



VOLUME 1, ISSUE 2

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**IWRM in the Cuvelai-Etosa Basin (CEB), Namibia**

**Result 1: Adequate IWRM institutions created and operational**

**Activity 1: Establish Technical Support Unit**

After the project manager of the technical unit left it was decided by the SC that the technical staff in the CEB office will take over some of his functions and responsibilities will be carried out by the Team Leader as well as the Project Director. After clarification on the status of DRFN in the project DRFN re-joined the SC as an official project partner. In the beginning of September the new BSO for Nüpele, Ms. Anna T. Haufiku joined the team in the north and is now based in Eenhana.

**Activity 2: Carry out a stakeholder analysis**

The CEB BSOs met during the 3rd quarter to discuss and agree on the uniformity of all stakeholders lists in the basin (Iishana, Olushandja, Nüpele and Tsumeb). It was agreed that all sub-basins will have two lists namely Stakeholders list and BMC list including portfolio holders as well as including meeting attendance and updated on a regular basis and additionally a list of Resource Persons for the basin. All the stakeholders list for Iishana, Nüpele, Tsumeb and Olushandja have been updated in the 4th quarter. More updating is needed during the next quarter to ensure that all individuals that move to other institutions are removed and replaced. A consultative meeting with institution can be scheduled in the next quarter.

**Activity 3: Organize and support consultations among decision makers and stakeholders**

The IWRM coordination committee developed the annual operational IWRM CEB Plan 2012-2013 as per the prioritized thematic areas: pollution control, sanitation, disaster management and water supply. The Plan was presented to the project steering committee and afterwards sent to all institutions involved in the implementation of IWRM within the CEB. As a way forward, it was noted that the committee, overseeing the plan, does not have the mandate to approach institutions and monitor their implementation of activities; it was then proposed that a high ranking official with a portfolio not lower than the Under Secretary Mr. Abraham Nehemia along with the BSO be involved to sensitize the

honourable governors, mayors, Regional and local councillors as well as Chief Regional Officers and CEO about the committee and its proposed plan which need to be monitored. Unfortunately, there has not been any feedback from the project SC or any activity towards the proposed implementation approach. However, the CEB office will follow up on the implementation of the plan on working level within the next quarter.

The annual coordination meeting approach for 2013 has been developed by the CEB office and has been discussed with the project director. Comments by the project director will be incorporated in the beginning of 2013 and the final approach will be sent out to the SC for approval.

**Integrated Water Resource Management (IWRM)**

IWRM has been defined by GWP as a process that promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising sustainability of vital eco-system ( Technical Advisor Committee 2000)

**IWRM Principles**

Principle 1: Principle 1: Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

Principle 2: Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels.

Principle 3: Women play a central part in the provision, management and safeguarding of water.

Principle 4: Water has an economic value in all its competing uses and should be recognized as an economic good as well as a social good.

**Events**

- **International wetlands day to be commemorated in Karas, March 2013**
- **CEB Coordination Workshop 18-19 April 2013**
- **Training for BMCs members in the CEB in February 2013**

**Inside this issue:**

Project Result 1	<b>1</b>
Project Result 2	<b>4</b>
Project Result 3	<b>4</b>
Project Result 4	<b>4</b>
Project Result 5	<b>5</b>
IWRM Poster	<b>6</b>
BOCMA Trip	<b>7</b>
Pictures	<b>8</b>

## Result 1: Adequate IWRM institutions created and operational

### Activity 4: Facilitate the identification, gathering and dissemination of information required for planning and develop planning procedures.

In the 3rd quarter:

- Olushandja Sub-Basin Management Committee members met on 02 July 2012 and undertook an exposure trip to Okavango on 03-07 July 2012
- The Nüpele sub-basin Forum met on 18-19 July 2012 and the meeting was attended by the following resource person: Geohydrology, water environment, Raison. Training was given on Basin Management approach by MAWF
- During the 4th quarter, the following took place:
- The Tsumeb Forum/Basin Management Committee met on 05 November 2012. The meeting was attended by resource people from Geohydrology, MAWF.
- The Tsumeb Sub-Basin participated in the Tsumeb Copper Festival on 31 October to 03 November 2012 to share information about IWRM and to promote its presence.
- The Olushandja Sub-Basin Forum met on 30 October 2012, a resource persons from Iishana Sub-Basin and CEB Project attended the meeting.
- Iishana Sub-Basin Management Committee members (10 representatives) participated in an Exposure Trip to Southern Angola on 12-14 December 2012. They visited areas such as Mupa, Evale, Ondjiva, Xangongo and Calueque. They had several meetings with various decision makers in Angola. A presentation was given on Southern Angola (Kunene Province) water plan and visited the new water treatment plant in Xangongo.
- The Nüpele Sub-Basin Executive Committee met on 4<sup>th</sup> October 2012.

### Activity 5: Support the introduction of functional sub-basin management committees and a coordinating CEB Management Committees (CEBMC)

The CEB Project supports the establishment of BMCs and sub-BMCs. The CEB office developed two different options of setting up the CEBMC. The options were presented at a meeting in Windhoek to the responsible management of MAWF. The group agreed on the option that retains the sub-BMCs and a CEBMC as a coordinating institution for the CEB. The objectives are to oversee and co-ordinate natural resource management activities in the CEB; to plan for achieving sustainable natural resource management for the water basin in partnership with government at all levels; to encourage the most beneficial use with a view to maximizing social and economic benefits; to symbolize full consultation and participation by local committees and stakeholders; and to incorporate wide sectoral involvement in relation to the impact of development on the natural resource base in a river basin. The decision was presented to the CEB Basin Support Officers who felt that the objectives are clear but the functions are similar to the sub-basin functions and need to be

distinguished to avoid duplication and confusion. A discussion is started in this regard which can eventually guide the establishment of the CEBMC. The fine tuning of the concept and the establishment of the CEBMC will be facilitated by DRFN in Q4 2012 and Q1 2013.

All three sub-BMCs draft constitutions were sent to the Minister for approval, upon which the three sub-basin could be launched. These constitutions are not yet signed and the ministry did not respond to the request for the basin launch.

### Activity 6: Develop an alternative system to finance BMCs

In several smaller meetings, as well as in the SC it was accepted and agreed upon to keep the GRN finance system as the alternative system to finance BMCs.

### Activity 7: Do financial audit of Basin Management Committees

Regular checking and control is done to ensure adherence to the local subsidy contracts when purchasing of items or services. A financial evaluation of the GIZ local subsidies against the activities planned in the work plan period of 11/12 has been conducted. The results are available with the CEB office. The report will be also tabled at the next Steering Committee meeting.

### Activity 9: Promote and document best practices

Best practices and lessons learnt from sub-BMCs and on SADC level were collected and documented. The presentation of these findings took place in the Oshakati office as well as in the Windhoek office at the Ministry. The final report was distributed by August 2012 and will be continually disseminated to stakeholders. The findings will be incorporated into the project implementation.

### Activity 10: Define the support of the BSO in CEB

The Directorate of Resource Management has assigned ministerial staff as resource staff and support to the BMA in the basin. The list with contact is disseminated to all Basin Support Offices. They are using the contact list accordingly.

### Activity 11: Clarify TORs for the BSO team in CEB

All four CEB BSOs are contracted and work on the basis of their job description.



IBMC Forum Meeting



Olushandja BMC Meeting



IBMC EXCO



Planning during the Meeting

## Result 1: Adequate IWRM institutions created and operational, cont.

### Activity 12: Public Education and Awareness Programme

The contract to conduct a radio show has been signed with WinWin. Awareness material has been developed and approved for the activation campaign in the field. The objective for the campaign is to raise awareness among the population in the Cuvelai-Etoshia Basin about the IWRM approach which is guided by the four Dublin principles and the awareness program will look into the local application and consequences of these principles for the Cuvelai-Etoshia Basin. Further, the introduction to the basin management approach of the Namibian government through the establishment of Basin Management Committees should be part of the educational program.

The CEB staff and the BSOs provided constant support in the



follow up of the school awareness program in the four sub-basins. Posters with the two best pictures for each Dublin principle have been printed. The posters were already exhibited during a GIZ water sector meeting in Uganda and at the Wind-

hoek trade and agricultural show.

4th quarter: The field activation for the radio show has been conducted by WinWin in the beginning of December 2012. The findings of the interviews conducted during the field activation will be presented to the CEB office and the BSO in January 2013. Based on the findings WinWin will draw up the radio scripts.

In Namibia the exhibition will take place at the Goethe Centre. There will be an official launch of the exhibition and an introduction to the school project on the 19<sup>th</sup> of March 2013 at the Goethe Centre. The exhibition will take place at the same time in Germany at the head quarters of GIZ.



## Dublin Principle 1

*Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.*

• The notion that freshwater is a finite resource arises as the hydrological cycle on average yields a fixed quantity of water per time period. This overall quantity cannot yet be altered significantly by human actions, though it can be, and frequently is, depleted by man-made pollution. Therefore it needs to be maintained to ensure that the desired services it provides are sustained.

• The statement also recognizes that water is required for many different purposes, functions and services; holistic management, therefore, has to involve consideration of the demands placed on the resource and the threats to it.



Water is valuable, this means we cannot waste water or let it dirty because it is the main support of our life. We need to keep it clean.  
(Munguapomona, Otjozondjona Secondary School)

Life is not possible without water because living organisms depend on it. (Tsumeb, CS)

A girl fetching water with a bucket she must use let the tap leaking after fetching.  
(Iken Hebebe, Lusakame Combined School)



Seseca Paulus Rubeff (Seseca Sheerwana Combined School)



## Result 2: Full stakeholder involvement in basin management activities

### Activity 1: Investigate incentive Options for stakeholder participation in IWRM

Draw upon experience from different team members, from stakeholder trips recommendations and based on the incentive option report developed by DRFN a set of incentive options was drafted and proposed to the CEB stakeholders. In a stakeholder meeting at the CEB office some action steps to implement the proposed incentive options were developed. The document with the proposed action steps will be sent around via round robin system to the SC members for comments and recognition.

### Activity 2: Maintain regular interaction between stakeholders through networking

The Niipele, Olushandja, Iishana and Tsumeb Sub-Basin Stakeholders network during organised stakeholders meetings. The Basin Support Officers and chairpersons of the basins were invited to attend other sub-basin meetings in order to exchange ideas and networking. During Iishana Sub-Basin Stakeholders Exposure Trip to Angola, they met with the director for water, the councillors for

Mupa and Evale who shared ideas about floods and the water channels. They also agreed to communicate and cooperate on issues such as floods, drought, indigenous knowledge to mention a few. Olushandja Sub-Basin and Breede-Overberg Catchment Management Agency signed a memorandum of understanding in the area of Capacity Building on an institutional and stakeholder level. Topics are: institutional establishment, information sharing on best practices, programme and project management.

The approach for the CEB Annual Coordination Workshop has been developed and discussed with the project staff and the project director. The final draft of the approach will be presented to the project steering committee for approval during the next quarter. The workshop is proposed to take place in April 2013.

### Activity 3: Develop and conduct IWRM relevant training modules

Three sets of trainings have been contracted to DRFN. The outstanding trainings identified in the training needs assessment report are still to be negotiated with other possible training institutions.

A BSO training was conducted by DRFN as well as trainings for BMC and Forum members in Olushandja and Tsumeb. Niipele and Iishana trainings have been postponed to the 1Q in 2013. A training schedule for the next 2 training sessions has been forwarded by DRFN and agreed upon by all parties involved. According to that schedule the training session number 2 takes place in February and training session number 3 in June 2013.

### Activity 4: Organize exposure trips for stakeholders

The Cuvelai-Etosha Basin Stakeholders Exposure Trip to Breede-Overberg Catchment Management Agency (BOCMA), Western Cape, South Africa took place on 13-20 October 2012. In addition to stakeholders from Iishana, Olushandja, Niipele, Tsumeb, 4 representatives from other basins and MAWF participated. Stakeholders visited the Central Breede Water User Association (WUA), the Alien Clearing Project Site, the Hex River Valley WUA, Overstrand Water Services, and the Hermanus Solid Waste Management Coupon System. See a summary of the exposure trip report on page 7.

## Result 3: Adequate technical support for IWRM provided

### Activity 1: Carry out assessment of surface water resources, rainfall and develop monitoring network

Due to tendering and contracting challenges this activity is delayed. Vandalism took a major toll at key telemetry stations in the Cuvelai area, with equipments being damaged at Okatope, Engela, Shahaingu, Oshikuku, Shanalumono and Shakambebe.

The break-ins were all in one area and looked like the well-planned action of one group of criminals. To improve data collection and to reduce vandalism, the hydrologist, Mr Hango recruited ten (10) gauge plate readers and telemetry flow station caretakers in the Cuvelai area. Pending approval by the Economizing Committee, each one will sign a contract of four (4) months starting in January up until end of April 2013, with a monthly allowance of N\$300. The sites include: Okatope, Engela, Shanalumono, Shakambebe, Shakanwa, Shapoko, Ota-manzi, Shashuuli, Endola and Ogongo.

### Activity 2: Conduct groundwater investigations and establish a monitoring network

Four groundwater monitoring campaigns in the northern part of the CEB were conducted. A draft report on the groundwater quality is prepared. First fieldwork in the framework of a groundwater investigation to determine groundwater age and flow was conducted. The tender process for the drilling of cored boreholes will be finalized mid November 2012. The commencement of the work is scheduled for January 2013. A status report on groundwater resources in the Cuvelai-Etosha Basin is in preparation and to be finalized by December 2012.

In addition: Qualitative groundwater monitoring takes place with focus in the Ohangwena Region. Due to the delayed drillings further monitoring will take place after completion of the drilling work.

### Activity 3: Undertake studies on the biophysical and socio-economic characteristic of the basin

TORs for the design, pictures, editing and printing of the biophysical and socio-economic atlas have been developed. The contract is prepared and signed. Due to some design problems the atlas is expected to be available for dissemination in March 2013.

## Result 4: Sustainable and integrated management plans for water resources

### Activity 1: Compile and maintain an integrated computerised water resources database

The BWIS consultant presented the midterm report including the data quality and completeness assessment, a needs assessment to define user's data and information requirements. Regular meetings between the technical task group and the BWIS consultancy took place to improve the midterm report and also to plan the step forwards to finalize the conceptualization phase of BWIS. The validation workshop of the supported processes of the BWIS is scheduled for the 30<sup>th</sup> of January 2013. A draft implementation plan for BWIS was submitted by the end of December by the consultancy company Digital-Pangea.

### Activity 3: Design a numerical groundwater flow model (using information collected under result 3)

Conceptual hydro geological models are available for Karst (Tsumeb), Oshivelo and Ohangwena. Reports are at the library of Geohydrology. The development of a numerical model for pilot areas is in a first draft for Ohangwena. Testing and calibrating is ongoing with further investigations.

More data to refine the numerical flow model will be available after completion of the drilling programme.

### Activity 4: Explore the potential of alternative water sources

Existing studies were reviewed and summarized and used as a basis for the study on alternative water sources within the CEB. Based on these findings and several field trips to the CuveWater pilot plants for different alternative sources the CEB study was developed.

The findings and recommendations were presented at the CEB office in Oshakati and at MAWF in Windhoek. The report will be further disseminated at stakeholder meetings.



## Result 5: Capacity for IWRM implementation built

### Activity 1: Undertake training for stakeholders and decision makers on IWRM principles and roles in water management

This activity is part of activity 3 of result 2 the training conducted by DRFN as well as activity 12 under result 1 the awareness activities conducted throughout the basin.

### Activity 2: Improve communication, collaboration between academic, research and scientific institutions

So far Polytechnic of Namibia and university of Namibia participate in forum meetings whenever possible from their side. The project continues to use graduates from these institutions for specific tasks as interns and presentation to the SH scientific papers. Intensive collaboration is taking place with Polytechnic in the fields of BWIS and Disaster Risk Management. Collaboration is also taking place in the field of flood risk management with the UNESCO office in Windhoek.

### Activity 3: Promote IWRM principles at primary and secondary education level

From the school awareness program on IWRM shooting posters with the two best pictures for each Dublin principle have been developed and printed. The posters will be used as education materials. Each school which participated in the shooting received one complete set of the posters for teaching purposes.

The posters were highly appreciated as good resource materials for teaching by teachers.

### Activity 4: Research, compile and promote indigenous knowledge relevant to integrated water resources management

The report is constantly shared amongst the stakeholders at various meetings.



*Water channels for Cuvelai-Etosha, Indigenous knowledge*

# Photo Shooting of Integrated Water Resources Management by Namibian Learners



In 2012 the sub Basin Management Committees (sBMCs) in the Cuvelai-Etoshia Basin (CEB) in Namibia organized a school awareness-raising day on the Integrated Water Resources Management (IWRM) approach guided by the Dublin principles at eight different schools; these were located in the four sub basins: Niipele, Ishana, Olushandja and Tsumeb.

To facilitate participatory management of water resources on river basin level Namibia has set up policies and laws to establish river BMCs across Namibia. One of the tasks of the BMCs is to promote IWRM at primary and secondary education level.

IWRM has been defined by GWP as 'a process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems' (Technical Advisory Committee 2000).

IWRM is based on the four Dublin principles presented at the World Summit in Rio de Janeiro in 1992. The principles are acknowledging in regards to sustainable water management that water is a finite and vulnerable resource, the need for a participatory approach; the significant role of women, and that water is a public good which has a social and economic value for all its competing uses.



The learners were provided with disposal cameras to capture IWRM related activities guided by the four Dublin Principles in their homes and communities. To enable this, lectures, presentations and discussion in the context of Namibia's water were held; including issues on water resources, the water cycle, water uses and management, as well as the basic principles of IWRM implementation strategies.



The best two pictures presenting one of the four Dublin Principles have been chosen and published on large posters, which include a short note by the learners.



This activity was partly sponsored by the German company Hengrohe SE which is a global player in the sanitation sector and provides bathroom and sanitation products around the world. Hengrohe SE is continuously committed to water education in Southern Africa and launched the social media relief campaign 'Charity for Namibia' to help children and their families in Namibia. The four BMCs are technical and financially supported by the project 'Sustainable integrated water resource management in the Cuvelai-Etoshia Basin in northern Namibia'. This is a joint project implemented by the Ministry of Agriculture, Water and Forestry (MAWF), the Deutsche Gesellschaft für Internationale Zusammenarbeit and the Federal Institute for Geosciences and Natural Resources (BGR). The project is funded by MAWF, the European Commission and the German Federal Ministry for Economic Cooperation and Development. The main objective of this project is to achieve the sustainable utilization of water and other natural resources through the implementation of integrated water resources management in the CEB.

## Stakeholders Exposure - BOCMA

Breede-Overberg Catchment Management Agency (BOCMA) is established in terms of the South African National Water Act (36 of 1998). It is governed by the board that report to the national Minister of Water and Environment Affairs. BOCMA is supported by the Chief Executive officer and a current team of 26 staff members that support implementation of IWRM on the ground through water users associations and water users' forum. The BOCMA is responsible for the development of a Catchment Management Strategy (CMS) which guides the actions of the BOCMA as well as other institutions conducting water resources related activities, participation and coordination with partners is key to the success of the strategy. Find the copy of the CMS on: [www.bocma.co.za](http://www.bocma.co.za)

During the trip, the CEB Stakeholders visited the following sites: The Central Breede Water User Association (WUA) has a compliment of 10 staff members, including the Chief Executive Officer, an experience civil engineer (a requirement profession according to their WUA constitution). The water users in their association are farmers, tourism, industry, recreation and domestic use (municipalities); the association manage water infrastructure (government property) dealing with administration for 13 WUAs; it is having voluntary committee members.

The Alien Clearing Project Site, a partnership between the department of agriculture, the Wolseley WUA and BOCMA to remove invasive alien plants (ever thirsty) and replace them with indigenous plants and importantly making water available for farming.

The Hex River Valley WUA, one of the best finance managed association in Breede-Overberg and responsible for managing water in Hex Valley; 4000 hectare of land for table grape; use a combination of surface water (30%), ground water (70%); all water users pay for their water; farmers are allowed to pool their water quotas and other farmers can buy it. Finance for all WUAs are drawn up based on an expense budget and tariffs for water is drawn up based on it.

Overstrand Water Services, the Overstrand municipality is responsible for overstrand water management, waste water management and reuse; it consist of 11 town spread over 230 km of coastal line and a population of 84 000 people; its water sources consists of 6 dams, 16 boreholes, 3 springs and 3 rivers. The water demand is still increasing, hence future plans for water re-use for domestic use and desalination as well as building a bio filtration plant for the removal of iron and manganese from ground water.

Hermanus Solid Waste Management Coupon System, the management of solid waste and recycling of recyclable waste; this create an opportunity for employment for women and a clean environment.

Stakeholders highlighted **lesson learned**: Word of encouragement from the Chairperson of BOCMA “the plane takes off against the wind but it reach its destination” we have to show perseverance in our efforts to implementing IWRM.

Compliance to legislation – IWRM is implemented within the law. Full-time technical staff at basin level i.e. the Catchment Management Agency and the Water Users Association . Updated data management. Political will – open door policy and clear mandates. Leadership commitment (ownership of the process).

Understanding the value of water, and over most added economic value of water existing – (water users). Institutional coordination – coordination between BOCMA, WUAs – having the same vision and talking the same language. Gap in Namibia: inclusion of all stakeholders LWCs & BMCs “Power” to operate.

Integrated Development Plans. Water is a controlled resource  
Public Private Partnership in the water sector.

Stakeholders made **recommendations** to: Add economic value to water. BMCs to

*CEB SHs viewing the treatment plant*



assist water users associations (WPC,LWCs) with business plans. BMCs to address strategic issues at hand and develop strategic plans based on the issues identified.

Integrate BMCs (through BSOs) in other institutions meetings (planning, etc.), especially NamWater and DWSSC's. Water Demand Management by Municipalities (introduce awards as incentives for improved management) (pipe leak management). Encouragement of all stakeholders to actively participate - incentives for participation? CEB office will draft an incentive option proposal and discuss it further with the participants of this stakeholder trip to finalize the proposal in order to table it to the SC for approval. A memorandum of agreement was signed between BOCMA and Olushandja Sub-Basin Management Committee. The two institutions will cooperate in terms of capacity building at an institutional and stakeholders level; institutional establishment; information sharing on best practices, programme and project management.

**As a way forward**, together with BOCMA it was identified that the



Namibian BMCs need to get clarity on the role of an institution and the role of the department. It was also recommended by BOCMA to first concentrate on stakeholders which have either an impact

on the water resource or are affected by its management. Therefore the suggestion was to focus on the stakeholder around the canal. Overall the conclusion was that there is a need to add economic value to the water in the Cuvelai in order to create the interest in the source and to recognize it as an economic, social, religion source and treat it in a good and sustainable manner. The CEB Project gratified the BOCMA team and their associates for support during this trip.

## Pictures and Maps



*SHs on the way to solid waste plant in Hermanus*



*A farmer explaining that water has economic value and irrigation methods.*



*The Tsumeb Sub Basin Cleaning Campaign*



*The water Treatment plant in Xangongo that will supply water to southern Angola, and the pipeline in the insert*



*Playing a drama during the public Education campaign in the CEB*



*The member of the public listening attentively to the message during the drama. T-shirts and caps were given out*

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