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# Okavango Basin Water Newsletter

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This is the third Okavango Basin water newsletter produced through our Basin Support Office with the latest information for our stakeholders.

There are a number of ongoing developments aimed at enhancing water, natural resources management. You will probably know that the national Integrated Water Resources Management Plan (IWRMP) has been approved by Cabinet, while regional stakeholders' presentations were made between February-March 2013. In addition, it is well known that the Government of the Republic of Namibia, through submission to Cabinet made by the Ministry of Agriculture, Water and Forestry (MAWF) has announced that it would subsidise water supply to poor households from 2016. It has committed an annual N\$23.5 million which would benefit at least 84 000 households. Consultations are already in full swing on how this would be carried out, including deciding who should be beneficiaries, the infrastructure

availability to support the project, and local consultations with regional government and stakeholders. Such a move would help meet the Millennium Development Goal 7: Ensure Environmental Sustainability; Target 7.C, which aims at halving by 2015 the proportion of the population without sustainable access to safe drinking water and basic sanitation.

Other developments currently underway include the Kavango Integrated Regional Land Use Plan being conducted by the Ministry of Lands and Resettlements in collaboration with Stubenrauch Consultants. This aims at developing a land use allocation decision making tool for the region, maximising benefits from various land use, while embracing various sectors involved with land use, decision making, allocation and natural resources management among all sectors. On the other hand, Brazil's leading communications and world's fourth largest television channel, Rede Globo TV, has just completed a documentary on the

Okavango Basin from the water's source in Angola, through Namibia to the Delta in Botswana. The documentary covers aspects related to the basin's water, the role of the river in relation to agriculture and economic developments, wildlife, research aimed at advising resources management, communities' resources use and how the riparian countries cooperate in managing shared water course.

In this issue, we bring you a number of interesting developments regarding Okavango basin management including recent studies and upcoming projects.

Finally, congratulations to our first competition winners and in this edition, we are giving away five Transboundary Diagnostic Analysis reports courtesy of The Permanent Okavango Basin Water Commission (OKACOM). These copies are useful for Environmental School Clubs, and any school interested to order free copies should contact OKACOM Secretariat.

## New Okavango Basin Management Committee EC elected at the Forum

The Annual Okavango Basin stakeholders Forum was held from 18-20 July 2012 at Ngandu Safari Lodge in order to:

- review progress made in implementing activities in the National Action Plan (NAP) for Okavango Basin's July 2011 – March 2012 operational plan
- plan activities and put together an annual operational plan for July 2012 – March 2013; Update on new projects such as the Okavango Water Audit and The Future Okavango (TFO);
- review the institutional arrangements of the OkBMC and elect a new executive committee.

The new Executive Committee is: Mr Michael Otsub of the Directorate of Forestry is the new Chairperson, while Mr Lukas Muhepa of the Namibia Chamber of Commerce and Industries is the Vice Chairperson. Ms Charlie Paxton was retained as secretary while Mrs Dorothy Tesselaar is the new Treasurer. Mr Richard Upingasana, Mr Alfons Siyere and Mr Edward Sikerete are ordinary EC members. In addition to the EC elections, an NAP implementation team was formed, comprising of technical experts from the different implementing units (ministries, NGOs, consultants, donor supported projects) whose mandate would be the actual implementation of the plan and decision making on the technical level. Details of the forum proceedings are available upon request.



John Mandelsohn

## Water Resources Management in South Africa:

### One week lessons in the Breed-Overberg Catchment



Most Okavango Basin stakeholders will remember Mr Jan van Staden after we tried to get him to our 15-16 November 2011 Annual Okavango Stakeholders Forum. Eventually, during the week of 14-19 October 2012, I and fellow Basin Support Officers from Orange-Fish, Kuiseb and Omaruru Basin Management Committees joined the CEB Stakeholders Exposure trip to the Breede-Overberg Catchment Management Agency (BOCMA-would be equivalent to Okavango Basin Management Committee in Namibia). This was at the invitation from the Cuvelai-Etosha Basin



Here to learn: Namibian delegation at the BOCMA office.

Just as in Namibia, the National Government is the custodian of the nation's water resources, as an indivisible national asset. As a result, through the Water Act The Minister is responsible to ensure that water is protected, used, developed, conserved, managed and controlled in sustainable and equitable manner and has power to establish suitable institutions to perform water resource management functions. Because

(CEB comprises of Olushandja, Iishana, Niipele and Tsumeb sub-basins).

BOCMA is located in the south-west corner of South Africa and falls entirely within the Western Cape Province. During the 5 day stay, the delegation program consisted of briefing at the BOCMA Head office and visiting Water Users Associations (WUAs) within the BOCMA including visiting farmers and project sites. On day 1, the delegation was briefed on how CMA's are formed in South Africa including their mandates and activities.



The CEO of BOCMA, Mr Phakamani Buthelezi with Chairperson Mr Hamman and Vice Chairperson Mr Mnisi briefing the Namibian delegation.

water is a scarce resource everywhere in the world, CMAs like BMCs, are established to achieve equitable access to water, to achieve sustainable use of water and to achieve efficient use of water. To simplify operations and provide best technical support, BOCMA is governed by a board with a CEO accountable to the national Minister of Water and Environment Affairs. In addition, the CMA is divided into WUAs each with a CEO who establishes the



As part of water management strategies, water users are allowed to develop water infrastructures such as dams for irrigation.

Operational Plan for the year based on the WUA needs. The BOCMA is responsible for the Water Resources Planning, Water Use Management, Water Allocation Reform, Water Resource Protection, Alien Invasive Clearing and Rehabilitation, Institutional Stakeholder Relations, Strategic Support and Information systems development as part of the Catchment Management Strategy (CMS) which guides its actions and as well as other institutions conducting water resources related activities. WUAs are made up of irrigation farmers, tourism, industry, recreational and domestic water users such as municipalities and part of their mandates include managing water infrastructure such as dams and irrigation canals and pipelines on behalf of government.

**Because water is a scarce resource everywhere in the world, CMAs like BMCs, are established to achieve equitable access to water, to achieve sustainable use of water and to achieve efficient use of water.**

Amazingly, each water user has a stake in the common water resource allocated on actual need and regulated by a water abstraction licence, so every water user is accountable for managing their water quantity, which is metered. So this obligation to manage your own shares within a common resource has led to high valuing of water as an economic resource that is essential for irrigating cash crops and industrial economic activities, hence investment in best water use technologies and better management participation. In addition, water is a controlled resource all



An export table grape farmer explains part of his irrigation efficient methods as a measure to manage water.

over South Africa, necessitating that every extraction should be licensed. Those not able to use their allocated water can "pool" it into the common system, enabling those out of water to buy it from them.

Additionally, the WUAs themselves finance the operations of the CMA based on consumption from the common resource. Part of BOCMA strategy to involve community participation in water resources management includes the invasive alien clearing in which communities are supported with materials to remove invasive alien plants which are then sold for income; in turn they rehabilitate cleared areas with indigenous plants.

Another community participation project is the Hermanus Solid Waste Management recycling mostly utilising women, hence creating employment and cleaning the environment. The enabling environment regulated by legal frameworks has also led to Public Private Partnership in the water sector, hence addressing water service provision and management.

One thing is very clear: water creates jobs in South Africa. Although IWRM has tangible benefits, there are challenges too as Mr Hamman, the Chairperson of BOCMA summarises it that "the plane takes off against the wind but it reach its destination"- stakeholders have to show perseverance in their efforts to implementing IWRM.

At the end of the exposure, the Olushandja sub-Basin Management Committee signed a Memorandum of Understanding with the BOCMA to cooperate in areas of capacity building at institutional and stakeholders' level; institutional establishment; information sharing on best practices and programme, and project management.

Mr Jan van Staden still wishes to visit and meet Okavango Basin stakeholders at their gatherings and requested to be kept in touch.



Mr R Röcher of the Western Cape Department of Agriculture's Land Care Programme, explaining the invasive Alien clearing in Wolseley. The project is carried out in collaboration with the the Wolseley Water User Association and the Breede-Overberg Catchment Management Agency.



Community members clearing the invasive aliens in Wolseley which would be restored with indigenous trees. This is part of community participation in water management



Namibian delegation getting a lecture on the waste recycling at Hermanus mostly involving women.



Sorted waste is packed and transported to waste recycling companies within South Africa.

# Introducing The Future Okavango

Living conditions along the Okavango are changing. Communities are growing and so is the demand for resources such as food and energy. Globalisation, the connection to global markets, changes consumption patterns and further affects demand in resources. Intensification of land use has emerged for instance in the form of large scale irrigation projects which consume large amounts of water and are not well adapted to small scale farmers' needs. Climate change is predicted to increase water related stress, and the decline of the Miombo belt continues. In addition, the use of the river in Angola influences the use opportunities in Namibia. At the same time Botswana is cautiously looking at how the upstream use affects the natural jewel of the Okavango Delta. These changes will need integrated and coordinated decision making and management in order to use



Henrike Seidel

Participants from Angola, Botswana, Namibia and Germany at the October 2011 TFO workshop held in Maun, Botswana.



the river for the benefit of the people in the basin and the environment alike. The Future Okavango<sup>1</sup> (TFO) project aims to assist in addressing these challenges by providing scientifically informed support for local to regional stakeholders for the

entire Okavango basin thus covering Angola, Botswana and Namibia.

The TFO project consists of 130 researchers from 18 organizations in Angola,

Botswana, Germany, and Namibia. It intends to improve the understanding of interlinkages between human action, ecosystem function and services, and climate change. TFO aims at supporting the well-established communication between science and decision makers leading to the participatory implementation of research results. Since the project started in 2010, TFO has begun collecting data on climate, hydrology, crops, soil quality, vegetation cover, migration routes of grazers, livelihoods, resource use patterns, and cultural knowledge. The assessments focus on benefits of nature to households, communities and economics. Such benefits, also called ecosystem services, can be for example crops, meat & fish, timber & fuel wood, fresh water, fresh air, natural protection from flood-damage and

*The TFO project consists of 130 researchers from 18 organizations in Angola, Botswana, Germany, and Namibia.*

provision of spiritual values. Some of the highlights so far have been the production of a participatory film *Liparu Lyetu-Our life* (<http://vimeo.com/31839289>), the launch of the OBIS database, excellent collaboration with ecologists who support our work in the communities and the participation in the local Forum for Integrated Research and Resource Management (FIRM) process. Crucial for the success of TFO is the close cooperation with the Permanent Okavango River Basin Water Commission (OKACOM). The project intends to strongly contribute to the implementation of the Strategic Action Plan. Last October 2011 TFO conducted a Workshop in Maun, Botswana with more than 130 delegates from all partner countries. In his keynote speech, the Hon. Minister of Environment, Wildlife and Tourism, Botswana, Dr. O.K. Mokaila gave full support to the TFO project requesting scientific decision support and information sharing to assure the sustainable flow of Okavango resources.

If you would like to learn more about our project or provide us with your feedback, please visit us at [www.future-okavango.org](http://www.future-okavango.org).

*Text: Henrike Seidel, TFO Project coordinator*

<sup>1</sup> The project carries the name Okavango as it covers the whole basin which is internationally called Okavango basin. We are aware that the Namibian section of the river is called Kavango.

# Stakeholder participation: a double-edged law?

*Carole Roberts, who has been working in the field of natural resources management, focused on land and water, looks at the benefits of IWRM at Basin Management Committees level.*

In Namibia, the ownership of water resources above and below the ground vests with the State, and the responsibility for ensuring the protection of these resources through their sustainable use and development lies with the Ministry of Agriculture, Water and Forestry. Over the past twenty years, the Ministry has adopted and embarked upon a process of reforming the management of its water resources towards a more integrated approach and have elaborated in their various policies and legislation that participation of stakeholders is an essential element of this.

This participatory approach of integrated water resources management – or IWRM – is not a Namibian concept, but is considered best practice internationally and has been extensively promoted since Agenda 21 and the World Summit on Sustainable Development in 1992 in Rio. Basically, IWRM is a considered a process that promotes the co-ordinated development and management of water and related resources, in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

The benefits of implementing a participatory approach include:

- Appropriate decision-making through contributions of local knowledge and expertise of stakeholders;
- Improved legitimacy for the decisions taken, because stakeholder values and concerns are taken into consideration;
- Increased chance of effective implementation of decisions because stakeholders are informed and part of the decision-making process, and less likely to oppose them; and
- Increased capacity among stakeholders to understand and address resource-related challenges; which in turn
- Encouragement of greater adaptive capacity of socio-ecological systems, which is important for long-term sustainability in the face of increasing climate, population and economic pressures.

It follows that the most appropriate area over which to practice such an approach for water management would be a common area of drainage, such as a river basin. In Namibia, basin management committees (BMCs) are being promoted as the key mechanism

through which such participation should take place. BMCs provide a platform for water users and managers – upstream and downstream – to meet on water-related matters. Rather than solving problems, per se, the BMC's function is largely advisory and supportive to the Ministry of Agriculture, Water and Forestry. This implies that Government, in turn, commits to and supports decisions taken and advice offered by the BMCs and acts accordingly.

Effective participation requires careful planning and implementation making it a costly process with respect to time, human resources and money – not only for the lead organisation, but especially for the stakeholders themselves. Nevertheless, in Namibia stakeholders who have been introduced to the process soon begin to identify potential benefits to themselves and the organisations they represent. First and foremost, stakeholders recognise that the process provides a platform for:

- sharing information, knowledge and experiences to improve understanding of water management and responsibilities towards it;
- raising challenges and concerns they have regarding water resources, and
- establishing networks and points of collaboration.

Furthermore, they perceive that participation facilitates:

- more consolidated planning, decision-making and holistic development,
- promotion of relevant research and monitoring,
- more efficient and equitable service delivery and, ultimately,
- sustainable and more effective management and protection of water resources for improved livelihoods in the long term.

It has proved to be relatively easy to engage many of the stakeholders in the initial stages of the process – basically because it sounds like a good idea and stakeholders see the opportunity to benefit and, perhaps more importantly, contribute. Maintaining stakeholder participation, however, poses a major challenge. If stakeholder expectations are not met, the trust of stakeholders will be lost and they will cease to participate, making it difficult to engage them in the process again. Furthermore, as stakeholders become more informed, their demands on the Ministry are likely to increase. Will the Ministry be able to keep up? Will stakeholders perceive that their contributions are being taken seriously?

# Fresh water supply for Karutci: a woman's long dream becomes drinkable



*Pelgrina Shigweda and USAID Namibia Mission Director Ms Elzadia Washington chat about the project.*

Since 2009, Ms Pelgrina Shigweda had a dream that every household within Karutci should have access to clean drinking water. Ms Shigweda started to mobilize her village residents to make each household contribute towards a common pipeline scheme, for which the community gathered a total N\$ 34,000.00 and labour in kind. With the technical support of the Southern Africa Regional Environmental Program (SAREP)'s Water and Sanitation Team, the Directorate of Water Supply and Sanitation Coordination-Kavango (DWSSC) and NamWater support, the project finally delivered drinking water on the 9th October 2012.

On turning on the tap, the American Ambassador to Namibia, Ambassador Wanda L. Nesbitt and other speakers indicated that access to safe water does not only give good health but spares and reduces burden on women from walking miles to fetch water, contributes to family wellbeing and security, reduces

healthcare burdens, increases female children education participation and increases career opportunities for women. In addition the availability of more time to women increases time availability to care for family and engage in other livelihoods improving activities. She urged the community to take care of their water supply scheme including monthly contributions for maintenance and against vandalism to ensure water supply is not disrupted.

The event was attended by among other, the USAID Namibia Mission Director Ms Elzadia Washington, Washington USAID delegates, representatives from The Permanent Okavango River Basin Water Commission (OKACOM), SADC Water, NamWater, Directorate of Water Supply and Sanitation Coordination-Kavango Region, SAREP Rundu and Botswana offices, Namibian media representatives; and residents of the Karutci community.

# 2012: A good winter bird count on the Okavango River system

During the winter period of July 2012, the Kavango Open Africa Route (KOAR) conducted a winter bird count as part of its mandate in monitoring five Flagship species. Although the Okavango River system stretches for about 480 kms constituting the border between Namibia and Angola, this river has previously been largely neglected in the annual Wetland Water-bird Counts program conducted throughout Namibia. The exceptions have been the Mahango Game Park and a section of the river at Shamvura Camp where voluntary Wetland Water-bird counts have however been conducted over a consecutive period of 15 years and 11 years, respectively. The remainder of the river has been left uncounted until this year.

Kavango Open Africa Route, an Open Africa initiative was formally established in May 2011 with the formation of an Association run by an elected committee and governed by a constitution. The group established a tourist route along the Okavango River from Katwitwi on the Angolan border to Mohembo on the Botswana border. The association has over 40 establishments as members along this route all committed to the Conservation principles of the KOAR Association. One of these principles, and indeed a requirement for membership, is the monitoring of the five Flagship species.



*African Skimmers*



*Goliath Heron*

Two of these species are birds and one, the primary species, is a water-bird, the African Skimmer. It was therefore a natural progression for the group to get involved with the annual Wetland Water-bird Census programme. The Association first conducted a series of four Training Courses facilitated and conducted by Mark Paxton amongst the member establishments which were suitably situated along the river, and were naturally the Tourism operations focused. The course concentrated specifically on water-bird species and included a formal and strenuous power-point lecture covering all the aspects of a Wetlands International Water-bird Census, together with bird identification exercises. The "classroom sessions" were followed by a practical session on the

river to identify water-birds along defined sections of the river while conducting a trial count. After the completion of the course a total of 6 areas were defined, with a coordinator chosen for each. 32 guides/coordinators from 10 Tourism establishments completed the course, but the defined count areas incorporated a total of 13 Lodges. Upon completing the course, the various coordinators conducted their own individual counts and their data was submitted through the Ministry of Environment and Tourism channels to the Wetlands International based in the Netherlands. These counts now covered over 50 kms of the Okavango River previously neglected and unknown.

## *A requirement for membership to the Kavango Open Africa Route is the monitoring of the five flagship species*

During the exercise, a total of 3346 birds from 67 species of water-birds were observed, with participants observing that at this time of the year the water levels are dropping steadily and the floodplains rich with the fruits of the aquatic life breeding season are emptying into the main river system. These creates ideal hunting opportunities for the many Heron and Stork species which are attracted to the fish and other aquatic life now stranded in the many isolated pools in these drying and diminishing floodplains, or concentrated at the various inlets along the river banks. In addition, the group observed ospreys which should be migratory during the winter months were nevertheless counted in five of the areas. In the Nunda area during the

training course the group observed three Ospreys interacting and spiraling in the air, which they suspect possible consequence of climate change. Furthermore, the group noted that African Marsh Harriers and Marsh Owl were very scarce, only appearing in very low numbers in one and two areas respectively. Both species are dependent on a healthy reed habitat, and uncontrolled fires consistently in this region every year may be destroying habitat and causing a decline of these two sensitive species. To the group's surprise, an observation of a total number of 46 African Skimmers were recorded in four of the six areas and even

in the vicinity of Rundu where one would expect human disturbances to exclude them. This observation was also the same to ducks; normally very threatened by illegal hunting throughout the region but were well represented with relatively large numbers of White-faced Duck and Spur-winged Goose. Furthermore, White-backed Night Heron, normally considered a rare or illusive bird and seldom seen, were however recorded from five of the six areas.

Other species particularly for these areas, being communal and subjected to a range of human disturbance factors include

Saddle-billed Stork, Goliath Heron, Slaty Egret, Rufous-bellied Heron, Fulvous Duck, Southern Pochard, African Spoonbill, Lesser Jacana, Lesser Moorhen, Long-toed Lapwing, Half-collared Kingfisher and African Fish Eagle. Wattled Cranes were recorded in the Nunda area prior to the counts. This is well outside the protection of the Mahango Game Park where they are resident in small numbers. Full data of the exercise are obtainable from KOAR Chairman, Mr. Mark Paxton at 066-264007, email mw.paxton@gmail.com

*Text: Mark Paxton, KOAR Chairman*

## Cubango-Okavango River Basin Water Audit (CORBWA): What does climate change mean for this basin's water?

There has been much talk about water and climate change around the world, including in the Cubango-Okavango Basin which would likely affect water availability, food security and economic developments. The Food and Agriculture Organisation (FAO) recently completed the Cubango-Okavango River Basin Water Audit (CORBWA) and a publication on water, climate change and food security. Ms Livia Peiser – a Technical Officer (Spatial Analysis) in the Water Resources and Agricultural Water Management under the Land and Water Division of the Food and Agriculture Organisation (FAO) Headquarters in Rome, Italy – offers a short summary of the thematic report commissioned to Piotr Wolski by the Cubango-Okavango River Basin Water Audit (CORBWA) project, and a recent FAO publication on water, climate change and food security. She recently visited Namibia with colleagues to offer capacity to Cubango-Okavango Basin officials from Angola, Namibia and Botswana on the Water and Evaluation Planning Model (WEAP). Below is a summary of the reports of which full versions are available upon request.

While evidence for climate change is now considered unequivocal, the impact it will have on water resources cannot be known with any certainty. While temperature and pressure variables can be projected by global circulation models (GCMs), with a high degree of 'convergence', the same cannot be said of water vapour in the atmosphere. The levels of risk associated with rainfall and runoff events can only be determined with provisional levels of precision. The prediction of impact relies heavily on simulation modelling with global climate models (GCMs) that have been calibrated as closely as possible to historical climate data. Modelling scenarios have been standardized

from a set defined by the IPCC Special Report on Emissions Scenarios (SRES) to allow more consistent comparison of predicted impacts. More recently, new scenarios based on the so-called Representative Concentration Pathways (RCP), have been preferred to SRES. To explore the possible impacts of climate change on water resources of the Okavango basin, the Cubango-Okavango River Basin Water Audit project (CORBWA), has commissioned a study to review modelling activities carried in the basin and derive main findings and recommendations for future analyses. The Pitman rainfall-runoff model has been repeatedly used in the basin to assess impacts of changes in precipitation on stream flows, in particular by the Transboundary Diagnostic Assessment (TDA) of the Environmental Protection and Sustainable Management of the Okavango River Basin (EPSMO), which used the Pitman to derive impacts of "wet", "dry", and "moderate" scenarios on the river flows. The CORBWA study has reviewed methods and results of previous projects, and compared them with recent scientific studies. With regards to precipitation data, the study found that the available datasets, when used with the Pitman model, do not provide convincing simulations of the Okavango system's hydrological responses. The tested satellite rainfall products are not able to replicate the pattern of inter-annual variability in river discharges. The gridded datasets are somewhat better, but these are not up-to-date. The combined Global Precipitation Climatology Project v2.2 (GPCP) dataset seems to provide the most accurate simulation. In particular, it replicates well the 1990s and 2000s, with only significant deviations during the high-flood years of 2010 and 2011. It is the most promising dataset for the operational use, and it is recommended that its use in the Okavango

basin should be further explored. The disadvantage of this dataset is that it is not a near-real-time product. At the time of writing this report, only data up to December 2011 was available. A logical step to bridge the gap between the GPCP data and needs for "real-time" data would be to use satellite rainfall products. These are available with several hours to two days delay. Unfortunately, these data do not seem to adequately reflect rainfall conditions in the Okavango basin. It has to be noted, however, that the simulations with satellite rainfall products presented in the study are very simple.

With regards to future climate, the review shows that there is a divergence between various GCMs projections comparable in magnitude to the overall change signal. This makes it impossible to make firm conclusions about climate change. Furthermore, additional uncertainty is introduced when applying downscaling methods. These methods are used to produce higher resolution inputs from the GCMs, which usually have a pixel size between 1 and 5 degrees. The CORBWA project, through this study and other thematic reports, aims at supporting OKACOM's activities in the basin. In particular, it stresses the relevance of improved information on water resources and use, with an emphasis on agricultural water use, including both consumptive and non-consumptive components.

Sources: FAO (2008) *Water Report n. 36: Climate change, water and food security*; CORBWA report "Trends in water resources base in the Okavango River Basin", prepared for FAO and OKACOM by Piotr Wolski (2012).

Full reports are available from FAO Water site: "Water, Climate Change and Food Security" at: [www.fao.org/docrep/016/i3015e/i3015e.pdf](http://www.fao.org/docrep/016/i3015e/i3015e.pdf) while the CORBWA reports is available through the project page: [www.fao.org/nr/water/projects\\_scarcity.html](http://www.fao.org/nr/water/projects_scarcity.html)

## Towards an Integrated Water Resources Management Information System for Namibia

Very often we have academics, farmers, business people, environmentalists, scientists and students turning up at our offices requesting information on water use trends, water quality, reports, geospatial data and studies; or initiatives being undertaken in Namibia relating to Integrated Water Resources Management. The most common obstacle we experience is either lack of information or not knowing where to access it, especially at local level. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in collaboration with Directorate of Resource Management in the Ministry of Agriculture, Water and Forestry (MAWF) is trying to establish an IWRM website where Namibia water information by basin can be uploaded and everyone can access them from everywhere. If you would like to have water related information, including present active projects in the field of water management and research regarding Okavango Basin in Namibia, please furnish such request to the OkBMC (email [okbmc@iway.na](mailto:okbmc@iway.na)) office so that web developers can have that sourced and loaded onto the Okavango Basin subpage. The website under development can be viewed at: [www.iwrn-namibia.info.na/index.php](http://www.iwrn-namibia.info.na/index.php)

# OBITUARIES

We are very sad to have lost persons dedicated to resources management in Okavango Basin during the 2013 year, including MAWF management personnel, the Kavango Regional Governor and an OkBMC member and businessman.



Guido van Langenhove  
\*1953 – 2013

Mr Guido van Langenhove worked for the Ministry of Agriculture, Water and Forestry from 1981 to 2013, his latest position being that of Deputy Director of the Hydrology Division. One of the most recent projects he was involved in was the Flood Mapping of the Kavango River in collaboration with the National Aeronautic Space Administration (NASA) of the United States and the University of Maryland Department of Geography. Flood updates can be seen on <http://matsu.opencloudconsortium.org/namibiaflood>

The Honourable Governor Maurus Nekaro was a dedicated individual working towards resources management in the basin and a member of the Kavango Regional Council. Despite his busy schedule, he always made time for attending the Annual Okavango Basin Stakeholders Forums and in many cases he officially opened such proceedings. His main interests in participating in such events were development of the lowest grassroots people for improved livelihoods.

As a chairperson for the Kavango Regional Farmers Union, Mr Disho Thikusho was an elected member of the Okavango Basin Management Committee and had farmers' interests to heart, especially pertaining to water. One of his initiatives submitted to the Hydrology Division was the feasibility study on the Ndonga Linena and other basin ephemeral rivers to investigate possibilities of water access to inland farmers.



## Competition time!

The following people have each won an OkBMC T-shirts in the competition published in the 2nd edition of our newsletter: Samuel L. Kalihonda, Paulus VK. Ndumba, Sakaria Johannes, Muyenga Adelheid, Maria Shitongeni

***In this edition, five Trans-boundary Diagnostic Analysis (TDA) reports of the Cubango-Okavango River Basin are up for grabs, courtesy of OKACOM!***

The Permanent Okavango River Basin Commission (OKACOM) with funding by the Governments of Angola, Botswana and Namibia and the Global Environmental Facility (GEF) with the United Nations Development Program (UNDP), conducted a Trans-boundary Diagnostic Analysis (TDA) of the Cubango-Okavango River Basin. TDA is a scientific and technical fact-finding analysis, which seeks to identify the causal chain and the root causes of problems affecting (or with the potential to affect) the integrity of the Okavango River Basin.

### **Competition questions and rules:**

1. What does OKACOM stand for?
2. Which key Ministries represent the Namibian government on issues pertaining to the trans-boundary management of the Okavango Basin?
3. To which coast does the Okavango River flow?
4. From which regions does the Okavango basin in Namibia draw its flows (perennial and ephemeral)?
5. What is an ephemeral river? Name any major example that is found in the Kavango Region.

*The competition is open to any Namibian except Committee members of the OkBMC and only those correctly answering any question are regarded as winners, on a first come first win basis. Answers should be sent before the 20th of December 2013 either by email or telephone (see contact details on front page).*