

THE ZAMBEZI

Volume 7 no 1

Zambezi River Basin states work towards preventing total darkness

by Clever Mafuta

Faced with a crippling shortage of electricity, Zambezi basin riparian states are making efforts to increase power generation and distribution, and prevent total darkness.

Despite the electricity shortages, the Zambezi River Basin is well-endowed with large deposits of coal, uranium and gas, as well as abundant water resources for hydropower generation.

The basin also has long hours of sunshine, fair wind speeds and biomass for the generation of electricity from solar, wind and biogas, respectively.

According to the State of the Environment Zambezi Basin 2000, the Zambezi River has an estimated hydro-power generation capacity of 20,000 mega watts (MW), which is almost enough to meet the energy requirements of the eight riparian countries. However, only 23 percent of this potential has been developed.

The basin is also said to have a large potential to generate thermal power. All the known, exploitable coal reserves for Malawi, Mozambique, Zambia and Zimbabwe are found in the Zambezi River Basin. The four countries

have 1,986 million tonnes of coal reserves of which 86 percent is found in Zimbabwe.

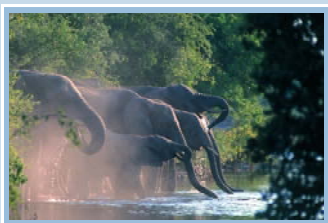
Namibia, which has the second largest recoverable uranium reserves in Africa after South Africa, has a potential to generate nuclear electricity. Only South Africa's Koeberg power plant presently produces nuclear electricity in Africa.

According to the World Energy, Namibia was the second producer of uranium in Africa in 2002 after Niger, producing 2,333 tonnes. Other known uranium reserves in the Zambezi River Basin are found in Malawi and Zimbabwe.

Although solar power is largely used in simple traditional applications such as lighting and heating, encouraging results in its use have been achieved in Namibia and Zimbabwe.

Using their potential for electricity generation, Zambezi River Basin riparian countries, through the Southern African Power Pool (SAPP), are making efforts to ease current energy shortages.

continued on page 4



The Zambezi is published three times a year by the Southern African Research and Documentation Centre (SARDC) Musokotwane Environmental Research Centre for Southern Africa (IMERCSA) through a partnership with SADC, IUCN, ZRA, Sida and national collaborating centres in all basin states.

The newsletter is published under the State of the Environment Zambezi Basin (SOE Zambezi) project. The aim is to inform people on the state of the environment and water resources in the basin and to promote good environmental stewardship and management of water resources in the SADC region.

The SOE Zambezi partners would like to thank the Zambezi Action Programme Phase 6 II (ZACPRO 6.2) for supporting this issue.

Editorial Team

Leonissah Munjoma, Clever Mafuta,
Bayano Vally, Figueiredo Araujo, Phyllis Johnson,
Egline Tauya, Ronald Chawatama, Wilson Yule,
Patricia Munemo, Tigere Chagutah,
Admire Ndhlovu, Stephen Muzarewetu

The National Collaborating Centres (NCCs)

Development Workshop, Angola;
Forum for Sustainable Agriculture Botswana;
Coordination Unit for the Rehabilitation of the
Environment, Malawi; Gabinete do Plano de
Desenvolvimento da Região do Zambeze (GPZ),
Mozambique; Integrated Rural Development and
Nature Conservation, Namibia; National
Environment Management Council, and Tanzania
Gender Networking Programme, Tanzania;
Environment Council of Zambia; and
Campfire Association, Zimbabwe.

Design

Tonely Ngwenya
Arnoldina Chironda

Production Coordination

Eunice Kadiki

Photos and Illustrations

p2, Nick Greaves, APG;
p3, p5, Illustrative Options; p4, NamPower;
p6, ZRA, Photobank, Harare

Origination and Printing

DS Print Media

SARDC, 2006

Contributions are welcome from individuals and organisations in and outside the SADC region in the form of articles, news items and comments. The editor reserves the right to select or reject items and edit for available space.

Correspondence, letters to the editor and other materials should be addressed to

The Zambezi

cep@sardc.net

www.sardc.net/imercsa

SARDC IMERCSA, 15 Downie Avenue, Belgravia,
PO Box 5690, Harare, Zimbabwe

Tel: 263-4 791141/3 Fax: 263-4 791271

SARDC Moçambique, Rua D. Afonso Henriques, 141,
Maputo Moçambique

Tel: 258-21 490831 Fax: 258-21 491178

www.zacpro.org

A sustainable energy supply is needed for promoting economic and human development, as well as protecting the environment.

Like the rest of southern Africa, the Zambezi River Basin states are experiencing energy outages, with regular electricity blackouts impacting negatively on industry, agriculture and domestic consumers.

Energy experts had predicted that this crisis would hit southern Africa in the last half of 2007, but events on the ground indicate that demand has already outstripped supply, coupled with the hazards of vandalism and equipment breakdown.

Increasing urbanization and industrialization have seen energy demand quadrupling over the past 15 years posing a serious threat to the economies of SADC member countries. It has been predicted that demand for energy in southern Africa would grow by between 1.8 to 13.1 percent from 1996 to 2020.

In addition to the growing demand, aging equipment is adversely affecting the generating capacity of many power stations while vandalism of transmission infrastructure and the high incidence of bush fires in the region have contributed to electricity line faults.

Faced with this energy crisis, the Zambezi River Basin states are exploring many options to increase generation capacity and improve distribution of electricity.

There is political will across all riparian countries and beyond to invest in power generation following the recent signature of the revised Southern African Power Pool Inter-Governmental Memorandum of Understanding.

Such political will comes at an opportune time for the speeding up of efforts to develop an Integrated Water Resources Management (IWRM) strategy for the Zambezi River Basin. The strategy would allow for equity in the use and development of resources of the basin, with the development of infrastructure for hydropower generation playing a central part.

The Zambezi IWRM strategy would also bring to the fore the need to integrate the various roles of the water resources of the Zambezi River Basin for the mutual benefit to the three pillars of sustainable development – society, environment and economy.

The IWRM strategy would, however, come to nought if efforts around its development are treated as a project rather than a long-term programme. There is therefore a need to urgently bring into operation the Zambezi Watercourse Commission, with the implementation of the Zambezi Basin IWRM strategy being one of its core businesses.

The many national efforts to tap into the Zambezi basin's thermal, hydro and uranium power generation potential can only benefit all riparian states, and strengthen downstream and upstream country relations with little damage to the environment, if they adequately fit into the Zambezi IWRM strategy.

As there are growing efforts to engage the private sector in the generation of power in the basin, it is imperative that clear guidelines are developed through the Zambezi IWRM strategy. Such guidelines would be useful in allowing for synergy and complementarity between existing and future power generation efforts, and in placing the water resources of the Zambezi River Basin at the centre for cooperation instead of conflict.

While it is commendable to increase the capacity to generate electricity, parallel efforts should be put in place to conserve the already available energy supplies. More effort should be placed in using alternative cheap and environmentally friendly energy sources such as solar and biogas.

There is also need to invest in technology that makes stoves that use little amounts of firewood. This is important given that the easiest option in the event of an electricity crisis is to deforest and to use firewood and charcoal.

Highlights...

Can benefit sharing be given a chance in the Zambezi River Basin?	3
Bush fires a hazard comparable to droughts and floods	5
Is hydropower generation an integrating factor for the Zambezi River Basin?	6
Children hope for safe water	6
SADC demonstrates IWRM in river basins	7
Funding boost for water resources management in the Zambezi basin	7



Can benefit sharing be given a chance in the Zambezi River Basin?

by Leonissah Munjoma

The concept of “benefit sharing” has featured in the international water debate for some years.

Advocates say that this concept approaches an international watercourse through equity in sharing of all water resource benefits as opposed to just water allocation and water rights, and yields more peaceful and sustainable solutions.

“I think shifting focus from sharing water to sharing benefits derived from its use does provide far greater flexibility even though it is perhaps the most difficult and sensitive challenge in cooperative management of transboundary water resources,” said Jeter Sakupwanya, Water Resources Expert for the Zambezi Action Plan Project 6, Phase II (ZACPRO 6.2).

The question on whether benefit sharing is feasible when it comes to a shared natural resource such as the Zambezi River Basin formed part of the debate during the recent Global Water Partnership Southern Africa (GWP-SA) mini water fair and annual general meeting.

It was clear from the discussions that this was a new concept in which more research was encouraged to provide better advice to the experts. It was agreed that benefit sharing is a good and necessary approach but there was need to be clear on what it is.

There was need to encourage further dialogue and to engage stakeholders to popularise the concept.

For benefit sharing to work, people in the region should work together to realise more benefits and there should be a change of mindset and perceptions, the participants agreed.

They pointed out that benefit sharing is an existing phenomenon, particularly among the basin commissions but that the concept was yet to be understood.

Southern Africa has 15 transboundary river basins with a combined drainage area that covers 78 percent of the region’s continental land area. Some of the major international rivers in the region include the Congo, Zambezi, Okavango, Limpopo, Orange, Ruvuma, and the Cunene.

The Zambezi River Basin has a population of more than 40 million people. This makes benefit sharing and other arrangements to deal with transboundary basins key development imperatives.

Addressing a session on benefit sharing, Anton Earle of the African Centre for Water Research pointed out some of the benefits from water as environmental and socio-economic including hydropower, high value agriculture, industry, rural development, and tourism.

He highlighted some of the pre-requisites for benefit sharing as security, economic development and the environment, adding that this echoed the SADC founding vision as well as the Protocol on Shared Watercourses.

Contributing to the discussion, Francisco Alvaro from Mozambique identified some important factors in benefit sharing as confidence and trust building as well as commitment and compliance.

Another perspective was that non-compliance could be an indication of stakeholders disagreeing with the provisions of protocols reached between states.

“Let us take the concept to the communities and let us see how it works. The degree of success at local level relates to degree of success at transboundary level,” pointed out Montshiwa Montshiwa, Project Manager for Every River has its People Project.

It was explained that benefit sharing should not be seen as an exchange of tangible benefits that should take place at the

same time. One state could forego the benefits to allow another to utilize the natural resource.

“It is a question of losing today and winning tomorrow,” said Montshiwa.

Some examples of benefit sharing could be seen in the case of the Lesotho Highlands Water Project. The Khatse Dam built in Lesotho by South Africa provides hydropower for Lesotho while South Africa gets the water.

“But even when cooperation can generate greater gains for all actors, inequities in the distribution of gains may make those scenarios unacceptable. In all this, I think the local impact, mediated through national processes, has to be a key driver of decision-making on benefit sharing and cooperation,” Sakupwanya said.

Discussion on benefit sharing is expected to form part of the debate during the forthcoming World Water Week in Stockholm, Sweden from 21-25 August 2006.

This would be in line with the week’s theme “Beyond the River – Sharing Benefits and Responsibilities”.



Transfrontier wildlife is one form of benefit sharing in the Zambezi Basin.

Beyond the river....

“Beyond the River – Sharing Benefits and Responsibilities” was the theme for the 2006 World Water Week, which took place 20-26 August 2006 in Stockholm, Sweden.

The theme was set to examine the sharing of benefits and responsibilities as they relate to livelihood improvement, land-based activities within a river basin, and society’s ability to cope with natural disasters.

The week aims to serve, on an annual basis, as the main arena for an exchange of views and experiences among members of the scientific, business, policy and civil society in order to advance efforts related to water, the environment, livelihoods and poverty reduction.

Some workshops were planned to cover decision support systems and Integrated Water Resource Management (IWRM), among others.

Based upon a decision at the 2002 World Summit on Sustainable Development in Johannesburg, all countries should have IWRM plans by 2005, which implies that by 2006 an implementation phase should commence. But can IWRM be implemented within existing management and decision-making structures?



Zambezi River Basin states work towards preventing total darkness

continued from page 1

Zambia and the United Republic of Tanzania, both basin states, and Kenya have decided to link their power utilities in a move meant to ease electricity shortages for the three countries.

The Zambia-Tanzania-Kenya Power Interconnection Project, is expected to facilitate the sharing of electricity between Tanzania and Kenya, and the Southern African Power Pool, improve efficiency in electricity transmission and reduce electricity costs.

The interconnection will be developed in two phases at an estimated cost of US\$660 million.

The first phase, to cost US\$358 million, is scheduled to start in late 2007 and will be completed by 2009. It will build a transfer capacity of 200 MW of electricity.

Phase two is to cost US\$302 million for another transfer capacity of 400 MW upon completion in 2014.

Other projects planned for the Zambezi River Basin include three thermal power stations that Zimbabwe intends to construct with support from China.

A Zimbabwean firm, Ele Resources, has entered into a US\$1.3 billion deal with China Machine-Building International Corporation for a joint venture that will result in the development of three thermal power stations and a coalmine in the Zambezi valley.

The first of the power projects will be ready for electricity generation by the end of 2009, according to Evison Musanganya, chief executive of Dande Capital Holdings, the parent company of Ele Resources.

South Africa, which exports electricity to the Zambezi River Basin countries, is planning three big projects to cater for an anticipated six percent economic growth in South Africa and the resultant growth in power demand.

A new coal-fired power station would be built in the Limpopo province, and will have an output of 2,250MW.

The other project would see the construction of a 1,332MW pumped storage station in the Drakensberg, while an open-cycle gas turbine with a capacity of 1,022MW would be built in the Western Cape.

The projected shortage of power in southern Africa by 2007 has already gripped the region with most of the mainland SADC countries facing severe and incessant power outages.

Load shedding has become the order of the day



The Basin has a large potential to generate electricity from various sources, including coal, uranium, gas and hydropower.

in the bulk of the mainland SADC countries, including most of the eight Zambezi River Basin riparian countries.

In Botswana there are growing concerns over continuous power disruptions although these are not viewed as an indicator of a developing trend.

Zimbabwe, which imports 35 percent of its electricity requirements, is experiencing regular electricity blackouts with serious consequences on industry, agriculture and domestic consumers.

Namibia introduced load shedding in November 2005 following the closure for maintenance of the Koeberg nuclear power plant in South Africa from which the country drew its electricity imports.

South Africa which generates 41,298 MW and is a major exporter of electricity to the Zambezi River Basin countries has also been affected by recurrent electricity blackouts following closure of the Koeberg plant. The Eastern and Western Cape areas have been the most affected.

Tanzania, which mainly relies on hydro-electricity, has also experienced power shortages due to falling dam levels caused by little or delayed rains. Hydro-electricity accounts for 67 percent of the country's total available installed capacity.

Tanzania has a total hydroelectric potential in excess of 4.7 Gigawatts of which only five percent has been developed.

Diminishing generation surplus capacity, growing demand and the non-viability of the largely state-owned energy generation industry are blamed for the crippling shortage of electricity.

Little investment in the power generation sector in recent times has resulted in reduced capacity to share surplus electricity by the few exporting countries such as the Democratic Republic of Congo, Mozambique and South Africa.

The Zimbabwe's Daily Mirror quotes Ben Rafemoyo, the Zimbabwe Electricity Distribution Company managing director, as saying southern Africa is racing towards a situation where even current net exporters will confine themselves to their local markets.

The energy sector in southern Africa is largely state-funded, with most national providers charging non-economic tariffs. As

a result the sector has not seen new investments coming on stream due to losses or the small profit margins realised.

The power outages in the basin have also been due to disturbances to the transmission system.

Bush fires have been blamed for some of the power outages. For example, in 2004 the Zimbabwe Electricity Supply Authority lost 60MW after the Warren-Alaska transmission line tripped due to bush fires.

Similarly the Zambia Electricity Supply Company lost 115MW in 2004 due to fires caused by farmers who were preparing their land.



Bush fires a hazard comparable to droughts and floods

by Tigere Chagutah

Fire has traditionally been used as a management tool in hunting, pasture management and the improvement of soil fertility, but uncontrolled bush fires are threatening to derail development efforts in the Zambezi River Basin if control measures continue to fall short.

A working paper published last year warned that if not properly managed, frequent fires constitute a regional hazard comparable to drought and floods, with the potential to constrain sustainable development.

The paper, published by the Assessments of Impacts and Adaptations to Climate Change Project in June 2005, says fire control systems are resource-constrained and fragmented, with countries employing localized and reactive strategies.

Recent bush fires have caused extensive damage to property and infrastructure, and have severely depleted the productive capacity of land within the basin and elsewhere in southern Africa.

In Namibia, forest and bush fires destroy 3-7 million hectares of land annually with most damage done during the dry winter months, according to officials of the country's Ministry of Agriculture, Water and Forestry.

In Zimbabwe, almost 11 million hectares of timber were destroyed by bush fires in 2004, and this rose to 11.5 million hectares in 2005, according to the Minister of Environment and Tourism, Francis Nhema.

The area destroyed by fire in Zimbabwe in the last two years constitutes about 12 percent of the country's pine plantation and is equivalent to the volume normally harvested over a three-year period, leaving experts to predict that the country will face timber shortages within the next 10 years.

The timber industry contributes almost 4 percent of Zimbabwe's Gross Domestic Product (GDP).

Sporadic fire outbreaks have also destroyed vast tracts of coffee plantations belonging to Zimbabwe's Agricultural and Rural Development Authority as well as threatening wildlife in the country's numerous protected areas.

The South African power utility, Eskom, which operates a grid that services most riparian states of the Zambezi River Basin, estimates that 17 percent of all electricity line faults on the Southern African Power Pool (SAPP) grid are caused by bush fires.

In a related incident, South Africa's Koeberg Nuclear Power Plant had to shut down in February 2006 when mist and bush fire ash deposited on insulators caused short circuits at the Muldersvlei distribution site. The closure of the plant caused major electricity shortages in Namibia, which relies on it for electricity imports.

Frequent fires pose a threat to people and their livelihoods, destroying valuable forest products and grazing areas, grass for thatching, and wild fruits and food as well as animals.



Vast areas of southern Africa's forests, woodlands, and farmland are exposed to wild bush fires causing loss of flora and fauna, as well as disrupting electricity transmission.

The destruction caused by uncontrolled fires has also dealt a blow to the tourism sector.

Zimbabwe recently launched its National Fire Protection Strategy, during which Nhema pointed out that cigarette smokers and motorists who throw away smouldering stubs contribute to bush fires.

"These actions result in uncontrolled fires that cause serious damage to our farming, plantation and wildlife industries and are a cost to the national economy and hinder Zimbabwe's economic recovery efforts," Nhema said.

Presenting the draft National Forest and Veld Fire Management Policy in June in Windhoek, Namibia's Director of Forestry, Joseph Hailwa, said fires are caused by lightning and by people.

The fire season in the Zambezi basin extends from April through the long dry winter season to October when the fuel load is high.

Hunters and poachers who light fires to smoke out edible wild animals and rodents from their holes have occasionally burned down large tracts of forest.

Fire is used traditionally to increase the fertility of land and to clear vegetation for planting crops in the "slash and burn" cultivation practiced in parts of Angola, Malawi and Zambia.

Pastoralists use fire to reduce litter and stimulate growth of new and more palatable shoots towards the end of the dry season while cattle farmers also use fire to control ticks.

Among the very few region-wide initiatives for fire control and management is the Southern African Fire Network, which provides a framework for transboundary exchange on fire issues as well as building capacity in the use of geo-spatial tools for fire monitoring and management.



Is hydropower generation an integrating factor for the Zambezi River Basin?

by Eglise Tauya

Southern Africa is facing a power shortage which has led to massive load shedding across the region with the situation expected to worsen as demand for electricity continues to outstrip supply.

The acute shortage of power generation capacity is creating an imperative for the Southern African Development Community (SADC) to develop the Zambezi River Basin's hydropower generation potential, among other initiatives.

Given the multiple uses and benefits from the Zambezi basin, the challenge is to prioritise the equitable sharing, not only of water but also of equity in the development of hydropower generation infrastructure in upstream and downstream riparian countries.

Energy experts note that collective management of power stations within the basin would result in increased capacity for power generation and a more even flow into dams in both upstream and downstream locations.

Children hope for safe water

by Leonissah Munjoma

Children, regardless of where they come from, have hopes and wishes for a healthier and safer water future. These hopes and wishes have inspired IUCN-The World Conservation Union to initiate a project on "schools for water".

The project aims to bring together a network of organizations and partners to deliver safe water and sanitation to schools, and to assist in bringing basic water and hygiene education to teachers.

It is hoped that the "schools for water" initiative will provide schools in southern Africa with safe drinking water by 2015. This would be in line with the ninth target of goal number 7 of the UN Millennium Development Goals (MDGs) to halve the number of people without access to sustainable safe drinking water and basic sanitation.

Addressing a youth and water session during the annual Global Water Partnership Southern Africa (GWP SA) meeting, Catherine Mutambirwa, IUCN's Coordinator for Conservation Leaders for Tomorrow said that, in Sub-Saharan Africa, nearly half of the children do not have access to safe drinking water.

Explaining the rationale behind engaging schools in clean water provision, Mutambirwa said schools play a pivotal role in children's lives and are critical in bringing communities together and building capacities for a better future.

"Providing schools with safe drinking water and sanitation facilities is a cost-effective investment in the children's future, their neighbourhoods and their communities. This also means that school children and their parents can appreciate the school environment and the hygiene conditions," she said.

The "schools for water" initiative focuses on water supply and sanitation, water education, environment and hygiene. The initiative also seeks to develop, deliver and demonstrate sustainable approaches to school water supply and sanitation, as well as environment and hygiene education throughout the world.

It is hoped that 1,000 schools in 10 southern African countries will achieve the aims of the project within two years, and that by 2015 all schools would have some form of water programme.

Realising that concerted effort is vital and urgent, SADC energy ministers signed a revised Southern African Power Pool (SAPP) Inter-Governmental Memorandum of Understanding in February 2006, which includes a broad policy package intended to pool financial resources for implementation of projects to boost power generation capacity.

The agreement accommodates new power utilities that were not in place when the SAPP was created, and also engages the private sector in power generation initiatives as part of the efforts to avert an impending energy crisis.

The involvement of many players in the power generation sector requires a framework such as the Integrated Water Resources Management (IWRM) Strategy for the Zambezi River Basin to provide guiding principles.

Such multi-stakeholder involvement also calls for effective leadership which the Zambezi Watercourse Commission is set to provide.

The IWRM Strategy for the basin is a SADC initiative driven by the Zambezi Action Plan Programme Phase 6, Phase II (ZACPRO 6.2), and provides a framework for the equitable use and development of the resources of the basin.

The Zambezi River Basin has a hydropower generation potential of 20,000 Megawatts (MW) of which just over 20 percent is used.

continued on page 7



Shared infrastructure such as dams are key to regional integration.



SADC demonstrates IWRM in river basins

by Hastings Chikoko

Demonstration projects to promote and facilitate best practices in Integrated Water Resources Management (IWRM) have been initiated by the Water Division of the Southern African Development Community (SADC).

"While these demonstration projects are being implemented in selected Member States and basins, they are of benefit to the entire region because experiences from these projects will be shared with other countries and basins," says Phera Ramoeli, Senior Water Programme Manager in the SADC Water Division.

Two of the Zambezi River Basin states – Zambia and Malawi – have already started implementing demonstration projects under this initiative.

The initiative is supported by the Government of Denmark under the SADC/DANIDA Regional Water Sector Programme as a tool for socio-economic development and poverty alleviation.

The Regional Water Sector Programme is working with national partners in Zambia to demonstrate the importance of IWRM through efficient capture, storage and utilisation of water resources to achieve food security and meet socio-economic and environmental needs.



continued from page 6

As this area, like the rest of southern Africa, nears the limit of its installed capacity, plans are under way to build or increase the capacity of several power stations over the next five years.

Existing power generating facilities such as the Lower Kafue Gorge are being rehabilitated through an agreement between the Zambia Electricity Supply Company (ZESCO) and China's Sino Hydro.

Other projects in the pipeline for ZESCO include Kalungwishi hydropower station with a capacity of 164 MW, Luapula River Hydro with 950MW, and the Batoka Gorge, a joint venture with the Zimbabwe Electricity Supply Authority (ZESA) with a capacity of 1,600 MW.

The Zambezi River Authority (ZRA) has established a Project Development Executive Team to facilitate the implementation of the Batoka Hydropower Project.

In Zimbabwe, Chinese and Indian power companies have expressed interest in investing in joint ventures to upgrade the generation capacity at the Kariba South hydropower station, and to invest in new, mainly thermal, energy generation projects. These include three new thermal stations in the Zambezi valley.

Mozambique recently signed an agreement with the Export-Import Bank of China to finance construction of the 1,350 MW M'panda Uncua dam on the Zambezi river. The US\$2.3 billion loan package includes funding for a transmission line from the dam site in Tete province to the capital city, Maputo.

The activities are being implemented in Namwala and Katuba districts within the flood-prone areas of the southern and northern banks of the Kafue river.

The project is helping communities to improve their livelihoods by retaining rain and floodwater for domestic use, livestock watering, and crop production. The project is also helping the Katuba communities to sustainably utilize the vast *dambo* area on the northern bank from which they derive income to support needs as school fees.

In Malawi, the demonstration project is being carried out in partnership with the Ministry of Irrigation and Water Development in the Lower Shire Valley around Dzimphutsi area, with the aim of ensuring that local communities are self-reliant in food security and flood protection.

The focus is on articulating the benefits of adopting IWRM approaches in managing and developing water, land and related natural resources to meet local needs.

Project sites were selected through a consultative process involving national water departments, NGOs and donors from the region.

The projects are community-driven and address cross-cutting issues such as gender and HIV and AIDS. In this regard the projects seek to add value to national activities without duplicating tasks undertaken by the Member States.

The activities are identified through a participatory approach involving community representatives, local and national governments and river basin organizations. The programme tries to ensure that the national departments have the institutional arrangements to support the participatory implementation of the activities.

Funding boost for water resources management in the Zambezi basin

The Nordic countries of Sweden, Denmark and Norway have committed US\$3.6 million to water resources management in the Zambezi River Basin.

This follows the signing of a SEK 30million (US\$3.6 million) two-year financial agreement for the final phase in the formulation of the Integrated Water Resources Management (IWRM) Strategy for the Zambezi River Basin.

The agreement is between the Zambezi River Authority (ZRA) on behalf of SADC and three cooperating partners from the Nordic countries.

The Swedish Ambassador to Zambia, Ms Christina Rehlen, signed on behalf of the Nordic countries while Dr Michael Tumbare, ZRA Chief Executive Officer, signed for SADC.

This brings to SEK 65million (US\$ 7.4 million) the total amount of grant aid provided towards the establishment of the Zambezi River Basin institutions, and other enabling environment and strategy formulation processes for the basin from the Swedish International Development Cooperation Agency (Sida), the Danish Development Aid Agency (Danida) and the Norwegian Embassy in Lusaka.



THE ZAMBEZI AT A GLANCE

The Zambezi River

rises on the Central African Plateau in the Kalene Hills in northwestern Zambia and flows through eight countries to its delta in Mozambique and the Indian Ocean.

drains an area of almost 1.4 million sq km, stretching across Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe.

supports the Victoria Falls, popularly identified as one of the seven natural wonders of the world, as well as Kariba and Cahora Bassa hydroelectric dams and their lakes.

The Zambezi Basin

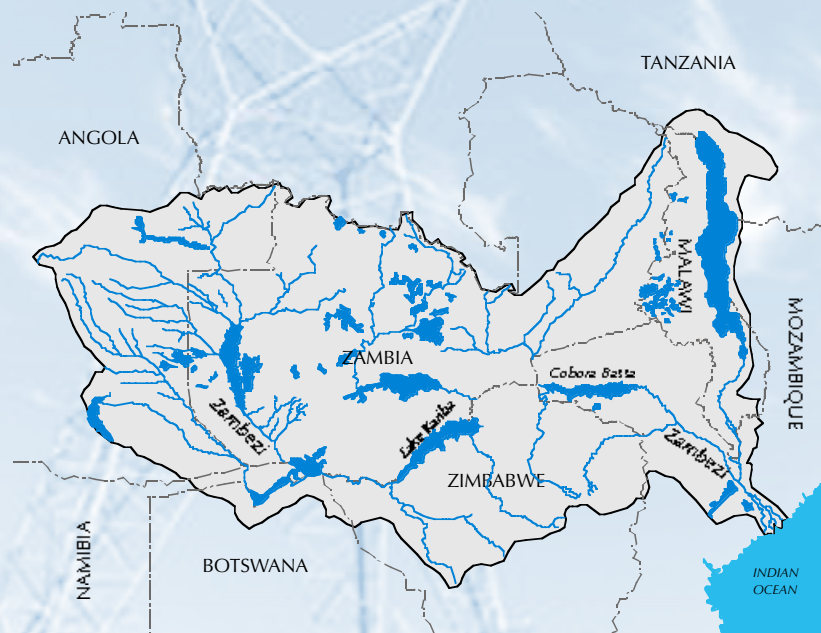
is the most shared in southern Africa and third largest in Africa after the Congo and the Nile.

covers about 25 percent of the total geographic area of the eight riparian countries estimated at 5.6 million sq km.

is home to almost 40 million of SADC's estimated population of more than 200 million people.

hosts urban areas such as Luena in Angola, Kasane in Botswana, Tete in Mozambique, Katima Mulilo in Namibia and Mbeya in Tanzania, almost all urban centres in Zambia including the capital city of Lusaka, all urban centres in Malawi and most in Zimbabwe, including Harare.

contains Lake Malawi/Nyasa/Niassa covering 28,000 sq km, Africa's third largest freshwater lake after Lakes Victoria and Tanganyika and third deepest in the world.



This edition of *The Zambezi* is supported by SADC's Zambezi Action Programme 6 Phase II (ZACPRO 6.2)

