research agenda was developed and in July it was approved by SADC water ministers. The agenda has been embedded in the formulation of the RSAP IV (2016-2020). WARFSA remains the mechanism that was identified as a mean of implementing the research agenda though governance and funding mechanism are yet to be clearly articulated. In 2016 as reported earlier Msc students dissertations and the annual symposium have now been aligned to the SADC research Agenda for the water sector. No activities were implemented as part of the FAO agricultural water for Africa Partnership (AgWA).



4.5 Promoting the understanding and implementation of IWRM at regional, national and local levels

4.5.1 Outreach and advocacy through liaison with GWP-SA, AgWA and other partners

Agricultural Water for Africa Partnership (AgWA)

The Agricultural Water for Africa Partnership, AgWA, is a voluntary partnership comprising various African governments, public and private institutions and international organisations that have a common interest and desire to support improved agricultural water management and development and investment in agricultural water management in Africa. In January 2011, WaterNet was selected to chair the Steering Committee for East and Southern Africa and to drive activities in the region, and to chair the Pan-African Steering Committee, alternating with the ECOWAS Water Resources Institute.

In 2016, WaterNet was invited to the steering committee meeting in August in Addis-Abeba, Ethiopia. the expected outcomes of the meeting were:

1. Review of AgWA Operational Plan for 2015-2016.
2. Agreed upon - by its Steering Committee members and Partners - Operational Plan of AgWA for 2015-2016 and a “Delivery Framework” with prioritized activities in line with the Partnership’s main components.
3. Agreed upon - by its Steering Committee members and Partners, Governance Structure and Implementation Set-up.

In 2016, WaterNet also participated in the following events:

- H2020 kick-off meeting, 2-3 March 2016, Delft, The Netherlands
- SADC WRSWG meeting, 8-9 March 2016, Gaborone, Botswana
- RISE workshop, 18-22 April 2016, Nairobi, Kenya
- Joint Water and Energy Ministerial meeting, Gaborone -July 2016
- World Water Week, August 2016
- CapNet/UNDP network manager’s meeting- Nairobi, Kenya November 2016

4.5.2 *Online outreach*

During 2016 four WaterNet newsletters were produced and circulated to members and the water sector through electronic media. The publications are also 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.

The new and modern WaterNet website was launched in 2015 and it features social media links such as Facebook and twitter. The website has been designed so that we can capture all statistics in terms of visit. During the course of the year, the website was regularly updated and materials such as strategy documents and past publications were uploaded regularly. This is an on-going exercise as the intention to have all the Msc theses available on the website as of end of 2016, 79 WaterNet Master’s theses were available online. The WaterNet website continues to be visited by a number of people. As of 16 October 2015, 878 viewers had visited the site since the 1st of October 2016.

4.5.3 *Annual WaterNet/WARFSA/GWP-SA Symposia*

The 17th WaterNet/ WARFSA/ GWP-SA Symposium, was successfully held at Gaborone International convention Center in Gaborone, Botswana from 26-28 October 2016.

The Symposium was meant to promote interaction among policymakers, academicians, practitioners from water and related sectors and key cooperating partners. Together they identified regional issues, gaps and priorities that require further research and support. Great emphasis was placed on integration of knowledge, particularly involving scholars from the natural and social sciences. The Okavango Research Institute of The University of Botswana led the Local organising committee of the Symposium. During the 2016 AGM, host for the 2017 symposium was identified to be the Namibian Ministry of Agriculture and Water.

The Symposium managed to attract over 303 registered delegates, 267 submissions were received and 119 oral presentations were made, 5 special sessions were convened and 40 posters were displayed. Authors from 34 countries submitted their abstracts. The countries with the highest number of delegates included South Africa (206) Botswana (106), Zimbabwe (62) and Malawi (44).

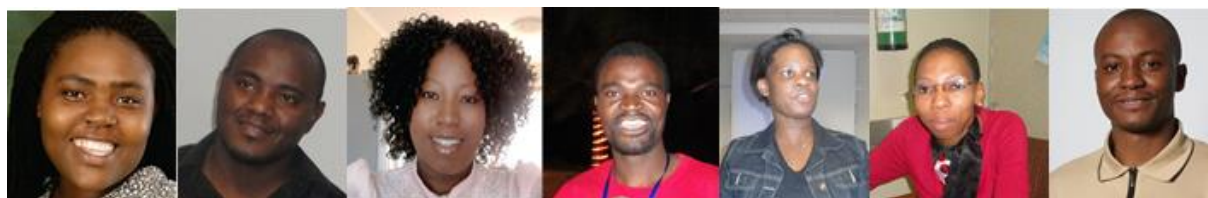
Table 5 Number of abstracts per sub-theme submitted for the symposium.

Sub Theme	Oral	Poster	Total
Hydrology and global change	47	9	56
Water and Environment	64	5	69
Water, Land and Agriculture	42	3	45
Water and Society	20	3	23
Water Resources Management	23		23
Sustainable water distribution and sanitation	41	4	45
Scientific session	6		6
Total Presentations delivered	243	24	267

Journal of Physics and Chemistry of the Earth

The presenters at the 16th WaterNet/WARFSA/GWP-SA annual symposium held in Mauritius submitted papers to the special issue of the Journal of Physics and Chemistry of the Earth. Out of all the papers submitted, 27 papers were accepted for publication in the first batch, in the special issue, under the six sub-themes as defined by WaterNet. The editorial board of this special issue consisted of Prof Mapani (special issue guest editor), Dr Makurira, Prof Mashauri, Prof Mkandawire, Prof Ngongondo, Dr Mul, Dr Magole and Dr Mabvira-Meck (theme editors).

4.5.4 Active WaterNet Alumni Association and Young Water Professional Chapters



The WaterNet Alumni Association was launched in November 2007. The members have been very active in WaterNet activities since their inception. The Association is headed by a steering committee and an Alumni Board.

The WaterNet Alumni Association remains committed to be frontline ambassadors for IWRM in the region. In 2016 a new steering committee was elected as provided in the table below:

Position	Name	Sex
Chairperson	Joanna Fatch	F
Vice Chairperson	Godwin Kamtukule	M
Secretary	Tshepo Setlhogile	F
Vice Secretary	Sangwani Khosa	M
Treasurer	Hastings Mbale	M

Furthermore, Alumni were actively involved in the development of WaterNet phase IV the Alumni Association held its Annual General Meeting during the 17th WaterNet symposium, a database of all WaterNet alumni has now been developed as of December 2016 it was tested in terms of functionalities. The Alumni association through the Chair made a presentation of the results of the tracer survey and impact of the WaterNet programme in southern and East Africa during the plenary session of the symposium in Gaborone, Botswana.

5 Reporting, Budget and Expenditure Analysis

A detailed expenditure statement is presented as **Annex 1. Table 5-1** below provides a summary of the Phase III consolidated receipts and expenditures per December 2016. Detailed expenditures per donors are submitted in an excel work book together with this submission where budgets, actual expenses and variance can be seen. The noticeable variance in 2016 are recorded under WaterNet Research fellowship and the programme evaluation. These two budget lines saw their activities either reduced or deferred to 2017. The year 2016 recorded some considerable exchange gains as Euro disbursements were periodically moved into USD account.

The year 2016 marked the end of WaterNet Phase III and the end of phase III audit report for DGIS was prepared and submitted to the Embassy of the Netherlands in Maputo, Mozambique. The level of execution of the 2016 budget was 75% as of 31 December 2016. The positive balance at the end of the year speaks to the 2016 advance disbursement that WaterNet received. The Audited financial reports and management letter for 2016 and WaterNet phase III were produced by PWC (PriceWaterHousecoopers) and the opinions were unqualified.

Table 5-1 Consolidated receipts and expenditures from January 2016 to December 2016

WaterNet Trust							
CONSOLIDATED RECEIPTS AND EXPENDITURES STATEMENT FOR THE PERIOD ENDED 31 DECEMBER 2016							
(In Euro)							
	DGIS	Danida	MEM	Cap-Net	GIZ	WATER INT	Total
Receipts							
Grants received	1,833,005	27,948	-	-	69,275	-	1,930,228
Interest income	42	11	-	1	-	-	54
ACCFP fellowship			195				195
DUPC TopUp funds			10,281				10,281
GWP-SA			11,973				11,973
IUCN			18,682				18,682
Afrialliance			28,892				28,892
FARNPAN			7,379				7,379
Membership subscriptions	-	-	12,278	-	-	-	12,278
Overhead	-	-	18,128	-	-	-	18,128
Other income	-	-	14,141	-	-	-	14,141
Funding income	1,833,047	27,959	121,949	1	69,275	-	2,052,231
Other Income							
Gain on foreign currency exchange	20,019	2,090	504	-	-	82	22,695
Total receipts	1,853,066	30,049	122,453	1	69,275	82	2,074,926
Opening cash and bank balances	237,632	15,015	34,473	3,463	-	74,758	365,341
Total	2,090,698	45,064	156,926	3,464	69,275	74,840	2,440,267
Description							
Disbursements	1,061,921	38,971	132,520	3,065	11,128	67,400	1,315,005
Loss on foreign currency exchange	-	5	194	-	-	90	289
Movements in travel advances	-	-	330	-	-	-	330
Fixed assets	153	-	323	-	-	-	476
Total disbursements	1,062,074	38,976	133,367	3,065	11,128	67,490	1,316,100
Net increase of cash receipts	1,028,624	6,088	23,559	399	58,147	7,350	1,124,167
Evidenced by cash and bank balances	1,028,624	6,088		399	58,147	7,350	365,341

6 Deviation from Planned Activities

The 2016 workplan which marks the end of WaterNet phase III was implemented in lines with the approved yearly budget and variances encountered were a results of postponement in the implementation of activities mainly the WaterNet Research Fellows and the review of the programme which was deemed to not to be fitting as an organisational audit was conducted in the course of the year and the last review was only finalised in 2015.

The major achievement of 2016 is probably the development of the WaterNet phase IV (2017-2021) which focuses now on knowledge co-creation and climate change. The Trust has also managed to secure mainly from DGIS 31% of the WaterNet phase IV activities.

Submitted on 31 May 2017

A handwritten signature in blue ink, appearing to read 'J. Onema', is written on a light blue grid background.

Dr Jean-Marie Kileshye Onema
WaterNet Manager

8 Annex 1: Consolidated Receipts and Expenditures Statement (Period 1 January to 31 December 2016) as per General Ledger

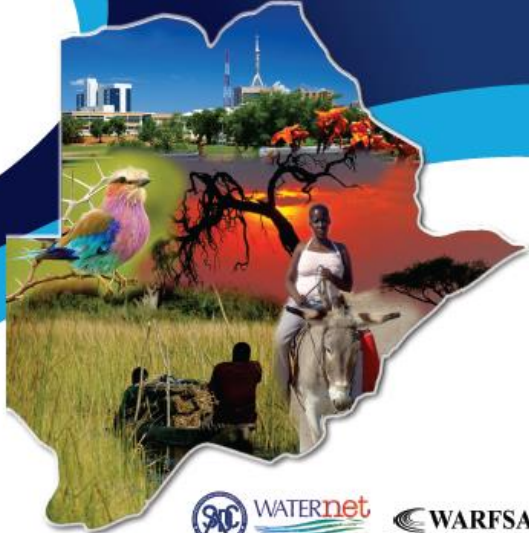
Please refer the detailed financial report submitted separately as an excel workbook (Financial report 2016)

Programme

17th WaterNet/WARFSA/GWP-SA Symposium on
**Integrated Water Resources Management:
Water Security, Sustainability and Development
in Eastern and Southern Africa**

*Jointly convened with the International Association of
Hydrological Sciences (IAHS) and the University of Botswana*

Gaborone International
Convention Centre (GICC)
Botswana
26th – 28th October 2016



10 Annex 3 List of participants Professional Trainings

Promoting the Application of Environmental Flows in the Management of Transboundary River Basins in Southern Africa, 4 – 7 July 2016, Cape Town, South Africa

No.	Initials and Surname	Gender	Organisation/Company
1	Kobamelo Dikgola	F	Department of Water Affairs
2	Osman Kontle	M	Kalahari Conservation Society
3	Pholoso Davis Moatshe	M	Department of Water Affairs
4	Mphemelang Ketlhoilwe	M	University of Botswana
5	Ben Nyikadzino	M	Zimbabwe National Water Authority
6	Stanley Nazombe	M	Zimbabwe National Water Authority
7	Timothy Kadyamusuma	M	Zimbabwe National Water Authority
8	Debbie Sharp	F	Department of Environmental Affairs
9	Isaiah Dambudzo Nyakusendwa	M	MAB Zimbabwe
10	Wellington Dzvairo	M	GWP-SA
11	Kudakwashe Joel Kayirasora	M	Ministry of Environment, Water and Climate Zimbabwe
12	Gladys Semakane Toka	F	READ
13	Hazel Duduzile Twayi	F	Department: Water and Sanitation
14	Martha Mokiti Komape	F	Department of Water and Sanitation
15	Muanalo Lufuno Yvonne Dyer	F	Vhembe Biosphere Reserve
16	Patrick Teboho Leku	M	Gauteng Department of Agriculture and Rural Development

17	Mpho Pila	M	Department of Economic Development, Environment & Tourism
18	Mashudu Lucky Nemutandani	M	North West Department of Rural, Environment and Agricultural Development
19	Irene Zanti van der Merwe	F	Marico River Conservation Association (MRCA)
20	Oraca Elias Cuambe	F	Mozambique MAB Committee
21	Pedro Fiosse Francisco Cambula	M	National Directorate of Water Resources Management
22	Arlete Lili Fernanda Nomboro	F	National Directorate of Water Resources Management - DNGRH
23	Thembisile Marshall	F	Kruger to Canyons Biosphere Region
24	Azwihangwisi Dorris Maumela	F	Department of Water and Sanitation
25	Joyce Netshavhakololo	F	Department of Environmental Affairs
26	Regina Kganyago	F	Department of Water and Sanitation: Limpopo S. A.
27	Samatladi Joseph Phasha	M	Department of Water and Sanitation
28	Dominic Mazimavi	M	University of the Western Cape
29	Hilary Masundire	M	University of Botswana
30	Marie Parramon-Gurney	F	IUCN
31	Kenneth Msibi	M	SADC Water Division
32	Palesa Monogoaha	F	RESILIM
33	Lenka Thamae	M	ORASECOM
34	Zachel van Aswegen	F	IUCN

35	Jean-Marie Onema Kileshye	M	WaterNet
36	Krasposy Kujinga	M	WaterNet
37	Bernice Khoachele LWC	F	Lesotho Water commission
38	Jeanette Normand	F	USAID
39	'Nkobi Moleele	M	RESILIM Program
40	David Gadd	M	RESILIM Program
41	Lara Rall	F	RESILIM Program
42	Muriel Brown	F	RESILIM Program
43	Catherine Mutambirwa	F	IUCN

Promoting the Application of Environmental Flows in the Management of Transboundary River Basins in Southern Africa:
From Theory to Practical: E-Flows Indicators Training Course, Manica, Mozambique 25-28 July 2016

Name	Country	Organisation	Position
Cacilda Machava	Mozambique	ARA Centro	Director General
Castro Junior	Mozambique	ARA Centro	Head of Technical Department
Mr Gemano Melembe	Mozambique	Buzi Basin Management Unit	Director
Mr Agnelo Jorge Costa	Mozambique	Save Basin Management Unit	Director
Mr Angelo Pereira	Mozambique		Water Quality Scientist
Mr Omar	Mozambique	Pungwe Basin Management Unit	Director
Albert Mare	Zimbabwe	ZINWA Save Catchment	Catchment Manager
Vengesai Mazambani	Zimbabwe	ZINWA Runde Catchment	Catchment Manager
Maxwell Munyai	Zimbabwe	Save Catchment	Hydrologist
M. Chinjonjo	Zimbabwe	Save Catchment	Water Quality Scientist
Mr Obert Gonye	Zimbabwe		Civil Engineer
Mr. Simbarashe Dzirekwa	Zimbabwe	ZINWA Runde Catchment	Hydrologist
Mr. Tinashe C. Mashavave	Zimbabwe	Irrigations Department	Socio-Economist
Mr. Moses Chinjonjo	Zimbabwe	ZINWA Save	Water Quality Scientist

**Workshop on the transfer of and training on Africa Drought Monitoring, Harare, Zimbabwe,
9 – 11 November 2016,**

	Name & Surname	Organisation	Contact Number	Email address
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MALAWI				
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37	Dr Krasposy Kujinga	WaterNet	Programmes Coordinator	kkujinga@waternetonline.org

TRAINING WORKSHOP ON ENHANCING RESILIENCE IN THE LIMPOPO RIVER BASIN THROUGH
WATER GOVERNANCE AND DISASTER RISK PREPAREDNESS 21-25 November 2016
Bulawayo Rainbow Hotel, Bulawayo, Zimbabwe

	Name & Surname	Organisation	Departure City/Town
1	Ms Sibongile Mangena	AGRITEX, National Early Warning Unit	Harare
2	Mr Timothy Kadyamusuma	ZINWA Mzingwane Catchment	Bulawayo
3	Ms Sibusisiwe Ndlovu	Civil Protection Department	
4	Mr Store Masauso	ZINWA Mzingwane Catchmen	Bulawayo
5	Mr Ben Nykadzino	ZINWA Mzingwane Catchment	Bulawayo
6	Ms Debra Musiwa	ZINWA Head Office, Zimbabwe	Harare
7	Mr Abraham Mwale	Department of Meteorology	Masvingo
8	Ms Motlalepula Pitso	National Disaster Management Centre	Johannesburg
9	Ms Nocamagu Sangoni	Department of Water Affairs	Johannesburg
10	Ms Martha Komape	Department of Water Affairs	Johannesburg
11	Mr Pholoso Moatshe	Department of Water Affairs	Gaborone
12	Ms Ogone Ranko	Department of Water Affairs	Gaborone
13	Mr Mabala Letsatle	Ministry of Agriculture	Gaborone
14	Ms Sebia Mutasa	Ministry of Education	Gaborone
15	Mr Alfred Lefaphane	Department of Meteorological Services	Gaborone
16	Ms Masego Pitso	South East District Council	Gaborone
17	Dr Masego Mpotokwane	University of Botswana	Gaborone
18	Ms Mpho T. Modiega	Office of the District Commissioner	Gaborone
19	Dr Zainadine Arafat	(INGC) National Disasters Management Institute	Maputo
20	Mr Francisco Do Rosario Naene	DGBH (National Directorate for Water Resources Management)	Maputo
21	Mr Justino Marrengula	DGBH (National Directorate for Water Resources Management)	Maputo
22	Prof Emmanuel Manzungu (Zim)	WaterNet Facilitator	Harare
23	Dr Paradzayi Pathias Bongo (Zim)	WaterNet Resource Person	Harare
24	Mr Samuel Kusangaya	WaterNet Resource Person	Harare
25	Prof Dinis Juizo	WaterNet Resource Person	Maputo
26	Dr Aidan Senzanje (Zim)	WaterNet Resource Person	Pietermaritzburg
27	Dr Geoffry Chavula	WaterNet Resource Person	Blantyre
28	Dr Lerato Nare	WaterNet Resource Person	Bulawayo
29	Mr Shepard Mpotegwa	Irrigation Engineer	Bulawayo
30	Dr Jean-Marie Kileshye Onema	WaterNet	Harare
31	Dr Krasposy Kujinga (Zim)	WaterNet	Harare
32	Mr. Andrew Takawira	GWPSA	Johannesburg

	(Zim)		
33	Ms Julienne Ngo Yebga	GWP SA	Johannesburg
34	Mr Kule Chitepo	RESILIM	Johannesburg
35	Mr Fanuel Cumanzala	USAid	Johannesburg
36	Mr Thabisani Moyo	USAid	Johannesburg
37	Mr Takura Ruvaro	World Vision	Harare
38	Mr Patson Makwiramiti	SAFIRE	Harare
39	Mr Edmore Mutsavi	CARE	Harare
40	Ms Ntombi Zakhe Mpofu	CNFA (AMALIMA)	Harare
41	Mr Kumbulani Murenga	IWSD	Harare
42	Dr Edson Munsaka	IDS-NUST	
43	Dr Stephen Hussey	AMALIMA/DABANE	Bulawayo
44	Mr Bernard Mabika	Loghlan	Bulawayo

WaterNet Alumni Refresher Course: Introduction to open source QGIS for Geospatial and Earth Observation, the training was held from 20 - 25 October, 2016 Gaborone, Botswana

Full Name		Email Address	Country	Current organisation	Current position
Tenele Matsebula	F	ngetitm@yahoo.com	Swaziland	TenD Water Resources and Engineering	Independent Consultant/Hydrologist
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Nkambule					
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Paidamoyo Mary Vushoma	F	mary.vushoma@gmail.com	Zimbabwe		N/A
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Mercy Mbula	F	mmbula@zesco.co.zm	Zambia	Zambia Electricity Supply Corporation	Environmental Scientist

TABLE 2: DETAILS OF STUDENTS IWRM 2015-16 INTAKE

	Student	Nationality	CHI	Gender	Specialization and SHI
1	Maramba Bester	Zimbabwe	UZ	F	WSS (Polytechnic of Namibia)
2	Masheka Goodson	Zambia	UZ	M	WSS (Polytechnic of Namibia)
3	Mosimanengape Kagiso	Botswana	UZ	M	W&E (University of Malawi)
4	Kabantu Martin	DRC	UZ	M	WRM (UZ)
5	lipinge Kornelia N	Namibia	UZ	F	W&S (UWC)
6	Masimba Oliver	Zimbabwe	UZ	M	Hyd(UDSM)
7	Sibeya Chaze	Namibia	UZ	F	W&S(UWC)
8	Nkambule Thembeke	Swaziland	UZ	M	WSS (Polytechnic of Namibia)
9	Muchanga Esperanca	Mozambique	UZ	F	W&L (University Botswana)
10	Mupedziswa Felistas	Zimbabwe	UZ	F	GISEO (University of Kwazulu Natal)
11	Mkhonta Sithembiso	Swaziland	UZ	M	WRM (University of Zimbabwe)
12	Kalonge Beatrice	Zambia	UDSM	F	WRM (University of Zimbabwe)
13	Mbaruku Stefano	Tanzania	UZ	M	W&E (University of Malawi)
14	Nyirenda Fred	Malawi	UZ	M	W&L (University Botswana)
15	Matshakeni Zine	South Africa	UZ	F	W&E (University of Malawi)
16	Kangume Charity	Uganda	UDSM	F	WRM (University of Zimbabwe)
17	Sacolo Sanele	Swazi	UDSM	M	W&L (University of Botswana)
18	Tshegofatso, Mosale	Motswana	UDSM	M	GISEO (UKZN)
19	Khumano, Nomcebo	South African	UDSM	F	GISEO (UKZN)
20	Shao, Magdalena	Tanzanian	UDSM	F	HYD (UDSM)
21	Paul, Clarence	Tanzanian	UDSM	F	HYD (UDSM)
22	Beya-Tshimpampa, Jules	DRC	UDSM	M	HYD (UDSM)

23	Nkeletseng Matsumunyane	Mosotho	UDSM	F	GISEO (UKZN)
24	Karimi, Alice	Kenyan	UDSM	F	W&S (UWC)
25	Moqekela, Cecilia M	Mosotho	UDSM	F	W&E(UNIMA)
26	Cuamba, Eduardo M	Mozambican	UDSM	M	W&L (UB)
27	Mbula, Mercy	Zambian	UDSM	F	W&S (UWC)
28	Tembo, Judith	Malawian	UDSM	F	WSS (PON)

TABLE 1: DETAILS OF STUDENTS IWRM 2016-17 INTAKE

Student	Nationality	Gender	Age	Specialisation and SHI
Chaguala Carlos R	Mozambique	M	29	GISEO (UKZN)
Mwafuka Josephine	Zimbabwe	F	32	GISEO (UKZN)
Chikumbutso Liwonde	Malawi	M	30	WRM (UZ)
Gumede Sibonginkosi N	South Africa	M	26	W&S (UWC)
Mlambo Joy Sibongile	Zimbabwe	F	25	W&S (UWC)
Chimbaza Chimwemwe	Malawi	F	35	WRM (UZ)
Khaemba Lilian	Kenya	F	27	WRM (UZ)
Chishala Chewe	Zambia	M	28	WSS (PON)
Mudzviti Samuel	Zimbabwe	M	45	WSS (PON)
Makaka Rwegoshora	Tanzania	M	34	WRM (UZ)

TABLE 2: STUDENT IWRM 2016-17 UDSM

Student	Nationality	Gender	Specialisation and SHI
Mambwe K Benjamin	DRC	M	GISEO (UKZN)
Miranda Nelson A	Mozambique	M	GISEO (UKZN)
Mhiribidi Delight	Zimbabwe	F	HYD (UDSM)
Mokgedi Leokeditse	Botswana	M	HYD (UDSM)
Semiono Dorothy	Tanzania	F	HYD (UDSM)
Spencer Green T	Swaziland	M	HYD (UDSM)
Chande Milika	Zambia	F	W&S (UWC)
Mashekoe Liemo Thato	Lesotho	F	W&S (UWC)

L			
Galekgathege Tshegofatso	Botswana	F	WSS (PON)
Lileka Tertu N	Namibia	F	WSS (PON)

CHI: denotes Core Host Institution

SHI: denotes Specialization Host institution

WRM: denotes the Water Resources Management option offered by University of Zimbabwe (UZ)

GISEO: denotes the GIS and Earth Observation option offered by University of KwaZulu-Natal (UKZN)

HYD: denotes the Hydrology option offered by University of Dar-Es-Salaam (UDSM)

WSS: denotes the Water Supply and Sanitation option offered by Polytechnic of Namibia (PoN)

W&S: denotes the Water and Society option offered by University of Western Cape, SA (UWC)