



This edition of *Conflict Trends* has chosen to focus on water issues with guest editor Anthony Turton

EDITORIAL

BY H. SOLOMON & A. TURTON

As populations grow, finite water resources are being stretched to their limit. We have the same volume of water circulating around our planet now, as we did during the Roman period, yet populations have increased by many orders of magnitude. Consider the following: the world's population stood at 5.3 billion in 1990, and is expected to pass the 6.2 billion mark this year, reaching 8.5 billion by the year 2025. The twist in the tale is that these population growth levels are fundamentally uneven: little of the projected population growth will take place in the North. The developed, industrialised states' share of the world's population is decreasing dramatically. In 1950 it was 22%, in 1985 it was 15%, and it is projected to be a minuscule 5% of world's population by the year 2085. Conversely, much of the projected population growth will take place in the South. For instance, Ethiopia's population is expected to increase from 47 million in 1990, to 112 million by 2025; Nigeria's from 113 million to 301 million; Bangladesh's from 116 million to 235 million; and India's from 853 million to 1,446 million. Simple arithmetic shows us that more people using a given volume of water, translates to less volume per capita. The ramification of this is the possibility of conflict over scarce water resources in the developing world, as is evinced in the tensions between Turkey, Syria and Iraq over the waters of the Euphrates River, as well as the dispute between Egypt and Ethiopia over the waters of the Nile. The first region in the world to have reached water deficit was the Middle East North Africa (MENA), and modern satellite imaging shows that the second region will be Southern Africa. We have a lot to learn from the MENA

experience, and if policy-making is well informed, we should be able to anticipate the problems which are going to emerge and manage them proactively. Significant research has shown that in the face of increased water scarcity, social instability and state decay are likely outcomes. The authors have been chosen because they cover a select, but representative range of issues, and their contributions can serve to raise levels of public awareness in order that effective conflict mitigation strategies can be developed. Cheyanne Church starts off by introducing the notion of water and security, specifically identifying different levels and different types of water-related conflict. Richard Meissner then goes into more detail with a case study of the Orange River, focussing on the spectrum of possible hydro-political interaction. In order to achieve continental balance, Marie-Thérèse Sarch analyses the Lake Chad area of West Africa, where she suggests that although administrative systems may appear to be unwieldy, where they do work, they should be left in place. This emphasises the possibility of developing African solutions to African problems. Water scarcity is the emphasis of most popular writing on water issues. Anthony Turton gives insight into the problem of floods by focussing on the most devastating Southern Africa natural disaster of the last 100 years. Jeroen Warner, a political scientist with deep insight into hydro-political issues, then wraps up by discussing the oldest of the known water conflict regions — the Nile River Basin. It was in the Nile Basin that the popular rhetoric emerged, suggesting that wars of the twenty-first century would be fought over water. We hope you find these contributions interesting and stimulating.

conflict watch

GENERAL AFRICA

Conflict at a glance – an overview of developments in conflict spots on the continent over the last quarter. This is Conflict Watch. Winds of change are sweeping across the continent. And yet we must be aware of opportunities to work for transformation, to focus our resources. These are the facts... The continent of Africa has been divided into five regions based on the OAU administrative regional division

21 June 2000 – The World Economic Forum (WEF) Africa Competitiveness report stated that African debt cancellation was necessary in order to divert money to urgent projects such as combating the HIV/AIDS epidemic.

27 June 2000 – A Summit to discuss the DRC was held in Zimbabwe with Presidents Kabila and Nujoma as well as the Angolan Ambassador to Zimbabwe in attendance. The leaders cited the implementation of the Lusaka agreement as a condition for their withdrawal from the DRC.

28 June 2000 – The World Health Report 2000 revealed that the performance of health care systems in Southern African countries was among the worst in the world. The report also stated that the HIV/AIDS epidemic had cut the life expectancy rate in most countries in the region by 40 years.

3 July 2000 – The UN sent a fact-finding team to Eritrea and Ethiopia after the two countries signed an agreement to end their border war. In terms of



Neighbours and allies, Namibian President Sam Nujoma (L) and Zimbabwean President Robert Mugabe (R) at recent talks on the DRC conflict

the agreement the UN was to set up a buffer zone inside Eritrea before Ethiopia's withdrawal to positions it had occupied before the war.

14 July 2000 – The United Nations Emergency Relief Coordinator Carolyn McAskie, said that most countries in the Horn of Africa were still requiring emergency assistance due to hunger. The situation was expected to remain unchanged until December 2000.

18 July 2000 – A Joint Committee between Liberia, Sierra Leone and Guinea was set up to look into the causes of the renewed clashes between the Liberian army and a group of rebels.

8 August 2000 – The International Committee of the Red Cross (ICRC) office in Addis Ababa called on Eritrea and Ethiopia to agree to a common route to be used by returnees from both sides of the border. The office also appealed to both countries to include the ICRC in their repatriation programmes.



A traditional healer dances during the 13th International AIDS Conference in Durban, South Africa

conflict watch

NORTH AFRICA




ALGERIA

24 June 2000 – Members of Reporters Without Borders (RSF) arrived in Algeria as part of a fact-finding mission into media freedom and related rights in the country.

17 July 2000 – It was reported that nine people were killed when Islamic rebels set up a road block in Tipaza Province.

1 August 2000 – According to the *El-Youm* newspaper more than 300 people were killed in a series of rebel attacks throughout the country in July.



EGYPT

28 June 2000 – About 200 suspected members of Muslim Brotherhood, a radical Islamic group, were arrested. Representatives of the group, stated that the number of arrests had recently increased as the country nears its parliamentary elections.



Algerian Islamic Salvation Army members



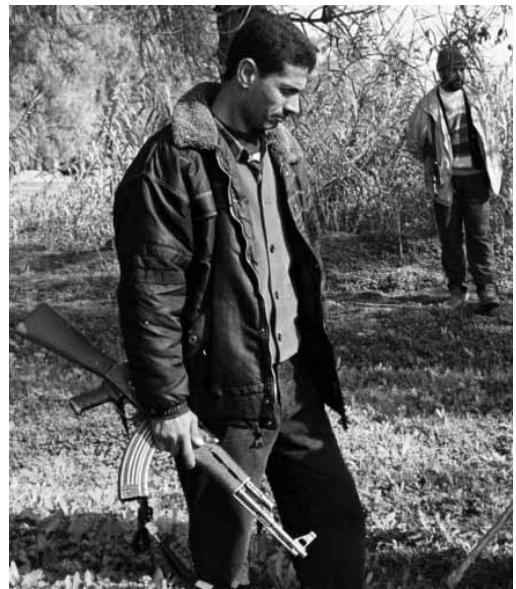
MOROCCO

19 July 2000 – A bitter row between Morocco and Qatar over negative media coverage of the Morocco government led to the withdrawal of the Moroccan Ambassador to Qatar.



WESTERN SAHARA

28 June 2000 – The Polisario Front and the government of Morocco meet in London to discuss the proposed referendum on the future of the country. The meeting was held under the auspices of the personal envoy of UN Secretary-General for Western Sahara, James Baker III.



conflict watch

EAST AFRICA



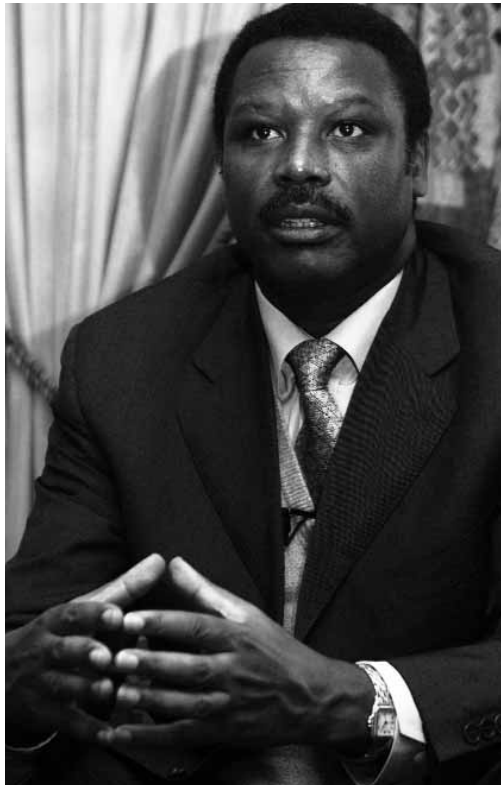

BURUNDI

30 June 2000 – The Burundian Human Rights Organisation issued a statement criticising the deteriorating security situation and continued human rights violations in the country over the past five months.

25 July 2000 – The CNDD-FDD rebel group stated that it would not sign the proposed peace plan to end the country's conflict. Among other reasons for refusing to sign, the group cited the fact that it was had not been part of the process for the past two years.

16 July 2000 – A statement from the Nelson Mandela Foundation announced the postponement of the signing of the Burundi Peace agreement to 28 August instead of 20 July 2000 as originally envisaged. This was due to the inclusion of groups which had not participated in all the peace negotiations.

2 August 2000 – There was a reported upsurge of fighting between the government and rebel forces in the vicinity of the Kayogoro commune in



President Pierre Buyoya of Burundi discusses conditions for ending the civil war that has claimed more than 200,000 lives



Government soldiers guard Hutu refugees in Kabezi camp just outside Bujumbura, Burundi

the east of the country where 15 rebels were reported killed.

2 August 2000 – The Security Council appealed to the government and rebels in Burundi to cease hostilities and offer their full support to the mediation processes currently underway.

12 August 2000 – The Hirondele news agency reported that the Arusha peace talks ended without any agreement being reached between the parties. Among other contentious points were questions of

leadership of the transitional government and concerns with cease-fire arrangements.



COMOROS

5 August 2000 – The Constitutional Review Conference which began in the Comoros was marred by boycotts from two of the main political parties from Moheli Island and those from the separatist Anjouan Island.

17 August 2000 – An OAU delegation was on the Island of Anjouan for another round of talks aimed at ending the separatist movement crisis in the country. The OAU had since imposed sanctions on the Island after it rejected an OAU proposal for autonomy rather than separation.



ERITREA

1 June 2000 – The Eritrean government vowed that the war with Ethiopia was to continue until Ethiopia withdrew its forces from all occupied territories.

29 June 2000 – Eritrean government accused Ethiopia of forcibly deporting 150 Eritreans together with Ethiopians of Eritrean origins back into Eritrea. The two countries had recently agreed to the OAU Peace Plan to end their border war.

19 July 2000 – UN agencies operating in Eritrea launched an international appeal of US\$87,3 million in order to assist about 1,1 million Eritrean nationals who were internally displaced during the war with Ethiopia.



ETHIOPIA

12 June 2000 – The UN country Office in Ethiopia appealed for US\$193,4 million to assist 10 million people facing starvation because of drought in the country.

4 July 2000 – Appeals for humanitarian assistance continued in Ethiopia.

26 July 2000 – Addis Ababa rejected fresh complaints made by Asmara to the UN Security Council regarding cease-fire violations. According to Eritrea the alleged violations included planting land mines and wide scale destruction of villages.

7 August 2000 – Addis Ababa accused Eritrea of deporting another 224 Eritreans without any prior consultation with the ICRC.



KENYA

28 June 2000 – The government denied reports that the Oromo Liberation Front (OLF) was operating in the northeastern parts of the country.

5 July 2000 – The UN WFP appealed for US\$88 million in emergency food aid in order to provide for about 3,3 millions people faced with hunger due to recurring drought in the country.

24 July 2000 – The Governor of the IMF Reserve Bank, Micah Cheserem, said that Kenya was in need of loans from the institution in order to assist in its economic growth. The statement was made ahead of an IMF meeting to discuss a possible resumption of financial assistance to Kenya.



An Eritrean soldier looks through the spyhole of a frontline trench on the Badme front



RWANDA

19 July 2000 – According to a human rights group based in Rwanda, about 3,000 people suspected of participating in the 1994 genocide had been tried since the tribunal started in 1996.



SOMALIA

24 June 2000 – More than 30 people were killed in south central Somalia in the wake of fresh clan fighting in the area.

4 July 2000 – Somali traditional leaders meeting in Djibouti vowed to exclude the warlords from the processes of governance if they continued to turn down an offer to joining the peace conference.

23 July 2000 – Nine people were killed and at least ten were wounded during two days of fighting within the Habar Gidir clan.

31 July 2000 – The Somali Peace Conference was deadlocked over the allocation and distribution of the number of seats to each clan in the country. The Conference was meeting to come up with a Transitional National Assembly consisting of all Somali clans.

18 August 2000 – Mohamed Abshire, the leader of the recently elected Somali Transitional Assembly (TNA) held a press conference at which he stated that Somaliland and Puntland, the two 'independent' Somali territories, would be one of the issues for discussion in an upcoming parliamentary debate.



SUDAN

29 June 2000 – In his address to mark the 11th anniversary as the President of Sudan, Omar al-Bashir, said that a national reconciliation summit should be held as part of the attempts to end the country's on-going civil war. The President also expressed his willingness to continue partaking in the IGAD and Libyan-Egyptian peace initiatives.

10 July 2000 – According to the UN, more than 4,000 people in the Upper Nile Province were forced to leave their homes due to intense fighting in the area.



Sudanese President Omar Al-Bashir (L) with his parliament speaker, Hassan al-Turabi (R), during a military parade

17 July 2000 – The Sudanese government stated that it wanted guarantees from the Sudan People's Liberation Army (SPLA) that it would respect the cease-fire before any form of negotiations towards the resolution of the conflict could take place.

3 August 2000 – The Medecins Sans Frontiers (MSF) issued a statement that it had ceased all its operations in some areas of northern Bahr el Ghazal because of a spate of air bombings carried out by government forces.

17 August 2000 – The US Committee for Refugees said that the continued government bombings of southern Sudan affected relief work in the area. The Committee also stated that the international community would have to declare the area a 'special humanitarian zone' in order to allow humanitarian workers automatic access to the affected areas.



TANZANIA

14 July 2000 – President Mkapa appealed for financial assistance from international donors for Tanzania's upcoming elections which are estimated to cost US\$32 million.

27 July 2000 – Six opposition parties turned down an election code of conduct from the country's electoral commission. The new code, among other things, proposed that campaigns and election material should be in English or Swahili and that parties should not campaign in the evenings in order to prevent intimidation.



UGANDA

13 June 2000 – Army officials reported that fierce fighting broke out between government forces and Allied Democratic Forces (ADF) in western Uganda.

19 July 2000 – The Amnesty Commission announced the extension of amnesty to the rebels for a further six months. The Commission was established to administer the amnesty process for rebels who have agreed to lay down their arms.

14 August 2000 – An army spokesman said that 4,000 of the 5,000 Ugandan forces stationed in Kisangani, DRC had returned home in line with the withdrawal agreement signed with Rwanda. Uganda is thought to have 11,000 troops fighting in the DRC conflict.

conflict watch

CENTRAL AFRICA




ANGOLA

7 June 2000 – Jonas Savimbi announced the appointment of six new army officers for his rebel movement, UNITA.

9 June 2000 – The World Food Programme office in Angola warned that available emergency food aid in the country was running low and that more than 1,5 million people were on the verge of starvation.



Illegal Angolan diggers search for diamonds outside the north-western Angolan town of Nzagi on the border of the former Zaire. This wealthy area, formerly controlled by UNITA rebels, is one of the major diamond producing areas in the country, but without government licenses the impoverished diggers are forced to sell their gems at a quarter of their price on the local black market

20 June 2000 – UNITA carried out an attack against the villages of Mateus, Kikuaia and Kinguangua in which five people were killed and property destroyed.

26 June 2000 – UN agencies in Angola reported that continued insecurity in the northern parts of the country had brought humanitarian activities to a standstill.

27 June 2000 – A World Bank report revealed that since the beginning of the civil war UNITA had earned about US\$4 billion from the illicit sale of diamonds. UNITA controls most of the diamond producing areas in the country.

30 June 2000 – According to the *Journal de Angola*, government forces had taken control of the municipality of Cuemba, a key strategic town for UNITA rebels.

8 August 2000 – The Angolan Armed Forces reportedly killed ten UNITA rebels in Catete, 60 kilometers from Luanda.

10 August 2000 – The Ministry of Health estimated that the government would need about US\$12 million in order to finance the country's HIV/AIDS programme.

16 August 2000 – Intensification of fighting between UNITA and Angolan forces in the Province of Lunda Norte has resulted in about 7,000 people crossing into neighbouring DRC as refugees.



CHAD

19 July 2000 – A fierce exchange of gunfire between government soldiers and rebels of the Movement for Democracy and Justice (MDJT) was reported in Bardai town.



DRC

6 June 2000 – It was reported that sporadic fighting between Rwanda and Uganda continued in Kisangani. Rwandan army officials accused Uganda of launching attacks against their positions several times.

7 June 2000 – Intense fighting between the Mai-Mai militias and the RCD-Goma was reported in South Kivu.

8 June 2000 – The DRC facilitator, Sir Ketumile Masire, decided to postpone the preparatory meeting of the Inter-Congolese Dialogue scheduled to take place in Cotonou, Benin. The decision to postpone the meeting was reached following the failure of the government to send a delegation. Furthermore, the government prevented other representatives from leaving the country.

8 June 2000 – UNICEF reported that more than a million people were internally displaced in the DRC due to the deteriorating security situation and the on-going war in the country.

28 June 2000 – The security situation in South Kivu was deteriorating as the number of reported clashes between various rebel factions continued to rise. Mai-Mai militias were engaged in battles with the RCD-Goma whilst attacks by Interahamwe were also reported.

11 July 2000 – According to the ICRC about 760 people were killed and 1,700 were wounded in the DRC during recent clashes between Ugandan and Rwandan troops over Kisangani. The ICRC estimates that 619 of these were civilian casualties.

13 July 2000 – Presidents Kabila and Mugabe, met in Lubumbashi to deliberate on the current political crisis in the country.

17 July 2000 – Jean Pierra Bemba, the leader of the Congolese Liberation Movement (MLC) said that his forces had pulled out of Imesse, a town situated northeast of Kinshasa.

21 July 2000 – About 40,000 people fled the country into the neighbouring Republic of Congo as refugees in the past few weeks according to the UNHCR.

24 July 2000 – UN Spokesman, Fred Eckhard said that the arrival of the first UN troops to be deployed in the DRC was called off after President Kabila announced that he would not permit their deployment in all areas under his control.

26 July 2000 – It was reported that the UN Mission in the DRC was engaged in talks with the

DRC government in order to examine the role and mandate of the Mission in the country.

9 August 2000 – Government forces and RCD-Goma rebels were reportedly involved in intense fighting in the vicinity of Pepa, in the Katanga Province. The rebels accused government and its allies of attacking its positions in Pepa in violation of the cease-fire.

15 August 2000 – The Lusaka meeting on the DRC situation failed to yield positive results as President Kabila refused to bow to pressure from his SADC counterparts. President Kabila maintained his refusal of UN troop deployments. He also continued to reject Sir Ketumile Masire's role as facilitator.



President of the DRC, Laurent Kabila (L) and Zimbabwean President Robert Mugabe (R) at recent talks on the DRC conflict



REPUBLIC OF CONGO

14 July 2000 – Government officials from the Republic of Congo and the DRC met to discuss their common border security following an influx of refugees from the latter due to the on-going crisis.

6 July 2000 – An appeal for US\$28 million to assist in post conflict rehabilitation and reconstruction programme was made. Under the auspices of the UN, the appeal seeks to generate funds that would enable the government to dedicate resources to health care and agricultural development.

conflict watch

WEST AFRICA




BURKINA FASO

3 August 2000 – Burkina Faso denied accusations made by the UN that it was among the countries that were violating the UN embargo by dealing in diamond trade with the Revolutionary United Front (RUF) rebels from Sierra Leone.



EQUATORIAL GUINEA

5 June 2000 – The Electoral Commission announced that the ruling *Partido Democratico de Guinea Ecuatorial* (PDGE) had obtained 230 seats out of 244 during local government elections. The election was however, boycotted by most of the opposition parties in the country.



GAMBIA

21 July 2000 – The leader of the main opposition party, the United Democratic Party (UDP) said that his party had been banned by the country's security agencies from holding any gatherings. Among other reasons for the banning, the UDP was accused of illegitimately criticising and insulting government officials.



GHANA

25 July 2000 – The Trades Union Congress (TUC) in Ghana organised protest action to call for wage increases and government action to the general economic stagnation in the country.



IVORY COAST

4 July 2000 – A group of soldiers took to the streets in the country over pay disputes with the military junta for their role in the December 1999 coup. During the mutiny, soldiers hijacked cars and set up roadblocks around major cities and exchange of gunfire with the army.

5 July 2000 – It was reported that an agreement was reached between the soldiers who took part in a mutiny and the ruling military junta. The spokesman for the mutineers, Alain Kacou, called on the rest of the soldiers to return to barracks.



LIBERIA

19 July 2000 – Liberian President Charles Taylor said that the government was to introduce a state of emergency in the northern parts of the country due to ongoing clashes between the army and rebels. According to the government, a group of rebels launched an attack from the neighbouring Guinea.



NIGERIA

12 July 2000 – Speaking at a meeting to mark the establishment of a commission to look into the proliferation of arms in the country, Defence Minister, Theophilus Danjuma said that the continued ethnic and religious conflict was a threat to the country's democracy.

16 July 2000 – Six governors from oil producing states in southern Nigeria decided to implement measures to assume full control of their oil resources in place of the current controls which

rest with central government.

1 August 2000 – The Guardian Newspaper, reported that the State of Katsina had adopted the Islamic Sharia Law after a bill was endorsed by the State Governor. Katsina was the fifth State to adopt Sharia in the country since the ushering in of democratic governance.



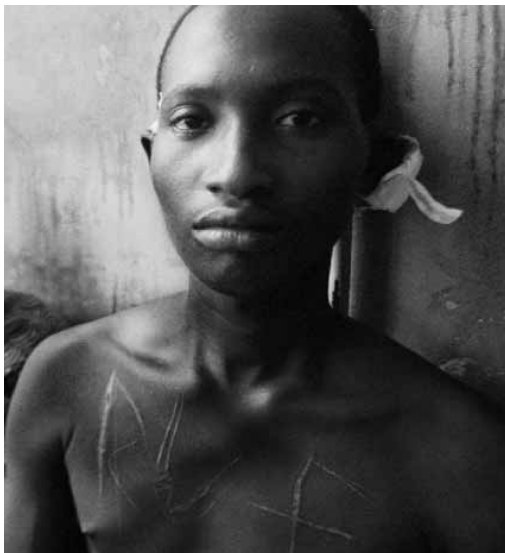
SIERRA LEONE

1 June 2000 – The UNHCR country office reported that more than 2,000 people fled from Sierra Leone into Guinea as a result of renewed tension between the government and the RUF.

30 June 2000 – It was announced that the RUF had released 21 UN peacekeepers who were taken hostage by the rebels. A number of peacekeepers and other UN personnel were still held hostage by the group.

9 June 2000 – Mediciens Sans Frontiers (MSF) reported that there is over a million people in the northern parts of Sierra Leone who are without any access to proper health care facilities as a result of the conflict.

16 July 2000 – UN Peacekeepers successfully rescued 222 other peacekeepers who were attacked by RUF rebels and abducted from their camp in Kailahum. During the operation, one peacekeeper was killed and seven others wounded.



A Sierra Leone civilian involved in an RUF attack await medical attention



Sierra Leonean fighters loyal to the government celebrate at the front line after heavy fighting between government troops and RUF rebels

17 July 2000 – It was reported that a number of people fled from the Tongo Field town due to renewed clashes between RUF rebels and forces loyal to former military leader Paul Koroma.

24 July 2000 – Sierra Leone Army spokesman, Major Milton told reporters that the army recaptured the town of Bafodia, which was under the control of RUF rebels for almost a year.

1 August 2000 – The Secretary-General of the UN, Kofi Annan, recommended the extension of the UMAMSIL mandate. The Mission, was originally scheduled to end on 7 August, however Annan recommended a six-month extension in order to allow for the strengthening of the UN force.

1 August 2000 The UN announced the establishment of a panel to investigate sanctions violations by the rebels and the link between illicit diamond trade and arms trade in the country.

10 August 2000 – An estimated 7,000 internally displaced people arrived in Bumbuna, northern Freetown. They were fleeing fighting between government forces and RUF rebels in a number of towns including Makeni and Magburaka.

14 August 2000 – The number of Sierra Leone nationals who crossed into neighbouring Guinea was said to have increased following another 2,500 people who reportedly entered Guinea.



TOGO

7 June 2000 – The OAU and UN Secretaries-General announced the formation of a joint OAU-UN commission of enquiry into alleged summary executions in Togo in 1998. The commission was formed at the request of the Togolese government following an Amnesty International report that such executions occurred in the country.

conflict watch

SOUTHERN AFRICA




MOZAMBIQUE

1 June 2000 – The UN Food and Agricultural Organisation (FAO) issued a report which stated that about 60,000 tonnes of emergency food aid was required for 650,000 people in flood affected areas.



NAMIBIA

5 June 2000 – The Namibian newspaper reported on the deteriorating security situation on the northeastern border with Angola where civilians fell victims to attacks by groups of armed people.



A South African National Defence Force soldier stands guard at a roadblock in Khayelitsha near Cape Town after security forces sealed off the township in an attempt to end a spate of attacks on commuter buses



SOUTH AFRICA

30 June 2000 – The Land Commission stated that the number of land claims exceed the funds reserved for this purpose. According to the Commission, in order to meet its current land claims it would need about R500 million whereas its budget stands at R99 million.

14 July 2000 – In a report tabled by the United States Agency for International Development (USAID) at the 13th International Aids Conference held in Durban, it was estimated that in 10 years, the HIV/AIDS epidemic would result in 44 million orphans in Sub-Saharan Africa.

3 August 2000 – In an attempt to curb the spate of attacks on commuter buses in Cape Town, the police organised a roadblock around the areas affected by the attacks. Since, April this year attacks on buses claimed seven lives and about 60 passengers have been injured.



SWAZILAND

13 June 2000 – Union officials stated that approximately 5,000 (temporary) civil servants were to be retrenched at the end of the month due to a government programme to reduce the budget deficit. The unemployment rate in the country is believed to be 45% out of the population of a million people.

18 August 2000 – The Ministry of Agriculture, stated that an emergency food package was needed for about 14,000 rural people to avert possible starvation due to a drop in maize production because of the recent torrential rains. The Ministry stated that at least 23,000 tonnes of maize were urgently required for this purpose.



Zimbabwean war veterans sing revolutionary songs at a meeting at the ruling ZANU-PF headquarters



ZAMBIA

30 June 2000 – Speaking at a Conference on the Poverty Reduction Strategy Paper (PRSP) in Lusaka, Vice President, Tembo, stated that Zambia spends more than \$130 million per annum on external debt repayment. The country's debt currently stands at US\$6 billion.

11 August 2000 – The government increased its security forces in Kaputa province, near the border with DRC following claims that there were armed groups who entered Zambia from that area.



ZIMBABWE

8 June 2000 – A new Bill, the Zimbabwe Democracy Act, was passed in the United States to suspend all aid to Zimbabwe until rule of law returns to the country.

12 June 2000 – It was reported that Zimbabwe's gold mining output dropped due to foreign currency shortages. The Zimbabwe Chamber of Mines revealed that companies had failed to make payments of about \$8 million to their suppliers.

12 June 2000 – About 30 members of the ruling ZANU-PF were expelled from the party following their intention to contest the upcoming elections as independent candidates.

13 June 2000 – The Zimbabwean Human Rights Association stated that at least 60,000 people had been internally displaced due to violence and

political intimidation in the country's rural areas.

27 June 2000 – Following parliamentary elections on 24-25th June it was announced that the opposition MDC obtained 57 seats against ZANU-PF's 62 with one seat going to an independent candidate. The MDC announced its intention to contest the validity of election outcomes in several constituencies.

28 June 2000 – The government was to resume the seizure of at least 800 white-owned farms which had been identified for the resettlement programme.

16 July 2000 – The Zimbabwean Commercial Farmers Union urged the new cabinet to embark on a proper resettlement programme. This follows an announcement that the government was to resume the resettlement plan that would see the transfer of a million hectares of land to landless people in Zimbabwe.

1 August 2000 – The government announced that another 2,237 white-owned farms were to be distributed to landless people in the country. This figure is an addition to the 803 farms already identified for this purpose. In the mean time, opposition parties expressed their concern that such action would disrupt the country's commercial farming.

18 August 2000 – The Zimbabwean Supreme Court ruled against the validity of votes cast by the country's soldiers currently fighting in the DRC. The ballot boxes containing the votes were posted into the country. ♫



Horn of Africa protagonists
sign a peace pact ending
their two-year border conflict

SNAPSHOT

BY SIZWILE MAKHUBU

A step in the right direction

ethiopia eritrea

In Algiers on 18th June 2000, Ethiopian Foreign Minister, Seyoum Mesfin, and his Eritrean counterpart, Haile Woldetensae, signed a peace agreement that ended a two-year war over the disputed demarcation of their common border. Both sides lost tens of thousands of soldiers, more than a million civilians were displaced and thousands were forced to seek refuge across the Sudanese border.

The shuttle diplomacy, under past chairman of the Organisation of African Unity (OAU), Abdelaziz Bouteflika – in collaboration with the United Nations (UN), the United States and the European Union (EU) – contributed to the cessation

of hostilities between the two countries.

The Algiers agreement provides for, amongst other things:

- Resolving this crisis and any other dispute through peaceful and legal means, in accordance with the principles enshrined in the charters of the OAU and the UN;
- Respecting the borders existing at independence, determining them on the basis of colonial treaties and international law;
- The UN, in cooperation with the OAU, will establish a peacekeeping operation to assist in the implementation of the agreement;
- Ethiopia is to submit to the peacekeeping

mission redeployment plans for its troops from positions taken after 6 February 1999, which were not under its administration before 6 May 1998. This redeployment is to take place within two weeks after the deployment of the peacekeeping mission;

- Eritrean forces are to maintain a distance of 25 kilometers from the positions of the Ethiopian forces. This zone of separation is to be referred to as the 'temporary security zone'; and
- The UN and OAU are to establish a Military Coordination Commission to coordinate and resolve issues relating to the implementation of the mandate of the peacekeeping mission;

A UN team, comprised of political, military, legal and humanitarian officers, visited key sites in the western, eastern and central fronts of Eritrea to assess tasks for the peacekeeping mission. The UN reconnaissance team, led by Major General Timothy Ford, also conducted field visits to the north of Ethiopia. During the visits, the UN team held discussions with both Ethiopian and Eritrean officials regarding the ceasefire, as well as the UN peacekeeping mission. The UN team is expected to submit a report to the UN Secretary General, Kofi Annan, who, in turn, will make recommendations to the Security Council with regard to the concept of operations for a peacekeeping mission. Both the UN and the OAU have stressed the need for an early deployment of the peacekeeping mission. The deployment of peacekeeping troops along the Ethiopian and Eritrean border will be facilitated

through the liaison offices that will be set up in Asmara and Addis Ababa. The offices will consist of about five or six personnel, and each will have a mandate to establish liaisons with the defense establishments of both countries concerning the peacekeeping operation.

Representatives from the two countries held talks on a proximity basis in Washington. Issues discussed included the demarcation of the 1,000 km border and compensation for damages incurred during the conflict. Indirect talks through OAU facilitator, Abdelaziz Bouteflika, were also held to determine the size and nationality of the UN peacekeepers who will monitor and sustain the agreement.

Initially, the UN is expected to deploy about 100 military observers to verify that there have not been any violations of the June ceasefire. These observers will also help plan the full deployment of the UN peacekeeping mission. Both countries expressed their commitment to the agreement, and acknowledged that the signing was a foundation upon which meaningful discussions on pertinent issues could take place.

Both countries' history, culture and geographical position make it necessary for them to interact. For instance, the Port of Assab in Eritrea compels the two countries to cooperate economically with each other. Consequently, it is essential that a common border, recognised by international law, be agreed upon. ♪



Foreign Ministers, Seyoum Mesfin (L) of Ethiopia and Haile Woldetensae (R) of Eritrea, join in a three-way handshake with Algerian President Abdelaziz Bouteflika (C), after signing a ceasefire accord on 18 June 2000. The accords, which call for an end to a two year border war which has resulted in tens of thousands of deaths on both sides, were signed under the auspices of the OAU



Conflict Trends spoke to Mr Vasu Gounden, Founder and Executive Director of ACCORD about the organisation's role in the Burundi peace process

INTERVIEW

BY SEAN CALLAGHAN

Conflict Trends: What role has ACCORD played in the Burundi peace process?

Vasu Gounden: On the ground in Burundi, civil society organisations have been mobilising and organising themselves to become part of the peace process and this is where we, as an organisation, have been involved. An ACCORD delegation spent 5 days in Burundi in April, meeting with a wide range of civil society organisations, to hear their views on the peace process underway in Arusha. We reported our findings to Mr Mandela and President Buyoya. We then brought 27 civil society representatives to South Africa, so that they could deliberate among themselves, reach some consensus about how to support and implement an agreement in Burundi and then to meet with Mr Mandela to present some of their views to him. For many this meeting also provided a unique opportunity to meet with fellow Burundians with strongly opposing views. ACCORD staff then travelled back to Burundi to facilitate meetings between Mr Mandela and civil society groups on the ground.

Conflict Trends: Why this focus on civil society?

Vasu Gounden: In South Africa, civil society played a very crucial role in the implementation of what came out of CODESA. A mistake that is often made in peace negotiations is that negotiations take place between warring parties, and civil society – the interface between governments and communities – is not involved in the process and eventually when an agreement is reached, it becomes very difficult to implement it on the ground. A lot of time and resources have been invested in the Burundi peace process over the past few years.

This, however, would be in vain if the environment on the ground in Burundi were not prepared for the implementation of a peace agreement.

Conflict Trends: What did these civil society leaders discuss with Mr Mandela?

Vasu Gounden: The civil society meeting hosted in Pretoria by ACCORD was the first time that Burundi civil society groups met with Mr Mandela, in his capacity as facilitator of the Arusha talks. They focused on assessing the gap between what Mr Mandela heard from the political parties and how people felt on the ground in Burundi. They shared their views about amnesty, about genocide, about political prisoners in Burundi, about how to mobilise communities to support the peace process, about whether there are divisions in society and whether there are people who oppose the Arusha talks.

Conflict Trends: Do you think there is any real cause for hope in Burundi?

Vasu Gounden: Having met with several civil society groups, having been to Burundi and having met with people in Burundi, I am confident that there is significant hope among the people. They have placed a lot of emphasis on the role of Mr Mandela in the Burundi negotiations — people have high expectations and a great deal of respect for our former President.

At the time of going to print, most of Burundi's parties had signed the Arusha agreement. Furthermore, Mr Mandela continues to meet with the dissenting parties in an attempt to get them to sign the pact. ♣

A united states of africa?

Speaking at the official opening of this year's Annual Summit of the OAU, Togolese president, Gnassingbe Eyadema, stated that 'today, more than ever, our success depends on the long and difficult walk towards economic, social and cultural integration'. The president's words captured the theme of the summit, which was to enhance the measures for greater African unity and cooperation.

The summit was held in Lomé, Togo, from 10-12 July. It was attended by 24 heads of state, prime ministers and ministers of foreign affairs. A number of issues were discussed, including a proposal to create an African Union — a body that would, for all intent and purposes, replace the existing OAU.

Historically, various African leaders have called for the creation of a united Africa.

In 1999, an extra-ordinary summit of the OAU, attended by 44 heads of states, was held in Libya. It was during this summit that the Syrte Declaration was established, calling for the creation of an African Union. The establishment of such a Union is in accordance with the 1963 founding principles of the OAU, which envisioned a United States of Africa. Over and above this, the idea of an African Union is in line with the OAU Abuja Treaty of 1991, which *inter alia*, called for the creation of an African Central Bank and an African Parliament.

The African leaders who gathered in Lomé were involved in a process that would arguably be of historical significance. The heads of states and governments had an opportunity to deliberate the Act for the proposed Union, which was signed during the closing day of the meeting by 26 member-states of the OAU.

It is envisioned that the Union will consist of nine organs, including the Assembly of Heads of State; the Executive Council; the Pan-African Parliament; the Court of Justice and the Commission.

In order to enhance greater continental eco-

nomonic integration, the Union plans to create three financial institutions: the African Central Bank; the African Monetary Fund and the African Investment Bank. The Act would come into force 30 days after being ratified by two-thirds of the 53 members of the OAU. It is hoped that the Union will be in place within the year 2001.

The idea of an African Union is regarded as an important step that Africa needs to take — without it, her marginalisation would remain intact. Owing to globalisation, Africa's competitive advantage within the international economy is viewed as lagging behind that of the rest of the world. It is assumed that the Union would go a long way towards strengthening Africa's economic position *vis-a-vis* the rest of the world.

However, a number of questions remain unanswered with regard to the practical steps and implementation of the Union. Firstly, most African states have not yet consolidated their regional economic and political integration. Consequently, the question is whether or not a Union is achievable in the face of weak regional blocs, some of which are battling to justify their own existence?

Furthermore, could such a Union succeed if it is founded on weak states? One could perhaps argue that without strong states, the notion of an African Union remains but a dream. However, this view is based on the assumption that the states would provide the foundation from which such a Union would emerge.

To what extent could such an endeavour work within a continent characterised by varying economic differences, where most countries have stronger trade relations with their overseas counterparts than with other African countries?

As Africa journeys towards the realisation of its Union, it becomes clear that a number of pertinent questions will have to be answered. Consequently, the months leading up to the 2001 summit will be most crucial. ▲



Although the importance of integrated water management and conservation needs to be addressed, the water war theory is overstated and unjustifiable

FEATURE

BY CHEYANNE CHURCH

water

a threat of war or an opportunity for peace?

The average person associates water with images of gurgling mountain streams or lazy days on the beach, but one rarely associates water with war or complex political interplay and brinkmanship at the highest level. As water is critical to humanity's basic survival, it has become highly politically charged and a pressing challenge to national security — a challenge that is not simple. Rivers ignore political boundaries, with an estimated 268 rivers flowing across international borders. They defy fairness in their allocation throughout the world. Less than ten countries possess about 60% of the globe's accessible freshwater resources, leaving others without. A good example is Botswana, where only 6% of its water originates within its borders. Most vexing of all is that,

regardless of man's ingenuity, there is no substitute for water and while it is a renewable resource, water molecules cannot be created. Consequently, its global quantity is finite.

As water covers much of the globe in either ocean or ice form, there has been little concern shown for water scarcity issues outside the scientific community. However, as the world's population increases exponentially (together with an increase in water demand as society's standards of living improve), concerns about water scarcity have started to surface in the mainstream media. These concerns, interposed with the realities of the state sovereign system, have resulted in 'water war' theories. It has been posited that the 'water war' would be the war of the twenty-first century: history

and a linear relationship between scarcity and increased demand were used to support this suggestion. Although the importance of integrated water management and conservation needs to be addressed, the water war theory is overstated and unjustifiable. A systematic examination of international conflicts has shown that although water is often present in hostile situations, it is very rarely the causal factor. From an economic perspective, it is strategically irrational to attempt a full-scale

The Parallel National Action

Model is a structure that could answer the needs of Southern Africa, without threatening the independence of nascent states

invasion to obtain water. Moreover, it is possible to circumvent water scarcity via ingenuity, or the social adaptive capacity found in a nation's human capital. For instance, the use of 'virtual water', where a state imports food to satisfy a nation's requirement, rather than expend vast quantities of water to irrigate. In order to manage international river basins in the long term, states need to acknowledge the benefit of adopting an integrated approach on a regional level. The Parallel

National Action Model is a structure that could answer the needs of Southern Africa, without threatening the independence of nascent states. Obviously, as cooperation between states increases, so too does familiarity and understanding, both of which are critical elements in the construction and maintenance of peace .

Within the charged 'water war' debate, there is a tendency for terms to be loosely defined and used interchangeably. This muddies the preverbal waters. This article will focus on violent conflicts between nation states, which have been caused by a scarcity of accessible water. In this case, water refers to an international watercourse system (which includes the catchment area of the river), rather than the simplistic notion of an international river as an independent unit. Scarcity, itself, is not a simple term, and here it refers to both a lack of water in volume and a lack of clean water, a quality judgement. The primary cause of quality scarcity is pollution. For example, approximately 90% of wastewater in developing countries is returned to river systems, untreated. In the context of this article, it is important to distinguish water scarcity as the casual factor. A common flaw has been to designate an interstate conflict as a 'water war'. The bombing of a hydraulic installation, such as a dam, or a war fought over a contested border which is coincidentally demarcated by an international

river, are often erroneously termed 'water wars'.

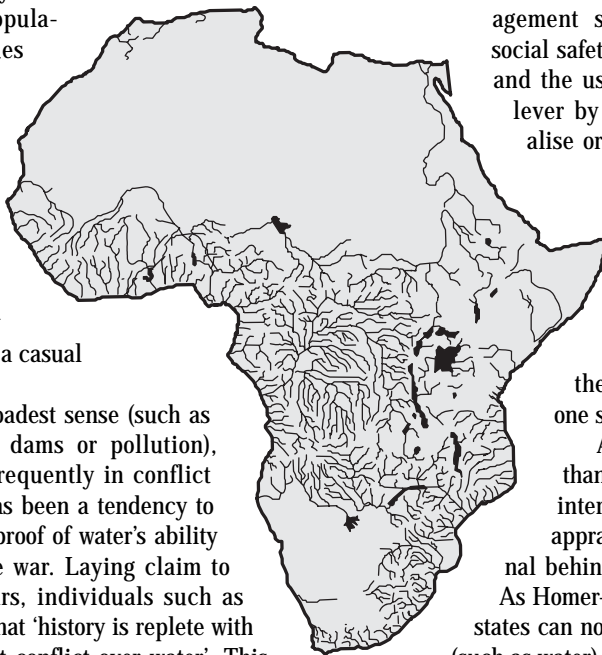
Concerns over scarcity and the resulting conflict began to arise in the late 1980s and early 1990s. This quickly developed into elaborate theories predicting 'water wars', which permeated the highest levels. In 1995, vice president of the World Bank, Isamil Serageldin stated that 'the wars of the next century will be about water'. The argument which was initially presented, was elementary in its logic: as the population increases, so too will the demand for water; however, as this resource is finite, a critical scarcity will develop and states will go to war to obtain more water. Facts swirled around the global media, which served to support and increase the perceived threat of 'water wars'. A 1999 *Washington Post* article asserted that by 2025, at least 48 countries (or the equivalent of 2,8 billion people) would face overall water shortages. Moreover, if nothing was done to make irrigated agriculture more water efficient, then, by the same year, at least 55% more fresh water would be needed to sustain the world's population.

As this theory evolved, it recognised that induced scarcity caused by pollution could also create a scarcity-driven 'water war', because a downstream state would stand to suffer from a highly polluted watercourse. Numerous examples of this situation can be found. In 1996, the Olifants River rose in the coal producing areas of the Mpumalanga highveld in South Africa. It flowed polluted through afforested and densely populated areas before reaching the Kruger National Park and Mozambique, by which time it was of extremely reduced value to conservation. This decreased the amount of freshwater that Mozambique could obtain from the river. However, whether Mozambique would challenge South Africa over this water issue is dependent upon numerous other political and economic issues. Consequently, the situation is far more intricate than it just being about water scarcity — a finding which, on close inspection, is prevalent in most alleged water conflicts.

The issues surrounding international water systems are far more complex than a linear equation allows. The stakes are high, as water is a key element to national prosperity, in so far as it is a form of cheap energy, used in irrigation and food production. Water is also the crucial element in flood and drought control schemes. Thus, conflict due to water is integrally related to many factors, such as the degree of inequality of distribution within a region, particularly between bordering states, as well as the extent to which the river basin

is shared by one or more states. Moreover, one can not ignore the importance of power politics in these scenarios, or the relative power relationship between sharing states. For instance, within Southern African, South Africa accounts for 80% of the region's water use, while being home to only 33% of the region's population. These issues are important and must be factored into the 'water war' equation. This illustrates that there is not a direct link between scarcity and war, in the way one needs to claim a casual relationship.

As water, in its broadest sense (such as in hydro-powered dams or pollution), seems to appear frequently in conflict situations, there has been a tendency to rely on history as proof of water's ability to cause interstate war. Laying claim to numerous past wars, individuals such as Butts have stated that 'history is replete with examples of violent conflict over water'. This argument was respected for a considerable period of time, until a close examination of the direct correlation between international water systems and conflict was conducted. Aaron Wolf systematically investigated and analysed those cases of international conflict, where armed exchange was threatened or used over water resources. He utilised the International Crisis Behaviour dataset and focussed on the period between 1918 and 1994: 412 crises were found. A search of water related key words identified only four disputes where water was allocated as even a partial cause. Additional research added three more examples, making the total seven. Cases include the early 1950s dispute between Syria and Israel, where sporadic fire was exchanged due to the Israeli water development in the Huleh Basin. The unsuccessful military expedition by Egypt into disputed territory between itself and Sudan in the late 1950s, was also included. Of the seven identified cases, shots were fired in only four of the disputes. This evidence suggests that history does not provide the clear-cut lesson that much literature relies upon.



However, history does indicate that water can cause or contribute to internal conflict within a state. This type of conflict generally manifests itself at the intra-state level between tribes, communities or water-use sectors. Additionally, water can lead to political instability and increase intra-state tensions. Poor government water management schemes, the lack of a social safety net in times of drought, and the use of water as a political lever by governments to marginalise or aid select groups within society, can all produce conflict. The causes, tensions and situations differ significantly between interstate and intra-state conflict. Thus, there is the need to examine each one separately.

As history proves less than an effective argument for interstate war, so too does an appraisal of the strategic rational behind waging war over water. As Homer-Dixon points out, modern states can not easily convert resources (such as water) into power. The confusion arises from not distinguishing between

renewable and non-renewable resources, such as fossil fuels. Oil or diamonds, for instance, can be quickly converted into vital assets, while water requires more time and infrastructure to reap the benefits. The economics of a 'water war' are best broached in this context too. The rationality of fighting to obtain water becomes difficult to justify when one does a cost comparison between war and saltwater conversion. For those states that have geographic proximity to the sea, it is not strategically rational to fight to obtain water, as it is not economically viable. Water costs approximately one American dollar per cubic meter to create from seawater. Compare this with the cost of waging a full-scale invasion and the subsequent costs of maintaining supremacy over a resource that covers the area of a river's catchment. The nation that chooses the highly expensive war option, often has other motives over and above mere resource acquisition.

The rationality of fighting to obtain water becomes difficult to justify when one does a cost comparison between war and saltwater conversion

Up to this point, the physical scarcity of water – either in quantity or quality terms – has been the focus. However, a new dimension is added when one considers the impact that social adaptive capacity can have on a state’s ability to handle water-related stress. This idea has been pioneered by Ohlsson, who refers to social adaptive scarcity as a second order scarcity, while water scarcity is a first order scarcity. He maintains that as first order or water scarcity increases, so too does the need for social adaptation in order to cope with the consequences. Hence, a state with adequate second order or social adaptive capacity, can adapt to conditions of water scarcity. In fact, in instances where there is first order scarcity, yet second order resource abundance, a situation called Structurally Induced Relative Water Abundance (SIRWA) results. It is this SIRWA that explains why Israel has managed to overcome the debilitating effects of its water scarcity. According to Turton, South Africa, Botswana and Namibia almost fall within this category.

One of the options that an abundance of social adaptive resource provides, is the implementation of what Tony Allan refers to as the use of ‘virtual water’. This is the process of importing food to make up for the shortfall in water. Consequently, the limited amount of domestic water is available to use in other activities, rather than the high volume use of agriculture. According to Allan, approximately 1,000 tonnes of water is required to produce one tonne of wheat. Hence, a government facing a severe water deficit can balance its water budget by importing wheat, instead of mobilising additional water. The use of ‘virtual water’ has the added advantage of being ecologically benign and politically friendly. It goes without saying that to utilise ‘virtual water’, a country must have both the economic means to do so and the political self confidence to prevent this dependency from threaten its impression of national security.

It would appear that second order abundance is the definitive variable that alters the linear ‘scarcity equals war’ theory. States have options to obtain water outside the use of force, but only if a state has the ingenuity to apply to the problem. It needs to be recognised, however, that the level of social adaptive capacity found in states is variable. It is prone to suffer in states which have a high degree of brain drain, incompetent bureaucracies

or corrupt legal systems — these are only a few of the push factors that drive talented human capital from a nation. In these situations, a state that already has water scarcity, now suffers from water poverty, as it does not possess the social capacity to alter this position. For regions that contain water impoverished states, regional cooperation is essential to quell tensions that could arise over water. A multi-dimensional and comprehensive regional water cooperation plan, which utilises second order resources located within the region, can create SIRWA, as well as benefit the region economically and ecologically.

Wolf’s studies of conflict involving water have proven that cooperation over shared water resources is more the norm than the exception. There are more than 300 treaties dealing with non-navigational uses of water, such as flood control, hydro-power projects, allocation for consumption and water management. In general, co-riparians stand to gain far more through cooperative measures and the creation of a mutually beneficial treaty, than by fighting. The 1986 Lesotho Highlands Treaty is an interesting example of cooperation and mutual benefit. South Africa helped finance the hydro-electric/water diversion facility in Lesotho, in return for guaranteed right to purchase water to supply Johannesburg. Lesotho, however, is the sole recipient of the power generated from the station. Interestingly, studies show that cooperation over shared watercourses has been found to be resilient over time, and often continue to function through periods of hostility — something that has not been tested in the Lesotho-South Africa example. These bilateral agreements can become examples of peaceful coexistence between states.

At present, the majority of cooperative situations are based on bilateral, and in the rare case, multilateral agreements. This is limiting, as often there are more stakeholders, and increased cooperation would yield better results. However, further integration rarely occurs, as states perceive it to be an erosion of their sovereignty. This is particularly true in Africa, where many states are still considered young, post-colonial states and are very protective of their hard fought independence. In numerous cases, attempts to establish cooperative measures are undermined by state officials refusing to share authority. The Southern African River Commissions (relating to the Orange, Limpopo and Okavango rivers, for example) are cases in point and are not utilised to their maximum effectiveness. Moreover, Africa contains 80 international

States have options to obtain water outside the use of force, but only if a state has the ingenuity to apply to the problem

rivers and lake basins, of which 21 have catchments greater than 100,000 square kilometers. Some are shared by more than 10 states. Consequently, the opportunities for cooperation are obvious.

A solution to the challenge of multilateral cooperation, which allows social adaptability to be shared without the implicit threat to state sovereignty, needs to be adopted. Turton proposes the Nordic Model – Parallel National Action (PNA) – for Southern Africa. This hydro-political, decision-making model shifts the focus within regional integration studies, from the creation of larger political structures, to a change in behavioural codes of conduct among participating states. The essence of this model is its acceptance of existing state structures, as there are no expectations of political unification, but rather political integration in the behavioural sense. It requires a paradigm shift by the primary political actors, away from national self-sufficiency, towards a form of supranational behaviour based on a holistic approach. The PNA model offers a correction to those states that lack second order resources, while aiding states with SIRWA by increasing the regions stability. This model is appropriate within the Southern African context, as the SADC protocol on shared water-course systems has a limited supranational capability, while it devolves the authority and responsibility for initiating policy-related actions down to the relevant state actors. It would be expected that the adoption of this model would facilitate other issues and create a more stable regional environment.

Although the PNA model offers a step, it is not 100% complete. This model does not require the action parallels to include multi-sector partnerships, nor does it integrate social actors into the process, which would create a true socio-technical partnership. These partnerships are critical for the process of capacity-building across borders. They are also crucial for sustainability. The Parallel National Action Model will not be able to stop conflict definitively within the region. As with any resource that is this valuable, political tension will always lie close to the surface. However, it will be able to enhance the region's water management, and thereby decrease the frequency of tensions. It is the right step forward to decrease the opportunity for conflict, while maximising the region as a whole, with the end result being a better chance for peace.

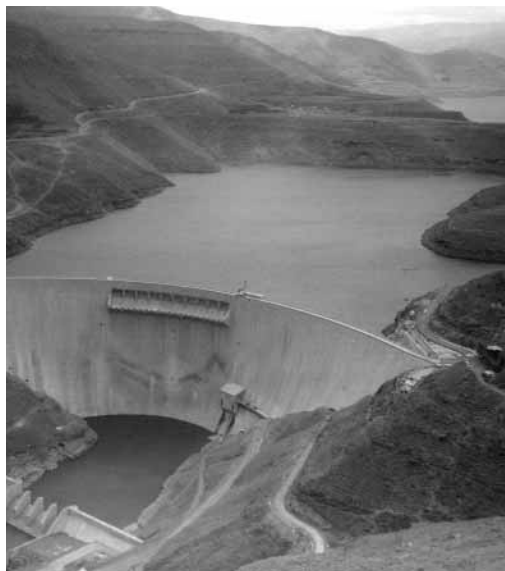
Water is a politically charged and often misunderstood issue, that has appeared on the interna-

tional political agenda in the form of threats of 'water wars'. Due to water's strategic value and critical role in a state's livelihood, it offers a complex challenge to a state's sovereignty, as well as its political players. These 'water war' threats are unrealistic: a careful analysis of history indicates that although water is commonly present in an interstate conflict situation, it is very rarely the causal factor. Moreover, it is a strategic error to assume that a successful war against a water rich state will bring the necessary resources home. This debate has taken a significant turn due to the social adaptability factor. States that have second order resources in the form of social adaptability, can overcome their water scarcity. One of the most obvious ways is via 'virtual water'. Alternatively, if a state is second order resource scarce, it needs to be encouraged to work at regional level cooperation with second order rich states. In the Southern African context, regional cooperation may best be encouraged by the use of the Parallel National Action Model, as was utilised in the Nordic countries. This satisfies a state's concern with sovereignty erosion, while allowing water management to occur on a regional level. This regional cooperation should benefit all states involved in a multitude of ways. Most importantly, it should encourage and enhance the opportunities for a stable peace. ♣

It requires a paradigm shift by the primary political actors, away from national self-sufficiency, towards a form of supranational behavior based on a holistic approach

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Water may not lead to conflict, but it can lead to heightened cooperation between countries: cooperation over water can be used to build peace between states

FEATURE

BY RICHARD MEISSNER

The case of the **orange** river

Since the end of the Cold War, new security threats have emerged which are not only a global concern, but are also worrying from regional and national perspectives.

Food security, poverty and disease, population growth and water have been identified as issues which may darken the expectations of present and future generations just as much as any deliberate war. This article will look at the nature of international relations between countries and water, and will argue that the spectre of water wars are not a real threat to security in Southern Africa. The Orange River Basin is the case study that will be used to highlight the cooperation between countries in Southern Africa with regard to water resources.

The concern is that water will lead to severe conflict, and even outright war within and between

states in Southern Africa. When analysing the question of conflict or cooperation with regard to water resources, it is important to look at the history of international (water) relations between states. A pattern will emerge as to why states have, in the past, cooperated or conflicted over water. History will also show how the institutions and actors involved in water politics have gone about managing international river basins.

Before lunging into an analysis of the hydro-politics of the Orange River Basin, it is important to look at the different arguments for and against water as a source of conflict. Much attention has been paid – in both the scholarly literature and the policy community – to the potential for conflict to arise as a result of resource depletion. The major concern is environmental change, which could

generate and intensify conflict within and between states. This is very true for water, as we are part of nature (just like water), and water is used to help with economic development. The main argument for conflict over water is that as water becomes scarcer, so the possibility increases that water and water-supply systems may become weapons of war and a real source of violent conflict. In other words, scarcity breeds conflict. At this stage, it is necessary to define a water war because 'hydro-internationalists' have been writing about water wars without clearly determining what, exactly, they are writing about. A water war is a violent conflict that is directly caused by the incompatible sharing and/or allocation of water resources between states or non-state entities, at both national and international levels. Armed with a definition, we can now continue with the arguments as to why a water war will not happen in the near or distant future.

It is easy to exaggerate the importance of natural resources as an object of conflict. Disputes over natural resources seem so frequent, it is tempting to regard competing demand for resources as the single most important cause of conflict and war. This seems to be the case with water throughout the world. However, a dispute or military conflict which involves water, is not necessarily a struggle over water. It can also be a contest for ideological or hegemonic supremacy within a region, such as the 1975 Euphrates crisis between Iraq and Syria. In addition, water resource depletion is seldom, if ever, the only cause of major conflict within or among nations. Interstate conflicts are caused by many factors, including ethnic antagonism, ideology, border disputes, expansionist aspirations, religion and so on. Water may not lead to conflict, but it can lead to heightened cooperation between countries: cooperation over water can be used to build peace between states. Not all water disputes will lead to violent conflict. Indeed, most lead to negotiations, discussions, non-violent resolutions and larger cooperation.

Cooperation between states with regard to international water resources is relevant, not only for the management of this scarce resource, but also as an instrument to build and strengthen bridges between nations. Cooperation also helps maintain functional communication in times of peace and tension. Taking cognisance of these arguments, it is necessary to ask ourselves where we stand with regard to relations between the states within the Orange River Basin, and where is it that

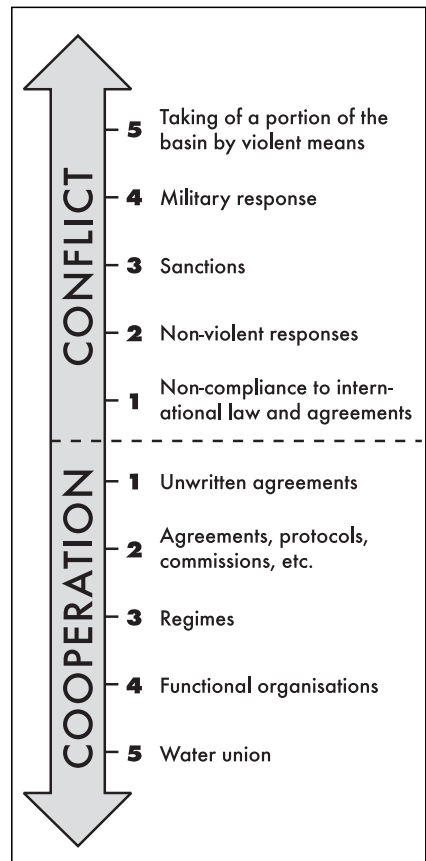
we are heading to in the future?

In order to answer these questions, it is necessary to review the history of hydro-politics within the Orange River Basin. More specifically, we need to look at the ways in which the riparians are conducting 'business'. Measuring the quantity and quality of the relations in the Orange River Basin is not impossible. Certain indices, such as written agreements, protocols, the establishment of institution (regimes) and technical cooperation, as well as functional organisations, will help us to see which of the above arguments are relevant to the Orange River Basin. These indices help us map out the degree and nature of conflict or cooperation within a river basin. Consequently, we can place a river basin on a scale or spectrum to see the nature and degree of the relations between riparians.

With this spectrum in hand, it is possible to measure the dynamics of the water politics within a river basin. It should be made clear that the spectrum is not static. It can be dynamic, in accordance with the changing relations of the riparians within the basin. Note that the nature and degree of conflict are also measurable by using the indices on the left hand of the scale.

The Orange River Basin stretches over an area of more than one million square kilometers and includes Botswana, Lesotho, Namibia and South Africa. The latter country has the largest part of the basin area. The Orange River originates in the Highlands of Lesotho and has a number of tributaries, the Vaal River being the largest.

Let us turn to the water politics of the Orange River Basin, as it has occurred during the past 50-odd years. The study will centre around the Lesotho Highlands Water Project, for it is this scheme that has had quite an impact on the dynamics of water politics within the Orange River Basin. In 1956, a study was conducted to look at the feasibility of harnessing the river's water in



A schematic representation of the measurement of conflict and cooperation in a river basin

FEATURE

order to supply water to the northern Orange Free State gold mines. This involved a plan to build a dam in the Maluti mountains, and then convey it to the goldfields. However, nothing came of this initial project because water could be delivered at

a lower cost from the Vaal River. In the 1960s and early 1970s, the plan was changed to deliver water to South Africa's economic heartland, situated in the Witwatersrand area. However, political conditions between South Africa and Lesotho (after the protectorate gained independence in 1966) – as well as the establishment of the Tugela Scheme, aimed at delivering water to the Witwatersrand – prevented the plan from being implemented. International relations between South Africa and Lesotho, at that time, were influenced by South Africa's apartheid policy and Lesotho's harbouring of African National Congress (ANC) members, during a time when the party was still banned. No written agreements originated during this time. However, occasional talks were held between the two countries with regard to the project.

In 1986, water politics in the Orange River Basin took a dramatic turn with a coup d'état in Lesotho: the government of President Jonathan was replaced by the military government of General-Major Lekhanya. Later the same year the Lesotho Highlands Water Commission (LHWC) treaty was signed and work on the project was given the 'go-ahead'. It is not certain as to whether or not the coup was a deliberate attempt on behalf of South Africa to get rid of the Jonathan government in order to get the project going.

In 1990, Namibia gained independence and the number of riparians in the Orange River Basin changed from three to four. This heralded a new era in the dynamics of the water politics surrounding the Orange River. In 1991, negotiations were held concerning *inter alia* the border of the Orange

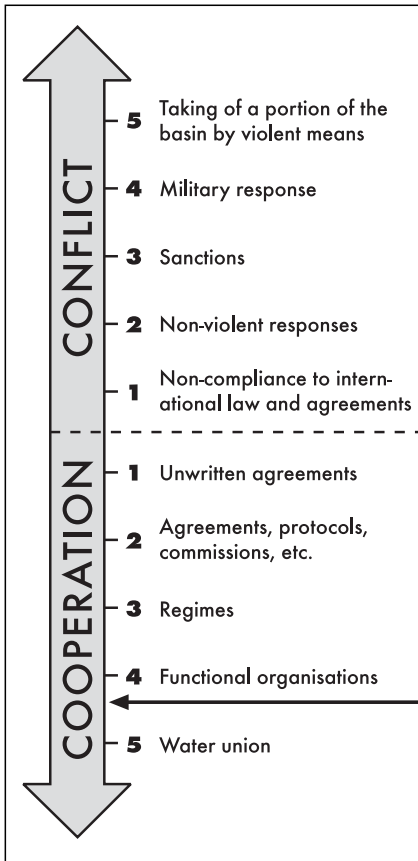
River. Before Namibia's independence, the border was situated on the northern bank of the river, which denied Namibia access to the river. This changed, and the border now runs along the middle of thalweg of the Orange. In 1993, South Africa and Namibia signed an agreement to establish the Permanent Water Commission (PWC). The function of the PWC is to advise the two respective governments on issues such as the availability of water, the demand for water, international law, development of the common resource and pollution. A committee charged with protecting the Orange River mouth has also been established.

Not only has there been cooperation between South Africa and Namibia, but South Africa and Lesotho have also maintained their momentum with regard to cooperative endeavours along the lines of the LHWP.

With infrastructural cooperation in mind, a number of institutions have been created, or are in the process of being created, to facilitate further collaboration within the Orange River Basin. The most notable and comprehensive regimes have been those created between South Africa and Lesotho, such as the 1986 treaty, which was established to oversee the implementation of the LHWP. Under the agreement, two authorities have been put in place and are responsible for the construction of the LHWP: the Trans Caledon Tunnel Authority (TCTA) and the Lesotho Highlands Development Authority (LHDA). The creation of these structures has had a profound impact on the relations between the two countries. They are not only responsible for the implementation of the project itself, but they also play a very significant role in the exchange of expertise and information between South Africa and Lesotho, as well as the settlement of disputes that may arise between the two countries.

To date, six protocols have been signed within the LHWP treaty to settle disputes. For instance, the signing of Protocol V ended a lengthy dispute over taxation matters concerning LHWP activities in Lesotho. The aim of the protocol is to minimise any costs that could result from the levying of taxes on project activities. The protocol also provides a cap on project-related taxes. The signing of the protocol ensured a more equitable distribution of burdens and benefits between Lesotho and South Africa.

Other institutions formed within the Orange River Basin include the LHWC – formerly the Joint Permanent Technical Commission (JPTC) –



Research indicates that there is a high level of collaboration within the Orange River Basin

between South Africa and Lesotho, and the infantile Orange/Senqu River Commission. The LHWC is responsible for monitoring the activities of both the TCTA and LHDA. Its main function is to safeguard provisions within the treaty which relate to the specific requirements of water transfer. The LHWC also monitors TCTA and LHDA influence on the hydropower element of the project. The LHWC commission meets once every two weeks and comprises three permanent delegates from each country. This is a remarkable feat in itself, as it is uncommon for such commissions to meet so frequently. It is functionalism at its best, and can only help to strengthen South Africa-Lesotho relations, not only in the water sector, but in general too.

The Orange/Senqu River Commission is in the process of being formed. Namibia was instrumental in the creation of this commission. It was also instrumental in the creation of a similar institution within the Okavango River Basin (OKACOM). It seems as if Namibia used a considerable amount of diplomatic power to drive the creation of these commissions. The reason could be Namibia's geographic location along the river basins, particularly on the Orange River. It is the downstream riparian within this basin, and the middle riparian in the Okavango River, where it is situated downstream from Angola and upstream from Botswana. Namibia is also the driest country in Southern Africa, and is very dependent on international rivers and rain for most of its water. Using the initiative in creating such commissions might safeguard its access to these rivers, and may also give it some status and prestige as a country that uses cooperation, rather than conflict, to achieve its goals. The commission can be seen as a coping strategy, following Namibia's adaptive behaviour to its downstream position. When this commission is eventually created, it will only lead to greater cooperation between the riparians within the basin.

Even between states and non-state entities or interest groups, the desire to cooperate is rather strong. The Memorandum of Understanding (MOU), signed between the LHDA and Lesotho interest groups in May 1998, stands witness to this cooperation. The MOU defines the cooperation between local interest groups in Lesotho and the LHDA in terms of the LHWP treaty of 1986, which imposed legal obligations on the concerned state parties to safeguard the welfare of affected persons and communities. The MOU also outlines the scope of activities as set out in the parameters of the Environmental Action Plans (EAPs) for Phase 1A

and 1B, as well as all other phases to be implemented by South Africa and Lesotho with regards to the LHWP treaty. The EAPs provide the main framework for the development of mitigation, compensation, resettlement and development measures for the short, medium and long term lifespan of the LHWP. Provision is made for other areas of concern which the parties may, from time to time, identify and consider to be in the range of the MOU, such as employment conditions and labour relations during the construction, operation and maintenance phases of the LHWP — these would have to fall within the framework set out by the laws of Lesotho. The following areas of cooperation between the LHDA and interest groups have been identified in the MOU: monitoring and evaluation activities; advocacy activities; community empowerment activities; service provision; and delivery activities.

Where do we stand when looking at water politics within the Orange River Basin? From the article and the issues named therein, it is obvious that water is not a bone of contention between the four riparians. Much has been achieved since the mid-1980s with regard to cooperation in the field of international water management within the basin. We see that a lot of collaborative endeavours have been set up in the basin, not only between states, but also between sovereign countries and non-state entities. Technical cooperation is very dominant within the basin. In addition, and in parallel with technical collaboration, political institutions and agreements have also been enacted. Consequently, we can place the Orange River Basin in the following position on the spectrum outlined at the beginning of the article:

This position is a strong indication of the degree and nature of cooperation in the basin: there is a high level of collaboration. The will of countries to cooperate — rather than being antagonistic towards each other in the game of water politics — is very strong indeed. Disputes will surely arise in the future. However, the mechanisms to manage these interactive actions are in place, and the riparians within the basin are moving in the right direction with regard to dispute management. 🗨️

Footnote

The Lesotho Highlands Development Authority (LHDA) is responsible for the implementation, operation and maintenance of the Project situated in Lesotho. About 97% of the construction for phase 1 is located in Lesotho (Trans Caledon Tunnel Authority, 1998).



Resolving access to
floodplain fisheries on
the Nigerian shore

FEATURE

BY MARIE-THÉRÈSE SARCH

Conflict at Lake Chad

Fear of attack and the costs associated with transport around Lake Chad have a detrimental impact on the administration of the Nigerian lakeshore. Local government staff and other public employees have little incentive to expose themselves to the risks associated with travelling around the lake floor. Government is unwilling to invest scarce resources in villages with uncertain futures, or in areas where their jurisdiction is unclear. The last official map to be drawn of the lake basin was surveyed in 1973. Since then, the Nigerian shore of the lake has contracted by several miles and many of the lakeshore communities are now living on the former lake floor. Public investment in these communities has been minimal. The people of the lakeshore do not, however, live in a state of anarchy. Their 'traditional'

administration has not only maintained its pre-colonial authority over the communities of the lake floor, but in some situations it has increased it. The expansion of lakeshore *Lawans'* fiefs to include the allocation of exclusive fishing rights to residual flood water, is an example of this.

The western shore of Lake Chad has been under the jurisdiction of Borno since the end of the fourteenth century. Borno is currently one of 36 states in the Federal Republic of Nigeria. Although the administrative status of Borno itself has varied, it has been dominated by the Kanuri ethnic group for most of its existence. Migration during the latter part of the millennium brought Shuwa Arabs from the east and Fulani pastoralists from the west. Recent settlers on the lakeshore include Hausa families from across northern Nigeria, who were

attracted by fishing opportunities at the lake during the 1970s. Although certain ethnic groups have particular traditions (for example, the fishing traditions of the Hausa), households from a variety of ethnic groups fish, farm and/or herd cattle.

The Kanuri hegemony of Borno was termed the 'Native Administration' by the British colonists, who collaborated with them to develop their system of taxing the rural population. This taxation is based on a system of fiefs, either territorial or by association (by trade, for example), allocated by the *Shehu* or suzerain, to members of his family, favoured courtiers, or high ranking slaves. Under this system, the population were obliged to pay a variety of taxes to the fiefholder who administered the fief through a tax collector, a locally based subordinate and a hierarchy of village heads called *Lawans* or *Bulamas*.

Under the colonial system of taxation, the *Shehu* nominated District Heads or *Ajia*, who were responsible for collecting the tax from the various regions throughout Borno. The *Ajia* delegated this task to sub-district heads or *Lawans*, who usually delegated to local agents known as *Bulama*, all of whom were expected to channel revenues upwards to the *Shehu*. In 1905/6, when this system was set up, the *Shehu* was required to pass half his receipts to the British.

Since Nigerian independence in 1960, a modern government has operated in parallel with the Kanuri administration and consists of three tiers: local, state and federal. A key difference between the two administrative systems is their source of revenue. The federal government allocates budgets, both to state governments and directly to local governments. Although both levels are entitled to raise their own revenue, they mostly rely on federal government allocations. In contrast, the traditional administration raises most of its revenue at a local level, predominantly by taxing the rural population through the network of *Bulamas* and *Lawans*.

Outbreaks of armed clashes and rebel activity within the lake basin have persisted since the 1970s, and are largely associated with the succession of civil wars in the Republic of Chad. A Joint Patrol of representatives from the different authorities of the various nations surrounding the lake was created in response to these outbreaks, and has been monitoring the lake in an attempt to prevent further violence. The Joint Patrol includes army personnel as well as police, immigration and customs officials. Along the western shore of the lake, the Nigerian army dominates the Joint Patrol.

Currently, the Borno state government has a minimal involvement in the administration of the lake and its immediate vicinity. This is partly due to international tensions. Consequently, federal government agencies monitor most activities around the lake. There are five Local Government Areas (LGAs) which are adjacent to the Nigerian shore of Lake Chad, and in contrast to the state government, most are active in the administration of the lakeshore. Although in theory, the local government acts as a forum for both 'traditional' and 'modern' – either elected or appointed – administrators, the system of traditional administration has changed little since colonial days. Currently, *Bulamas* act as ward or hamlet heads. They allocate land and collect taxes under the jurisdiction of a *Lawan*, who is officially a village head, although frequently, *Lawans* have jurisdiction over several villages and/or wards. *Lawans* are obliged to channel a proportion of tax revenues to the local government.

Political instability affects livelihoods at Lake Chad in a number of ways. The most serious effect is the fear for personal security. Few at Lake Chad manage to escape this concern entirely. The succession of civil wars which have dogged Chad since independence in 1965, led to the arming of militias from various ethnic groups within Chad, resulting in frequent border incursions and considerable animosity between the people of north and south Chad. The combination of the lake's geo-political location and its fluctuating water and swamps, provide convenient cover for anti-government rebels who make periodic raids on villages, irrespective of international boundaries. Although the lake basin is policed by a Joint Patrol, its coverage is not and could not be complete. The 'rebels' usually attack villages with no army presence. This has led to speculation as to whether they have a political purpose at all. Whatever their purpose, the communities living around the lake are at risk of attack and rely on the Joint Patrol for their security.

While they deter rebels and bandits, the proliferation of Joint Patrol checkpoints creates additional problems for the communities of the lake floor. Anyone travelling to the markets of the lakeshore must travel through key transport nodes, such as landing sites, taxi parks, cross-roads, and

Outbreaks of armed clashes and rebel activity within the lake basin have persisted since the 1970s, and are largely associated with the succession of civil wars in the Republic of Chad

the exits and entrances to any town or large village. These are usually monitored by army officers, and nearer the towns, by customs and immigration officials too. Most vehicles are stopped, checked and taxed in some way. Thus, while the checkpoints improve security, they add time and unpredictable costs to the journeys of most households and their marketable produce.

Lake Chad is a vitally important wetland in the semi-arid Sahel corridor. It provides the basis for many thousands of livelihoods which depend on its seasonal fluctuations to renew fish stocks, farmland and rangeland. Although rainfall is low and variable, it has little impact on the volume of the lake, which depends almost entirely on inflow from the Chari/Logone river system at its southern extreme. Water levels peak in October/November, following the end of the rains in the southern catchment area, and reach a minimum in May/June, at the start of the next year's rains. This water flows northwards and outwards, encouraged by the lake's gradient and prevailing winds. The water takes between one and two months to reach the Nigerian shore, where levels peak in January and reach their minimum in July. During the last

25 years, annual rainfall in much of the catchment area has been reduced and the surface area of the lake has fluctuated, both seasonally and from year to year.

The fishing systems on the Nigerian lakeshore have been developed to exploit seasonal flooding. Although estimates of fish production from the lake vary, and the exact role of the lake's contraction and the exploitation of fish stocks in this decline are difficult to ascertain, at least part of the reduction in production over recent decades is accounted for by the contraction of the lake. Following this contraction, the *dumba* method of fishing has become increasingly popular. A *dumba* is a row of fish traps which are placed across a channel of receding lake water. The traps are linked by small meshed netting which forces the fish in the retreating flood water to enter the traps. The *dumba* is especially effective as fish retreating with the receding flood cannot escape them, therefore they do not need to be baited.

The communities making their living on the shores of Lake Chad have to contend with two

crucial sources of uncertainty. The first is the timing and extent of the annual flood, and the second is the administration of the lakeshore. While fluctuations in the level of Lake Chad are a source of vulnerability, they are also the basis of viable livelihoods along the lakeshore. In contrast, the taxation of exclusive fishing rights by the 'traditional' Kanuri administration, and the capricious exercise of power by the officers of the Joint Patrol, pose serious threats to the viability of livelihoods at Lake Chad.

The allocation and taxation of *dumba* sites became an important focus of conflict in the fishery after they were introduced by Malian fishermen in the 1980s. The increasing popularity of *dumba* fishing led to intense competition for suitable sites in which to locate *dumba*, and resulted in conflict between *dumba* fishermen and those downstream of them. In 1993, the conflict was resolved by the sub-district heads or *Lawans*, who agreed to issue a written licence which could be checked and [the exclusive rights of the licensee] enforced by the Joint Patrol (in other words, the army).

The following year, two local governments – Kukawa and Marte LGAs – attempted to capture some of the revenue being generated by the allocation of *dumba* sites. Confusion rapidly developed over who had the right to licence them. This was resolved when, in early 1995, federal fisheries officers visited the LGAs and explained the regulations of the 1992 Inland Fisheries decree. The decree prohibits *dumba* and thus the LGAs cannot legally tax or licence them. Nonetheless, the use of *dumba* persists and the 'traditional' administration is filling the void created by the withdrawal of local governments. It is expanding its authority over fishing, particularly over the allocation of *dumba*. For those fishing at Lake Chad, the result is a lot of local variation in the procedures for allocating *dumba* sites.

Despite the exploitation inherent in it, the system of land tenure at Lake Chad has important advantages over the system of fisheries management. The most important of these is that it works. The institutions for access to land are widely understood, they have almost complete compliance and they are stable. The households of the lakeshore know when they will be expected to pay their farm tax, they know who they have to pay, roughly what proportion of their harvest will be required and roughly what other households in the village will be paying. In contrast, the allocation of fishing rights varies from village to village, has

The increasing popularity of *dumba* fishing led to intense competition for suitable sites in which to locate *dumba*, and resulted in conflict between *dumba* fishermen and those downstream of them

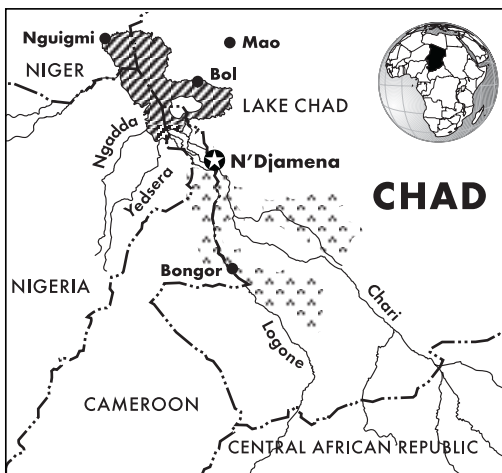
required the army to prevent conflict, and has swung between the control of local government, the 'Native Administration' and the army.

Although broadly benevolent and similar in their aims to sustain fish stocks and fishing livelihoods, the efforts of the Federal Fisheries Department and local government have conflicted. Failure has been the result. Federal attempts to enforce a ban on *dumba* fishing at the beginning of 1995 prevented local government regulation of

checkpoints operated by the Joint Patrol. The inconsistent nature of these taxes severely constrains the ability of communities to plan for them, making it difficult to adjust their asset base accordingly.

These conclusions indicate a radical route forward: one which must address the inconsistent nature of much of the taxation at the lake. Whether the taxation is legitimate or not, it must at least be transparent — then communities could adjust their livelihoods to cope with it. Lowering the transaction costs involved in both acquiring and allocating access to fishing grounds would, for example, be in the interests of both the households making their living on the lakeshore, and the individuals making a living on their backs. This would not require rigid regulations. The comparative success of the traditional administration in allocating farmland can be partly attributed to their flexibility in adapting to the changing environment at Lake Chad. If formulae (rather than fixed amounts or dates) could be established and disseminated for the payments which households must make, this would reduce the transaction costs for all involved.

How such formulae could be established is a crucial issue, and here again the customary system of land tenure offers some guidance. No one at Lake Chad can ignore the dominance of its 'traditional' administrators, and the success of their system of land tenure can also be attributed to the power which they wield. Although no development initiative would work without their cooperation, the negotiations necessary to establish formulae for tax payments would benefit from the active participation of the 'traditional' administration at all its levels. While non-government development agencies would be well placed to provide logistical and technical support, the influence which the Kanuri aristocracy has in many spheres could provide the leverage to encourage participation from village communities, as well as their overlords, local government and the army. The influence of the aristocracy would also lend weight to the outcomes of such negotiations. Given time, a process of arbitration between village communities and their tax collectors could not only reduce transaction costs, but also improve the accountability of tax collectors. ▽



dumba fishing. Consequently, the traditional administration resumed their allocation and taxation of *dumba* licenses and where disputes arose, the Nigerian army was paid to endorse the 'traditional' licences. *Dumba* fishing persists and local government has little control over it. Fisheries management, like the other modern administrative institutions at Lake Chad, cannot operate effectively because there is confusion over which agencies have jurisdiction over which areas. In addition, the formulation of regulations cannot keep up with the dynamics of the lake and the organisations charged with enforcement are so poorly funded that when their staff are in a position to enforce a regulation, their personal needs take priority. For example, to bring food home.

Although farm taxes are neither accounted for, nor invested in the communities which pay them, the understanding of all involved is that the way in which they are collected is an advantage. Most of the other taxes imposed at Lake Chad are not only illegitimate, but inconsistent too. The allocation of exclusive fishing rights is an example of this, as are the capricious demands for payments made at the

Footnote

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Disaster Management
and Regional Peace in
Southern Africa

FEATURE

BY ANTHONY TURTON

the **wet** summer of **2000**

The summer of 2000 was a strange one indeed. After a decade of drought in the early 1990s, the build-up to the millennium was characterised, at least for large parts of Southern Africa, by unusually wet weather. The rains were initially warmly welcomed by the population at large, who were used to living with water scarcity — when an occasional spell of abundance comes along, the people of Southern Africa tend to become overjoyed.

This soon changed, however, as the sheer magnitude of the rains became known. Flooding initially occurred at a local level, with informal settlements around Alexandra being heavily hit. These localised floods seemed bad enough, with some loss of life, but then the first line of defence — dams like Hartbeespoort — became full. Standard

management procedures for these impoundments dictates that the sluice gates should be opened before the dam overfills. This is done to ensure the safety of the structure, prevent erosion of the foundations, as well as any resultant catastrophic failure. Consequently, the torrent of water that swept down the Crocodile Valley shifted the focus of the flooding to farmland and rural areas. Still the rain continued and swollen rivers started converging as Mother Nature flexed her muscles. The water began to take on a new and angry mood. Reports began to filter in of towns in the Northern Province and Mpumalanga being cut off from the outside by swollen rivers. People referred to the damage in terms of a hundred million Rand and media reports said that about 60 bridges had been knocked out by the rain.



Rivers like the Limpopo, excited into an orgasmic frenzy, began to swell. Places where the river had previously been nothing more than a sandy riverbed, suddenly became kilometers wide. Large parts of the Kruger National Park were inundated with stranded tourists. Buildings were damaged and swallowed up by the hydraulic fury. And then it hit Mozambique!

The combined force of many rivers, all of which were swollen by week-long rains, joined on the lower floodplains and the river began to dance with awesome fury, as if relishing her newfound liberation. Hundreds of square kilometers of land were inundated, forcing people to flee for higher ground. Unfortunately, higher ground is non-existent on the floodplains, so the high ground took the form of trees. People clung to these as if their life depended on it, and it did. Slowly the world started to awaken to the sheer magnitude of the disaster and help began to materialise.

It was at this stage that serious weaknesses in the regional disaster management strategy became apparent. There was no early warning of the floods on a significant scale. I had stood on the construction site of the Maguga Dam in Swaziland during late January, where a spokesman for the project explained to me that they had encountered three flood events in January alone, with limited warning from upstream. When I asked the official if he had warned people downstream in Mozambique, he said that there was no one to phone. No structure existed. Even if it did, how would the message be relayed to the thousands of rural dwellers who were at risk? Alarm bells jangled in my head.

At the recent World Water Forum, which was held at The Hague in March, a World Water Vision was presented. The purpose of this was to establish the platform for integrated water resources management for the twenty-first century. Mozambique was on everyone's lips. Questions were asked and fingers were pointed. Some accused South Africa of causing the floods by opening their sluice gates. The hydropolitical debate changed overnight. Prior to the floods, this debate had centered on allegations that South Africa had too many dams and was capturing the resource base for their own exclusive use. To my surprise, Mr Cossa of the Mozambican delegation announced (during the Water for Peace in Southern Africa Panel) that more dams were needed for flood control measures. Thus, the debate changed from too many dams to not enough dams. I was even more surprised when another Mozambican delegate refuted the allegation that

South Africa had caused the floods by opening the sluices without warning. What we were seeing was the birth of a spirit of cooperation during a time of adversity. Perhaps the image of a SANDF helicopter plucking a mother and newborn child from the treetops, even as the bodies were being counted, was still fresh in everyone's mind.

That particular image was deeply symbolic. The birth of a child, while the mother was precariously balanced in a treetop – sharing her awkward perch with snakes, animals and all manner of nearly drowned creatures – showed us Mother Nature in her most awesome mood. The ravages of the floods, and the rejuvenation of life, were there for all to see. During times of great adversity, it seems as if we are all equal.

So what really happened? While this may take a long time for specialists to determine, I will venture an informed opinion on the matter. Firstly, the last 50 years have been characterised by dam building. Not just in Southern Africa, but all over the world. Once Hoover Dam had been completed on the Colorado River, which was a particularly tough river to 'tame', the world realised that they had discovered the technology capable of doing the trick. The flow of cheap and reliable electricity from Hoover Dam indicated that America could produce aluminum faster and cheaper than the Axis forces could — and this was significant. Author Mark Reisner, in his epic book *Cadillac Desert*, notes that Hoover Dam allowed the Allied forces to win World War II, simply by enabling more aluminum to be produced than anywhere else in the world. This gave the dam a political dimension, the stature of which was reinforced when it became apparent that its construction during the Great Depression had created thousands of jobs, and ensured political stability during a time of great uncertainty.

Consequently, other politicians wanted dams too. The technology which was developed at Hoover was exported and the era of large dams was thrust upon the world. Kariba Dam was built in order to 'tame the mighty Zambezi', and was followed by Cahora Bassa further downstream. Dams, such as ItheziThezi and Kafue, altered the flow regimes of major wetlands, forever changing ecological processes. Some authors refer to this as the birth of the so-called hydraulic mission of society, with its goal to get more water. More water created more jobs, which enabled industry and agriculture to develop, which required more water. Development, after all, is a noble objective indeed. Reisner



A flood victim of Mozambique's devastating flood damage is airlifted aboard a South African helicopter after being stranded on a rooftop west of Chokwe, close to the mouth of the Limpopo River

encapsulated the core theme rather eloquently when he noted that 'water flows uphill to power and money'.

However, the second variable then came into play. The half-century of frenzied dam building coincided with a period of relative drought. Relative is the operative word, because hydrological cycles are complex. Some cycles move in a 10-year oscillation, some in 50-year oscillations, and some in even longer cycles. Thus, while we had periods of relative abundance, the half-century was generally drier than before. Drought justified the need to build more dams, fulfilling the hydraulic mission of society. Thus, we had a coincidence of two critical variables: a period of major dam building activity, which coincided with 50 years of relative drought and tame weather patterns.

Now comes the third critical variable. Water, as it flows through the landscape, orders ecological processes. This is what most scientists focus on. Yet there is another key function at work here too, one that is less well known and is the focus of less documentation and research: the flow of water orders society too. The ancient Egyptians knew this — at least they did before they built the Aswan High Dam. The annual flooding of the Nile was a major social event. The river had religious symbolism and the pharaohs could allegedly command the floods, making them God-like in stature. Sandra Postel notes that the father of all Gods was Hapi, the God of the Nile, who (although male) was portrayed with breasts to show his capacity to nurture. These people learnt through the centuries that the



A woman wades through water where the floods of the river Limpopo destroyed the main road from Maputo to the north near the village Palmeira about 160 kms north of the capital Maputo

floods come at a certain time and that they had to move as a result. Then, just as the floods came, so they went again, leaving behind a fertile deposit of sediment. The pulsing of these regular flood events, like the comforting sound of a regular and healthy heartbeat, soothed the nation, sustained them and gave them life.

The same happened in Southern Africa. As the hundreds of dams were constructed — some big and some small — their combined effect was to drastically alter flow regimes. At the social level, the

combined memory of the people who used to move back and forth in harmony with the pulsing of the floods, was lost. People stopped moving and parents stopped telling children that this was what had to be done if you lived near a river. The case of Cahora Bassa is illuminating. Completed at the start of the civil war, the downstream islands became a place of refuge for war 'displacees' — better to tolerate the uncertainty of flooding, rather

than the near-certainty of death by gunshot. At least the floods were predictable. Bryan Davies notes that these islands consolidated with time and vegetation took root because the dam held back the scouring floods, which had previously altered the riverbed with regular monotony, transforming a temporary population into a permanent one.

Thus, we have a coincidence of three key variables: a period of unprecedented dam building, which coincided with a period of relative low flow in most river systems, which resulted in the obliteration of the social memory that people had to move back and forth when the floods came. The paradigm of living in harmony with nature gave way to the paradigm of controlling nature. However, nature occasionally resists this involuntary subjugation with awesome power, as we have just witnessed.

Possibly the best example of this control over nature, was the comment made by Charl Bruwer at Rhodes University: he was referring to the impact of the Pongolapoort Dam, when he said with considerable and well-deserved pride, 'I tamed Demoina!' Maybe he did, but only for the short-term. Nature works in longer time frames than humans do. Sometimes, just when we think we have won the battle to tame Mother Nature, she flexes a bit of muscle and throws us off her back again, as if to give a hint as to who remains in charge of the overall scheme of things.

So what lessons have been learnt? Clearly, we need to establish a regional, early warning system. This needs to be well coordinated, and staffed by trained and competent people. They would require data on which to base their interpretations, and they would need to process this data in a regular and coherent manner. Then they would also need to disseminate this in a credible way. It helps little if early warning signals are given out and nobody

believes the message. However, there is more to the issue than the aforementioned. Communication needs to be established between states, between government departments, and between a specific government and its people. This implies a massive adjustment of the current institutional structures that exist within the SADC. Significantly, the notion of disaster management is linked with early warning. On the flip side of the coin is the fact that disaster response is normally done via the military. Consequently, communication links, operational procedures and protocols need to be thrashed out and embraced, and the relationship between disaster management and military structures must be defined. What is certain, however, is that technical solutions which ignore social factors are doomed to fail.

In short, it is time that the SADC considered the establishment of a comprehensive disaster mitigation strategy. This should be based on solid information, disseminated via credible institutional arrangements, and should be non-partisan. As a point of departure, we need to develop a master plan – a sort of hotspot atlas – which would identify problem areas and assign degrees of risk to each identified area. This should be supported by a well researched mitigation plan, which should provide a blueprint for coping under conditions of adversity.

After all, the recent tragedy has shown that in times of adversity, people come together. Let us harness this positive energy and channel it into a regional cooperation that transcends politics and state borders. We can base peace creation on the common interests of all people – protection from disaster – and use this to foster additional, closer ties within the SADC. Just as that baby was born in the trees at a time of great uncertainty, so this event could be the start of a new form of cooperation, on an unprecedented scale, within Southern Africa. **A**

It is time that the SADC considered the establishment of a comprehensive non-partisan disaster mitigation strategy that is based on solid information and disseminated via credible institutional arrangements

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There are signs that the Nile states are getting their act together and considering cooperation again



BY JEROEN WARNER

FEATURE

Conflict on the nile

Relations on the Nile, which are tense at the best of times, have seen a deterioration in the 1990s. Egypt is holding its nine Nilotic neighbours in check, but Ethiopia, the source of most Nile water, is not going to let Egypt get away with it for much longer. However, with high-level World Bank involvement, there are signs that the Nile states are getting their act together and considering cooperation again.

History gave Egypt a head start over Europe: while Germanic tribes were still struggling, Egyptian pharaohs had already built their pyramids. However, being heir to one venerable civilisation is not enough for Egypt. Since 1997, it has been building a brand new one in the desert, 100 miles south of Cairo. The project's centrepiece is the Toshka Canal, which was launched on 9 January 1997. Water is to be pumped through the canal by a giant US\$571 million pumping station. The

mega-pipeline will siphon off surplus waters flowing in Lake Nasser.

The idea of a surplus sounds impossible for a country where it may not rain for years on end, and which is therefore desperately dependent on its upstream neighbours. However, 1998 saw a large flood thundering down from Sudan, requiring the floodgates to be opened at Aswan, much to the dismay of downstream dwellers. Also, with Lake Nasir silting up, the lake is bound to reach capacity level more frequently. The existing emergency spillway has been used on several occasions, but thus far the surplus water has been discharged more or less straight into the desert, although it has also been put to incidental agricultural use. The spillway then turns into a mini-lake. However, this irrigation plan will turn an exception into a rule: the new channel will bring 300 m³ a second into a whole new scheme.

The international scene has rallied behind the ambitious 'New Valley' project. The business community is ecstatic, especially now that Egypt has stepped up its liberalisation efforts: Sheikh al-Sayyid bin-Sultan Al-Nahayan, president of the United Arab Emirates, has already made a generous investment to enable the main cataract. Moreover, the Saudi prince and maverick investor, Alwalid bin Talal bin Abdul-aziz al-Saud, owner of KADCO, has purchased 100,000 acres in the New Valley for agrarian use. American investors are also reportedly throwing money at the project.

Plaudits from all around. However, one problem remains: the self-proclaimed 'new civilisation on the Nile' is to guzzle up about 5,5 billion m³ per year. The 1959 *Full utilisation of Nile agreement* between Egypt and Sudan gave Egypt 55,5 km² and Sudan 18,5 km² annually. This theoretically leaves 10 km² to the upper riparians who were not party to the talks. By claiming another 10%, Egypt seems to be pushing its luck.

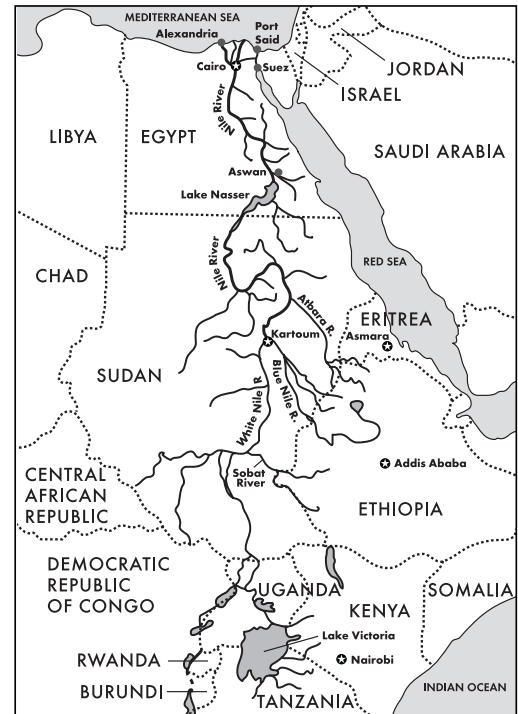
Granted, several riparians in the catchment area – from Burundi in Central Africa to Eritrea – have other water resources; only Kenya is seriously considering irrigation projects. Others are caught up in bloody wars, notably Sudan (with itself) and Ethiopia (with Eritrea). This enables Egypt to get away with using up even more than its share.

Still, if Egypt can only scrape by at a pinch, why would it set about a 'new civilisation' in the desert? Remember that this is not the first time Egypt has embarked on a grand reclamation project. The dream of 'greening the desert' has pre-occupied the Egyptians since ancient times. As colonial masters, the British tried to reclaim the desert first, but found it fiendishly difficult. Under Soviet tutelage, President Nasir tried his hand and his successor, Sadat tried again in the 1980s. However, according to Gilbert White, the renowned American geographer, only 5% of all 'new lands' are effectively under irrigation.

It is tempting to see 'Mubarak's Pyramid' in the New Valley, a prestigious French-style 'grand travail' on a par with the impressive works wrought by his predecessors, General Nasser (High Aswan Dam) and Anwar Sadat (Abu Simbel), as well as his Libyan neighbour, President Muammar Gadhafi (the Man-made River). The project's detractors within the Egyptian opposition have wasted no time in denouncing the project as megalomaniac and nepotist. However, its advocates claim there is an urgent practical reason for the mega-project: it creates some space to prevent social tensions as a

consequence of demographic pressure on a small strip of fertile land along the river. Each year, some 20,000 ha are lost due to urbanisation. Only 5,5% of Egypt's territory (an area the size of Switzerland) is inhabited by about 63 million Egyptians. The new project would quadruple the living space. It would enable seven million Egyptians to move into the New Valley, put 250,000 ha of land into production and create new tourist centres. The government's argument is that when you've got so much to bargain for, one should not quibble over the details.

One such detail is the question of whether or not there will be enough water to go round. Admitting imminent shortages would result in a loss of political face. Therefore, however urgently the academic community may sound alarms about



water shortages, the Egyptian state will persist in denying them. 'The idea that there should be a water shortage is absurd,' says an expert with the Ministry of Public Works and Water Resources. Egypt's government clearly wants to be seen as capable of taking care of its citizens' every need, and has been able to accommodate them through a number of visible and not-so-visible policies. The Aswan Dam captured the nation's imagination, tiding Egypt over eight years of drought (1980-1988). However, on a 'quieter' level, the country has also

slowly changed from a net exporter of food to a mass importer of food, which is distributed to the urban population at subsidised prices. True, it still amounts to a billion dollar price tag, but it saves the country from having to mine its groundwater or claim more Nile water. Strangely, Egypt has also been a major recipient of US food aid and has also benefited from low world grain prices. In light of this, the trade-off doesn't seem so bad at all.

The authorities will admit, however, that the water can and should be used more efficiently. Of the 85% taken by the agricultural sector, a high percentage is lost because of inefficient sheet irrigation practised by the *fellahin*. On the one hand, Egypt has pledged conservation and rationalisation measures, and seeks to phase out the most water-intensive crops (rice and cotton) from its arable output. On the other hand, the settlers are not expected to pay for the water and are not seriously contemplating 'demand management'. Egypt will economise, recycle, and modernise. However, will Egypt accept a shortage? Never.

Not only has Egypt embarked on conservation measures, but it has also made known that it expects dividends from Nilotic cooperation. Egypt believes billions of litres are going to waste upstream due to evaporation and a lack of proper regulation. The country stands to gain from any coordination plan. However, thus far, Egypt has not been lucky pressing other regional solutions that would be of structural benefit to the country. Bold ideas for an electricity grid, spanning from Lake Victoria to Lake Nasser, as well as a storage scheme in Lake Tana, were mooted within the framework of UNDUGU ('brotherhood'), a consultative body initiated and, some would say, dominated by Egypt. So far, little has materialised from these ideas. A more recently established forum for technical cooperation, TECCONILE, launched a similarly ambitious Nile Basin Action Plan (NBAC). Together with the Canadian International Development Agency (Cida), the World Bank is now more than ready to throw its weight behind the venture. After a series of public relations disaster[s], this opportunity seems too good to be true.

To multilateral agencies the New Valley project also has some very attractive advantages. No social upheaval or environmental damage will be caused, so no one is likely to take to the streets in protest, as happened with the Narmada Dam in India, the Arun Dam in Nepal and so many others. No people will have to be resettled from the area. Rather, they are to move into the region from the densely popu-

lated strip along the Nile that houses about 60 million Egyptians. No forests, wetlands or archeological sites are at risk — the project site is all desert. Come to think of it, that could also be a disadvantage. How many people will leave bustling Cairo for an existence in the stifling heat of an isolated area, and how many tourists will want to go there? Such questions do not worry the minds of the bullish officials. As one official put it, 'whoever questions the New Valley, questions the interests of Egypt.'



Two women walk to fetch water delivered to the town of Danan some six hundred kilometers south-east of Addis Ababa. Eight children are dying every day from famine in Ethiopia's remote Ogaden region. Close to eight million Ethiopians are threatened by drought and will need food aid this year after a string of failed rainy seasons

The World Bank is in no mood to question it, either. 'The World Bank now needs Egypt more than Egypt needs the World Bank,' says Professor J Anthony Allan, who is with the School of Oriental and Asian Studies in Central London. The World Bank is in a 'catch 22' situation regarding two of its own, apparently sensible policies. Firstly, it will not fund regionally controversial projects. That sounds excellent — nobody wants to see a war over water. However, getting the World Bank (the developing world's biggest lender) to veto a project gives co-riparians a political instrument to hold the initiator to ransom.

Secondly, local protests against mega-dams have made the World Bank reconsider its policy, as well as the tightening of social and environmental standards. While NGOs are much happier about World Bank policies now, some recipient countries are not, and are pressing on with their projects without World Bank funding. For example, the World Bank was never enthusiastic about Turkey's Güneydolu Anadolu Projesi (GAP), a 21-dam, 19-hydroplant project to develop Southeast Anatolia. The Bank chose not to get involved. While the GAP project was undoubtedly an economic boost to an impoverished region, it also looked like it would take away substantial percentages of water from Syria and Iraq. In addition, the project is sited

in a region that is still partly under emergency law as a result of an ongoing battle against the militant Kurdish workers' party, PKK, which does not like the GAP one bit. Sensing the mood at the World Bank, Turkey shrugged its shoulders and emptied its own coffers to get the project on-stream. When the money ran out, Turkey started liberalising its water sector to attract foreign lenders. India seems to have opted for the same way out regarding its controversial Narmada Dam.

No such troubles seem to beset the Toshka project — if only the riparians were willing to settle their differences. The Ethiopian unease about the New Valley is an unwelcome reminder that the Tushka project is not beyond criticism. As we shall see, that problem won't be easily spirited away.

In light of the fluvial politics of the past few decades, claiming an extra 10% of the present Egyptian water budget sounds like a particularly bad joke. Egypt, which is already using up more than its share, may be banking just a little too heavily on the fact that war-torn Sudan has not been able to use up its quota, and Ethiopia is embroiled in a war with Eritrea.

Can Egypt keep getting away with this gambit? Maybe it can. It has so far. Colonial history certainly gave Egypt a head start over its nine neighbours. When Egypt was still under British rule, the



A pastoral woman moves her camels away to draw rain water for drinking as she and her family chase rain clouds along the road to Filtu about 1,000 kms south east of Addis Ababa

English sought to secure the continued production of cotton for its Lancashire mills. Keeping Egyptian production going was of great concern to the British, which led them to exact rather unfavourable treaties with upstream states. For example, Ethiopian King Menelik II was forced to sign away the right to 'arrest' the waters of the Nile. Almost a century down the road, Egypt still clings to this document. Unsurprisingly, Ethiopia is outraged by the situation, especially as the country

was so tantalisingly close to developing its own waters in the 1960s.

In 1957, General Nasir turned to the Soviet Union to secure funding for the Aswan High Dam. Sensing the loss of a bridgehead in the Middle East, the Western powers decided to support upstream Ethiopia. In the early 1960s, a flock of American consultants descended on Ethiopia to advise Emperor Haile Selassie on the development of the Blue Nile. Between 1958 and 1963 a plan for no less than 33 dams was developed. However, the scheme was never realised. Both states changed their political colours in the early 1970s: while Egypt returned to the Western camp, Ethiopia joined the socialist camp after a bloody coup.

During Mengistu's reign of terror, a shouting match erupted over the Nile. Under President Sadat and Minister of State Boutros-Ghali, Egypt warned Addis that it was prepared to declare any Ethiopian water diversions a *casus belli* — a reason to go to war. Mengistu retorted that the Nile belonged to Ethiopia. Luckily, it remained a war of words. After the Mengistu government was deposed, relations between Ethiopia and Egypt seemed to warm. Contrary to Sudan, Ethiopia hardly has a political or economic history with Egypt, let alone any differences, although Ethiopia dreaded Egyptian support for Somalia during the Ogaden war.

However, Ethiopia started to remind Egypt of the fact that it is not just home to the headwaters of the Blue Nile (which contributes about 60% to the total flow), but also the Atbara and Sobat (both the White Nile). In total, all these waters make up 86% of the Nile. An increasingly self-confident Ethiopia has now called for the revision of the 1959 treaty. 'It is time to build dams,' said Foreign Minister Seyoum Mesfin.

However, that is more easily said than done. Quite apart from controversial colonial treaties and questionable threats, there is the question of funding. The key donor, the World Bank, will not fund regionally controversial projects. Egypt has so far managed to stop big international donations for Ethiopian projects. However, Ethiopia has hit on a novel idea. As the country is too poor to build big dams, the country have embarked on a series of more than 1,000 small-scale structures. The advantages of a micro-dam strategy for Ethiopia are obvious: you don't need international funding; they are hardly vulnerable to military attack; and the cumulative downstream effects are hard to prove.

To Ethiopia, the Toshka Pipeline seems to be

mainly an economic counter-offensive. Each country certainly suspects the other of seeking to strengthen its hand in the negotiations by diverting water, which could later count as 'prior use'. Such claims are only too happily snapped up in a general atmosphere of distrust. For example, last year an Egyptian newspaper published allegations of an Ethiopian joint venture with Israel which would undermine Egypt's share of the Nile.

With so much acrimony on the Blue Nile, Ethiopia could choose to ignore the potential for cooperation and concentrate on the White Nile. However, as the White and Blue Nile join forces at the Sudanese capital of Khartoum, Sudan's cooperation is crucial to any Nile project. Unfortunately, Egypt and Sudan have a significant amount of unfinished business, including the contested province of Halaib, which is now part of Sudan. Things went horribly wrong for their most promising collaborative project, the Jangali (Jonglei) Canal. The French-built bypass from Bor to Malakal would significantly improve navigation between north and south, and would bring an extra four billion square meters of water into Egypt each year. However, the Jonglei Canal, which was started in 1976, became a flashpoint of conflict in the struggle between the Islamic North, and the Christian and animist South. Armed attacks by SPLA (John Garang's liberation movement) to stop construction works were successful. Work on the canal ended in 1985 and the project remains incomplete.

Things have gone from bad to worse since then. After the fundamentalist Islamic revolution, which ousted Numeiri in 1985, relations between Egypt and Sudan are almost back to square one. The Sudanese government is not above sheltering fundamentalist organisations, including Egyptian ones. In 1995, Egyptian President Mubarak barely survived an assault in the Ethiopian capital of Addis Ababa. Egyptian and Ethiopian fingers pointed to the Sudanese government. Sudan responded by calling off the Nile treaty. Sudanese leader Hassan al-Turabi declared that 'Sudan has full control of the Nile.' A seething Egyptian Minister Muhammad Mussa retorted that 'if Sudan wants to play with water, it is playing with fire.'

Clearly Egypt could not afford to have souring relations with both Sudan and Ethiopia. Consequently, isn't this collision course rather unnecessary and even silly? Conceivably the leaders of each of the states would privately agree it is, but there is political capital in playing the 'water

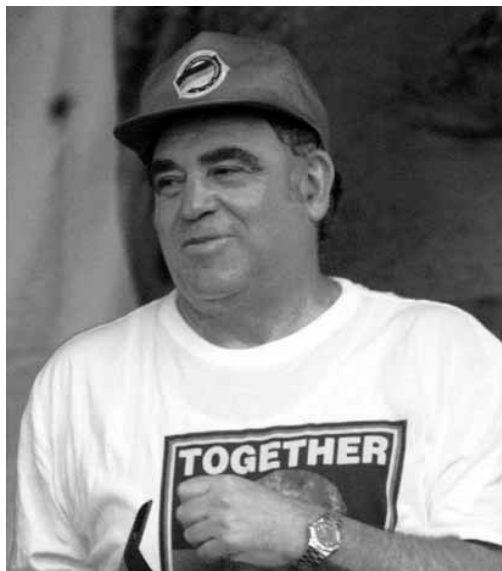
security' card. Certainly this is the case domestically, where 'development' and a common threat are powerful legitimacy generators. However, internationally there appears to be a niche too, as multi-lateral donors find it increasingly hard to 'do the right thing'. The collision course over the Nile has not gone unnoticed by the international community. Water scarcity, it is feared, could be an occasion for violence between nation states now that the Cold War balance of power is no longer present. Without exception, the Nile is cited as a likely trouble spot in the flourishing 'water wars' literature.

The Clinton Administration has risen to the occasion by making 'environmental security' part and parcel of its new security policy. Since the milestone 'Environmental Diplomacy' document, the United States have earmarked a number of problem areas as '*environmental hubs*'. The Ethiopian capital, Addis Ababa, is one of those focuses of high-level diplomatic attention.

The World Bank obviously does not think this a trivial dispute either: the Bank's toposhot, Wolfensohn, is forever shuttling between Addis and Cairo to mediate. The pole position taken by Egyptians in international organisations (most notably Ismail Serageldin at the Bank) cannot be wholly incidental. The World Bank seems desperate for something to succeed and will be willing to pour substantial funds into any promising plan.

Could it be, then, that both countries are well aware of the World Bank's problem and have used their sabre-rattling to attract its attention? Whatever the motive, the last few years have shown some hopeful signs. In 1998, a shuttle diplomacy between Cairo and Khartoum was resumed and Sudan extradited a dozen Islamic activists to Egypt. There is some movement on the Blue Nile, too. Ethiopia finally patched up its strained relations with Sudan in 1999. During the same year, a Nile-COM meeting in Addis Ababa brought together all the Nile countries (with the notable exception of Eritrea) for a Nile Basin Initiative. The three countries are reportedly studying ways of exploiting the White Nile, as well as its tributaries.

While there is obviously no going back on either the Tushka scheme or the micro-dams, it seems both antagonists will have to tone down the scale of their schemes and get on with their lives. For the long term, however, something more drastic will need to be done. However, that won't just be about better regulation — it will necessarily involve a rethink on economic development and political relations. ▀



Anthony Turton, Head of the African Water Issues Research Unit (AWIRU) at the University of Pretoria, spoke to Ronnie Kasrils, South African Minister of Water Affairs and Forestry

INTERVIEW

BY ANTHONY TURTON

water

not a major security issue

Mr Turton: The World Water Vision that was presented at The Hague in March 2000 endorses the concept of full cost recovery. You went on record as being opposed to this. This places you at odds with the emerging global opinion on how water resources should be managed. What are the implications of this for countries that are undergoing rapid development, and why were you so adamant in your opposition?

Mr Kasrils: There is huge confusion, in the minds of many commentators, between water resources (crudely, water in rivers) and water services (water in pipes). Most water resource use goes to agriculture, mining and manufacturing, and high levels of urban services. It is critical that this resource use is guided by economic principles, both to protect the resource and to ensure that economic and social development is supported. The use of water to meet basic needs is a separate issue. It repre-

sents a tiny fraction of water used in most countries — 1% to 2% in South Africa. To apply economic resource allocation principles is largely irrelevant to better resource use. It can, however, mean the difference between life and death for the poor. My objection to full cost recovery is its application to this group, and in this, I believe South Africa has wide support from developing countries — as well as from many groups in the developed world. There is thus no conflict, but rather a confusion in the minds of commentators, which arises from conflating natural resource allocation in the economy with social policy to address the needs of the poor.

Mr Turton: In the recent past, Southern Africa has been rocked by a series of environmental catastrophes in one form or another. Most of these have been responded to by the military establishment, purely because they have the capacity to do so.

Do you see a role for a regional response to these problems in future, and if so, what institutional arrangement do you feel is the best to manage this response?

Mr Kasrils: The response to disaster, both natural and man-made, is guided by our disaster management policy at both a national and regional level. The use of military resources is one element of this, but the key issue is to ensure that there are effective policies and management structures in place. Within South Africa, this has already been achieved and good progress is being made in establishing regional systems under the aegis of the SADC.

Mr Turton: Water scarcity is a growing problem for many countries within the SADC region, making it a common problem that crosses international borders. In other parts of the world, water scarcity has resulted in conflict. What do you think needs to be done at a regional level to prevent conflict from erupting, and thereby fostering cooperation instead?

Mr Kasrils: While it is commonly stated that there is water scarcity in Southern Africa, this is often exaggerated, as is the linkage to common rivers. Water shortage is often a local phenomenon, linked to a lack of finance to support the development of schemes to obtain reliable water supplies from a very variable resource, or to transfer water from one location to another. Most of the region uses less than 10% of its available water.

Thus, the greatest physical scarcity in terms of m³ per person is in Malawi. Apparently dry countries, such as Namibia and Botswana, have greater per capita water resources. The issue they confront is whether they should continue to allow the majority of their water to be used to sustain the ecosystem of the Okavango Delta, or whether some could be used for other purposes. Mechanisms are being put in place to address these issues. Only South Africa is using a large proportion (perhaps 50%) of its available water and we already have policy in place to live within our means. In addition, structured agreements with our neighbours are either in place, or well-advanced in development within the framework of the SADC Shared Rivers Protocol, and we do not foresee conflict over water erupting in the region.

Mr Turton: A critical component of water scarcity is population growth, with some commentators even saying that water scarcity is not a problem *per*

se, but the manifestation of the population problem. If the population doubles with a constant supply of water, the volume of water per capita is halved. Many studies have shown that where population growth is rapid, the government needs to launch mega-projects to kick-start their respective economies and ensure a supply of potable water. These mega-projects are often contested, however. Do you feel that the population issue, as a fundamental driver of water scarcity, is receiving sufficient attention, and if not, what should/could be done about it?

Mr Kasrils: I thought we had moved beyond the population debate! Surely, the issue is development. Our challenge is to ensure that the development we achieve reflects our resource constraints, and South Africa's water policy is a good example of this. If there is a population challenge, it is the opposite one. HIV/Aids is going to radically change population growth in the region and will also impact on development. This will reduce pressure on water resources, but may also reduce funding for projects to use the water we have in the region.



World Water Council Chairman Abu-Zeid speaks at the opening ceremony of the Second World Water Forum in The Hague

Mr Turton: A characteristic of Southern Africa is the development of mega water projects. A hydropolitical map of the region shows how major

pipelines are snaking across the continent, moving water from where it is found to where it is needed. A recent report even suggests a pipeline from the DRC to Namibia on the one hand, and to the Red Sea on the other. As these pipelines get longer, and as the respective economies become more dependent on the water that flows through them, they also gain in strategic importance. One could thus argue that there is an emerging hydropolitical security complex within the SADC, with most of the more developed states in the region relying increasingly on the water for economic growth purposes. Do you feel that water is sufficiently important to be viewed as an object of regional security concern, and if so, how do you feel this should be dealt with?

Mr Kasrils: My strategic view is that water is not a major security issue. Unlike power systems, water systems are far less vulnerable to interruptions and are more tolerant of weak management. What we have demonstrated is that projects, such as the Lesotho Highlands Water Project, Kariba, Cabora Bassa and Komati, offer foci for cooperation and development. Proposals for projects linking the DRC with Southern African countries should be viewed in this light as opportunities for cooperation, rather than as security challenges!

Mr Turton: The global water sector has been undergoing a series of significant changes that affect the normative component of water resource management. An element of this transformation is the emergence of privatisation initiatives in one form or another. Private sector involvement suggests that profits can be made by providing a resource that some may feel is their basic human right to receive. What role do you see for the private sector in water service provision within the context of a developing continent?

Mr Kasrils: Again, there is confusion between the water services and the water resource issue. Water services privatisation is not a regional or a resource issue, and should more properly be dealt with as an issue of economic policy. What should be noted is that the engagement of the private sector is critical in the large scale development of water resources, as has been demonstrated by the Lesotho Highlands Water Project, where R12 billion has been raised from users without recourse to the Treasury.

Mr Turton: The notion of an African Renaissance is reverberating around this continent in various forms. Central to this notion is the expectation that

government will be responsible, accountable and transparent. What role do you see for the water sector within this broader African Renaissance theme?

Mr Kasrils: As I have already indicated above, I see the water sector as a focus of cooperation in Southern Africa, and beyond. As such, we are integral to the emerging African Renaissance.

Mr Turton: In the Netherlands, early forms of democracy developed because of the common need to manage water. There is thus a direct link between effective water management and democracy. Democracy is also an emerging issue in Africa, with a number of states having embarked on this road. What role do you feel water has in deepening the democratic experience in Africa, and how can this be fostered?

Mr Kasrils: In the Netherlands, democratic local government emerged around the need for communities to cooperate to protect themselves against flooding. In Britain and elsewhere, local government emerged to protect public health through service provision. The Department of Water Affairs and Forestry's Water Service Programme is consciously designed to support the development of local government in a very practical way, promoting participation and good governance through the provision of essential public services.

Mr Turton: The South African Water Law is regarded as being very progressive. Two elements of this are relevant to this question. Firstly, an aspect of the legislation refers to the fact that South Africa intends to be a good neighbour. How does South Africa intend to implement this, in light of the fact that some co-basin states may be unhappy with the existing status quo regarding water apportionment? Secondly, the South African law recognises the environment as a rightful user of its own water, and goes so far as to protect this as one of the few rights *per se*. What is the rationale behind this, and why is it relevant to a developing region?

Mr Kasrils: I have already addressed the mechanisms we are putting in place in respect of shared rivers (Q.3). With respect to the environmental elements of our legislation, the establishment of the concept of the reserve is recognition of the imperative of our Constitution. The approach taken provides a practical mechanism to achieve sustainable development and use of a fragile, if renewable resource. This is essential if we are to translate the ideal of sustainable development into reality. ▲

ACCORD hosted the
6th Annual Conference of the
International Association of
Peacekeeping Training Centres
(IAPTC) in June 2000



BY ASA EKVALL

CONFERENCE

This was the first time that an IAPTC Conference was held in Africa, and comes at a time when South Africa is starting to assume a more prominent international peacekeeping role. The conference was hosted in collaboration with the South African National Defence Force and the South African Department of Foreign Affairs.

Some 78 participants from 24 countries attended the conference to discuss and debate issue relating to Regional Cooperation and Partnerships for Peacekeeping Training. 'ACCORD's main focus in our year as President of IAPTC, has been to encourage and facilitate greater participation by African peacekeeping training centres', said Cedric de Coning, ACCORD's Programme Manager for Peacekeeping. 'We achieved this goal with more than half the participants being drawn from African countries'.

The IAPTC is an open and voluntary association of individuals, centres, institutions and programmes dealing with peacekeeping research, education and training.

In addressing the conference, keynote speaker Lt. Gen. Giulio Fraticelli, Military Advisor to the Secretary General of the UN raised the issue of what the UN expects of units and individuals that are deployed in the field. He touched on the need for a process to ensure compliance with UN expectations and requirements. Furthermore, Lt. Gen. Fraticelli said that there was a shortage of willingness to participate, a lack of general readiness and a lack of understanding of what is involved and what is expected in peacekeeping operations among the UN member states.


'The keynote address highlighted the importance of IAPTC and the work of its members in their respective countries and regions in preparing countries for peacekeeping operations', said de Coning.

During discussions on regional cooperation, Commander Lars Brakestad of the Norwegian Defence International Centre presented a case study highlighting the high level of cooperation among the four Nordic countries, while Col. Daniso Muziri of the Southern African Development Community Regional Peacekeeping Training Centre (RPTC) presented the SADC's experience. He highlighted that in the SADC region most UN peacekeeping training takes place at the RPTC.

Furthermore, the sub-region has also cooperated in two major peacekeeping field exercises.

The issue of certification and validation of peacekeeping training centres was hotly debated with the discussion departing from the understanding that peacekeeping training was a national responsibility. The Special Working Committee, which was established to consider issues of minimum standards and guidelines, is expected to report to IAPTC membership and the UNDPKO within the next 12 months.

Conference delegates also stressed the importance of joint military-civilian training as a means to improve the individual and collective output of peacekeeping training in the different components.

The success of the conference was twofold — both in evaluation of peacekeeping training that will result from the discussions and in the diversity of participation which created a unique platform for interaction and networking. 

Pillar of Sand: Can the Irrigation Miracle Survive?

New York & London: WW Norton & Co, ISBN 0-393-31937-7

In her book *Pillar of Sand*, Sandra Postel's contribution is rather unique. She combines well-crafted language and solid primary material with deep insight, making the book easy to read. While her Malthusian-style may open her to criticism, she has worked skillfully.

The central tenet is that current thinking behind irrigated agriculture is fundamentally flawed. This is significant because much of the current international water discourse is centered on expansion in the irrigation sector. In fact, many developed countries often consider this to be a fundamental component of their development strategy. Postel turns to history to show that every great irrigation-based civilisation of the past has ultimately failed. The inescapable culprit in this regard is salinisation, which is a fundamental product of nature. In this sense, the *Pillar of Sand* is similar to Mark Reisner's classic *Cadillac Desert*. This angle of attack is bound to raise eyebrows in the hydropolitical environment, because the vested interests of commercially irrigated agriculture are enormous. The irrigation paradigm seems to be so deeply entrenched in development circles that it appears almost untouchable — a real holy cow.

The issues Postel raises as components of the solution are rather profound, and are uncommon in most hydropolitical texts. Firstly, she does not attempt to attack the irrigation debate directly, suggesting instead that irrigation is still necessary, but that the emphasis should move away from mega-projects towards micro-projects. This is more environmentally friendly, contributes to food security at the household level and does away with some of the damaging components of the large dam debate. However, this has major implications for planners and decision-makers in developing countries. Secondly, she delves into the very thorny issue of allocating water to the most economically efficient sectors. This is an extremely complex issue and is avoided by most authors. While she does not use the technical terminology for this policy choice (inter-sectoral allocative efficiency) — probably

because the book is not aimed at the specialised policy analyst — this remains the thrust of her argument. If one considers the fact that the flow of water through society orders social, political and economic relationships, this becomes a crucial point for policy-makers to understand. Traditionally, the industrial sector makes far more efficient use of water than agriculture does. Rationality therefore implies that under conditions of chronic water scarcity, decision-makers would allocate less water to agriculture and more to industry. However, this has major political ramifications, as it implies a fundamental restructuring of society, with implications of this being felt in the rapid expansion of cities to accommodate rural 'displacees'. Whilst these implications are not all identified and worked through to their logical conclusion, the text remains valuable simply for raising them in the first place.

In light of this, Postel brings into focus the Water Wars debate, identifying two broad scenarios. The first consists of the conflict between food production and water usage for urban and environmental purposes. This is central to the inter-sectoral allocative efficiency issue noted above. The second consists of the conflict between irrigation and the politics of scarcity, where Postel concludes that 'whether international or domestic, tensions over water scarcity have the potential to incite civil unrest, spur migration, impoverish already poor regions, and destabilise governments' (Postel, 1999:162). In this regard, she alludes to the development of a new security paradigm, involving the politicisation of the environment and water at a global level. One logical outcome of this would be the development of environmental diplomacy as a new form of interstate interaction.

The book is an excellent read and is not specifically written with only the hydropolitical scholar in mind. Readers with an interest in development, politics and environmentalism will find the text rich with new ideas that will undoubtedly shed light on an issue that is increasing in importance for countries in drought-stricken parts of Africa. ▲