Abstract

On 4 April 2002, an historical ceremony at the National Assembly in Luanda officially brought to an end the longest running high intensity conflict in Southern Africa. The signature of the Memorandum of Understanding by the military leaders of the two belligerent parties and their unequivocal commitment to the 1994 Lusaka protocol paved the way for what many analysts considered the most promising window of opportunity for the resolution of Angola’s civil war of nearly three decades. In fact, for the first time in years, the majority of analysts, policy makers (Angolan and foreign), donors, non-governmental organisations and humanitarian agencies agree that a return to war by UNITA is not only unlikely, it is a logical impossibility. The end of the war in Angola poses a number of interesting questions regarding its relations with its neighbours, in particular, interstate cooperation in issues of strategic importance for the region. Among these, cooperation around the Okavango River basin, involving Angola, Namibia and Botswana, currently assumes particular relevance. Rising in the Angolan highlands, the Okavango River basin covers an area of 200,192 km², most of which is located in Angola. However, very little is known about water use in the upper catchment area, largely a result of the fact that the province of Kuando-Kubango has been inaccessible due to the war and no in-depth studies on water usage have so far been carried out. Moreover, while Angola will not face water scarcity problems in the foreseeable future, the Okavango River basin is unlikely to fulfil the combined water demands of Namibia, Botswana and a peaceful Angola. Paradoxically, while peace in Angola will allow for much needed development of Kuando-Kubango – possibly entailing changes to the upper reaches of the basin – these may negatively impact the Okavango River system, affecting the two other riparian states. As a consequence, stakeholders are taking a keen interest in Angola as it emerges from war, contemplating whether its medium term development plans will require significant increases in water use and whether these could have negative environmental consequences.

Introduction: The end of war in Angola

On 4 April 2002, an historical ceremony at the National Assembly in Luanda, Angola, brought to an end the longest running civil war in Southern Africa. The
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Map 1
Angola showing provincial divisions in the Okavango basin region

signature of the Memorandum of Understanding by the military leaders of Union for the Total Independence of Angola (UNITA) and the Angolan Armed Forces (FAA) and their unequivocal commitment to the revival of the 1994 Lusaka protocol paved the way for what many analysts considered the most promising window of opportunity for the resolution of this 27-year civil war. At the time of the signature of the memorandum, there was a general perception that this classic textbook case of complex, deep-rooted and protracted conflict was coming to an end. This perception was based on UNITA’s impending military defeat after more than two years of unstoppable FAA advance; its leadership crisis following the death of Jonas Savimbi and other prominent UNITA leaders and, finally, UNITA’s realisation that this could be its last opportunity to secure a legitimate political role in Angola’s future.

Today, a year after the signature of the memorandum, a clear picture has surfaced of the extent and nature of the tasks needed to sustain and deepen Angola’s recently won peace. Moreover, the various cycles of war fought in Angola since its independence in 1975 have destroyed its economy and infrastructure, leaving the majority of Angolans destitute and impoverished. The viciousness, severity and duration of armed conflict in this Southern African country has left in its trail more than 1.5 million casualties, four million internally displaced people (a third of the population) and close to half a million refugees in neighbouring countries. The sheer magnitude of the combined challenges facing Angola is, not surprisingly, difficult to grasp: “[A]lmost 80,000 former UNITA soldiers and around 360,000 of their family members must be reintegrated socially and economically, as must the 33,000 troops due to be demobilised from the Angolan Armed Forces. Millions of internally displaced people, as well as the hundreds of thousands of refugees outside Angola’s borders, who have begun returning home spontaneously and through official movements, must be assisted to rebuild their homes and livelihoods. State administration must be extended and strengthened in all areas of the country, as we have pointed out elsewhere. State administration must be extended and strengthened in all areas of the country, and Angola’s shattered infrastructure rebuilt from its current pitiful state” (Porto & Parsons 2003).

At the time the war ended, the overarching priority of the government of Angola was the quartering, demilitarisation and demobilisation of UNITA’s armed forces. As a result, the Memorandum of Understanding was solely designed to deal with the military and security aspects of the conflict, regulating in detail the various steps necessary for the demilitarisation of UNITA. The parties did not feel the need to renegotiate previous peace accords (the 1991 Bicesse peace accord and the 1994 Lusaka protocol), and the memorandum was developed to deal with “all outstanding military issues under the Lusaka protocol.” The quartering, demobilisation and disarmament process of UNITA began following the signature of the memorandum in April 2002 and, five months later, the parties announced that it had been successfully completed and that only the socioeconomic reintegration of UNITA’s armed forces remained. On a political level, several observers interpret this as evidence of considerable and credible political will shown by both the government of Angola and UNITA to conduct this process successfully. In fact, UNITA’s Management Commission (the structure created to lead the movement after the death of Jonas Savimbi) was consistent in its desire to put an end to the war and comply with its obligations under the Memorandum of Understanding. No breaches of the ceasefire were officially reported and the quartering, demobilisation and disarmament of UNITA’s military forces proceeded largely in an orderly fashion. Nevertheless, and to a large extent, this was a result of the military conditions prevailing at the end of the war. At the time of Jonas Savimbi’s death on 22 February 2002, UNITA’s military forces were severely weakened, its regional commands uncoordinated, with its troops facing critical shortages of food and fuel supplies, among others. War weariness, disorientation at the loss of its top leadership, hunger and disease left UNITA with no alternative but to sit at the negotiation table and swiftly agree to a comprehensive
ceasefire agreement in Luena. That the implementation of the Memorandum of Understanding proceeded at a similar pace should therefore not come as a surprise, for the same conditions apply.

Several timetable revisions notwithstanding, the fact that the quartering, demobilisation and disarmament process was observed should therefore not be taken as definitive and conclusive proof that the Angolan peace process is progressing swiftly and unhindered. The successful completion of this process, particularly the socioeconomic reintegration of former combatants to begin in June/July 2003, indicates at best that this process is taking its first steps. Taken as one among several of the conditions necessary for sustainable peace in the short and medium term in Angola, the resolution of the military aspect does not in itself provide protection from potential pitfalls that may undermine the successful completion of the peace process in Angola. This should not be taken to imply that there is a possibility of a return to war in Angola. In none but the most unrealistic scenarios is the possibility of a return to large-scale war in Angola discussed. In fact, for the first time in decades, the majority of analysts, policy makers (Angolan and foreign), donors, NGOs and humanitarian agencies agree that a return to war by UNITA is not only unlikely this time, it is a logical impossibility. Nevertheless, the presence in gathering areas of close to 105,000 former combatants and 360,000 of their family members (March 2003) poses challenges of a security nature that require serious and steadfast attention by the government. That a number of incidents of localised crime and banditry have been reported is evidence of this.

Angola’s challenges are as great as they are varied. The resettlement of the internally displaced, the extension of the central administration to areas previously controlled by UNITA and the socioeconomic reintegration of former combatants are, among others, priority activities. Only after these are tackled will the government of Angola be able to address development priorities. Some of these will be discussed below.

**Angola’s structural indicators of crisis**

“[W]hile the war has unquestionably been the single most important constraint on development, as well as the immediate cause of the humanitarian emergency, other factors, of an institutional and policy-related nature, have exacerbated the serious situation experienced by Angola’s people. The new situation therefore requires two types of action. The first is a series of peace-building measures in the short to medium term, aimed at promoting national reconciliation, demilitarisation and recovery. Second, however, there is an urgent need for policy reforms and institutional measures, including measures regarding the management and allocation of public resources, in order to address the other deep-seated problems that have contributed to the situation of economic malaise, widespread poverty, high mortality and social exclusion” (UN 2002).

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as bad policy choices at central level. These have resulted in escalating macroeconomic instability. According to the Economist Intelligence Unit, Angola has 2.1% of real gross domestic product (GDP) growth and a consumer price annual inflation of 325%. The bulk of Angola’s GDP, however, is related to the off-shore oil industry, which contributes 60.3% to GDP, as will be discussed below.

Both the oil sector and the diamond sector have grown exponentially in the last 30 years, making Angola one of the largest diamond producers and the second biggest oil producer in sub-Saharan Africa. The oil sector, in particular, has benefited from a number of new discoveries placing Angola in the coveted position of having the largest reserve growth in the world and putting it in the first place among the world’s top 15 oil finders. A vast number of oil companies are involved in Angola’s oil business, and side by side with the supermajors (Total Fina Elf, Chevron, Exxon Mobil, British Petroleum, Texaco and Shell), a large number of independents (ENI, C-T, BHP, Ranger, Conoco, Ocean, ROC, PetroGal, among others) are involved, as well as a number of national oil companies. Production forecasts for 2001 were 755,000 barrels per day, 1.4 billion barrels per day for 2005 and 1.8 billion barrels per day for 2008, placing Angola among the world’s top producers of oil. Coupled with an important number of new discoveries, the opening of the Girassol field has substantially increased production levels. In addition, the projected construction of a new refinery in the coastal city of Benguela with a forecasted production of 200 million barrels per day has created new opportunities and excitement around this very lucrative and dynamic sector. Furthermore, the government’s intention of developing natural gas exploration with the construction of a liquefied natural gas (LNG) terminal in Luanda has made this a very attractive business opportunity for foreign investors.

Yet, although Angola’s oil sector has operated with considerable success for the last three decades and has been relatively unaffected by the war, its growing revenues have not trickled down to society as a whole, having been used to finance the war effort to the detriment of all other areas. Controversy surrounding extra-budgerary spending and the lack of transparency in public finances (particularly in the oil business) have prompted strong international pressure from bilateral donors as well as the Bretton Woods institutions (the World Bank and the International Monetary Fund) for greater transparency in public finances. The government of Angola finally agreed to a nine-month staff monitored programme (SMP) in April 2000, which was subsequently extended to June 2001. While the findings of the programme reflect the central challenge facing Angola, the pace of state reform has been disappointingly slow and macroeconomic stability, as well as greater transparency have not been attained.

Nevertheless, while the oil industry has consistently grown, the formal economy in Angola has progressively shrunk, and is at present largely dysfunctional and stagnant. As a consequence, the informal economy – and therefore the non-regulated sector – has grown exponentially. A paradigmatic example is the largest open-air market in Africa, the Roque Santeiro, located just a few miles from the centre of the capital city, Luanda. Moreover, the protracted civil war has had catastrophic consequences for all other sectors of the economy, in particular agriculture. The country’s annual cereal consumption stands at 1.3 million tons, yet it manages to produce only 500,000 tons of food annually. Paradoxically, while agriculture accounts for 76% of Angola’s labour force, it contributes a mere 12% to Angola’s GDP. The balance is imported and donated by international aid agencies such as the World Food Programme (WFP). In fact, more than one million people, and in particular those internally displaced, survive on the basis of food assistance provided by international relief agencies. Targeting and monitoring of food assistance are guided by interagency vulnerability assessments conducted under the Vulnerability Analysis and Mapping Unit of the WFP. Because agricultural assistance is required in almost all locations, the government is attempting to kick-start this sector.

In addition, the war has seriously affected the road and rail infrastructure in Angola and has made a large proportion of fertile agricultural areas inaccessible. A road network that totalled 75,000 kilometres, of which 8,000 kilometres were asphalted, is in a state of disrepair making it very difficult and highly dangerous to transport people and goods by land. The same applies to the rail network, one of UNITA’s favourite targets during the civil war. Port facilities are still operating in Luanda, Lobito and Namibe, catering for an economy that is highly dependent upon imports following the collapse of the domestic manufacturing and agricultural sectors. Transportation by air has become the only viable connection for humanitarian aid delivery, as well as for the oil and diamond industries.

The health situation in Angola continues to worsen. Public health services are so severely debilitating as to be effectively non-existent, with most healthcare provision outside of the main centres, consisting of only the most basic services, having been left to NGOs and church groups. There is only one paediatric hospital in the whole of Angola (situated in Luanda), but even its facilities and resources are limited. Children are often forced to share a bed with two or three others, and no meals are provided. According to UNICEF and the UNDP Human development report 2000, Angola’s basic indicators were among the worst in the world – one mother in five died while giving birth, and 42% of all Angolan children were underweight for their age. Among the displaced, rates of infant and under-five mortality (236 and 395 per 1,000 live births) are much worse than the already catastrophic national rates of 166 and 292 out of every 1,000 live births, respectively, which are themselves among the highest in the world. Malaria is a leading cause of mortality among children under the age of five, followed by diarrhoeal infections, malnutrition and respiratory infections. More than 50% of children are stunted. In the past two years, because of continuing insecurity, conditions have deteriorated further. An increasing number of moderately malnourished children have appeared at supplementary and therapeutic feeding centres, including a disturbingly high percentage of children between 5 and 12 years, a vulnerable group often undetected by routine nutritional surveys. Vaccination campaigns have not reached many areas, especially during the past few years,
resulting in periodic outbreaks of polio and measles. Fewer than 40% of children receive routine immunisation for diseases that can be prevented through vaccination. Access to basic services is extremely poor with 69% of the population having no access to clean water and 60% without access to sanitation.

HIV/AIDS threatens to overshadow these traditional health problems, and as in the rest of Southern Africa, is likely to become the single most serious threat to the health and well-being of Angolans. The development of the disease will place further strain on health services, further impoverish households and create yet more orphans. Although exact figures are not available and the incidence of the pandemic is probably grossly underreported, especially outside of Luanda, close on 8,000 children are thought by UNAIDS to be infected with the virus and an estimated 98,000 of under 15-year olds have lost a mother or both parents to the disease.

Education levels also present a serious situation with 58% of people over 15 being illiterate, and school enrolment as a percentage of the total school age population at a mere 25%. Since 1998, 80% of the schools in Angola have been destroyed or abandoned. Some teaching takes place at understaffed and underequipped schools in the provinces, though most of these schools are in an advanced state of disrepair. There is a general scarcity of teachers. It is only in Luanda that children stand a chance of getting an adequate education, but here too there are severe constraints – less than half the teachers are adequately trained, there is a serious lack of classroom space, and teacher/pupil ratios can be as high as 1:80. Failure rates are high, and few children enter high school. Less than 10% of children are registered at birth, and the lack of documentation limits access to education, health facilities and employment. Aside from this, in a country that has an official poverty rate of 67%, few parents can pay for education. The government has reported that 70% of children between six and 14 years run the risk of being illiterate. The government has consistently spent below the provinces, though most of these schools are in an advanced state of disrepair. Some teaching takes place at understaffed and underequipped schools in urban areas. According to the UN country assessment of 2002:

“[I]n the urban areas, 63% of the population was living below the poverty line (equivalent to $1.65 a day) in 2000 … the proportion of the urban population living below the extreme poverty line (equivalent to 75 US cents a day in 2000) doubled between 1995 and 2000, reaching almost 25%. This dramatic increase in extreme poverty was closely related to the influx of destitute IDPs into the cities, in a context where urban jobs and income-generating opportunities have been limited by the depressed state of the non-oil sectors of the economy” (UN 2002).

Before the Memorandum of Understanding, aid reached only 10 to 15% of the country largely as a result of logistic constraints (the poor state of airstrips and roads), the precarious security conditions, in the form of attacks on civilians and vehicles, and the presence of landmines. Humanitarian organisations had access to only 60% of the 272 locations where displaced people were concentrated and to approximately 73% of reported displaced populations. With the end of the war, security and accessibility have increased significantly (approximately 40 to 50% of all humanitarian assistance must still be delivered by air), resulting in a new set of opportunities and challenges for the humanitarian community. Despite this, logistic constraints continue to hamper humanitarian operations – airstrips, roads and bridges need repair or rebuilding, and demining activities must continue.

Although the peace process advanced rapidly during 2002, the level of internal displacement remained high with thousands of displaced people emerging from the

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bush, often in appalling conditions after having suffered extended periods of hunger and being subjected to harassment, looting and physical assault. In many areas, catastrophic malnutrition rates of more than 45% were recorded among the newly arrived populations. The reason for the starvation was not just conflict, but the particular way in which the war of counterinsurgency was fought, especially in the six months prior to the end of the war. Tens of thousands of civilians living in military contested areas were systematically attacked by armed elements and relocated, sometimes forcibly, into municipal and provincial centres where international agencies provided life-saving assistance. People were not able to settle and they were not able to cultivate land.

While limited numbers of internally displaced people returned to their areas of origin, a considerable proportion continue to move towards areas where humanitarian operations are under way in search of assistance. In many cases spontaneous return movements were temporary, with family members returning to villages to gather information about the situation or to build shelters and prepare agricultural land. By August 2002, more than 100,000 displaced people had already started to return to their areas of origin throughout the country, and an additional 450,000 were likely to return home by the end of the year. Demobilisation and reintegration of former combatants, the return and resettlement of displaced populations, and increased threats of landmines had resulted in a rise in the need for humanitarian resources in the short term. At the end of August, the UN Office for the Coordination of Humanitarian Affairs (OCHA) reported that approximately 80,000 former combatants, accompanied by 300,000 dependants, remained in the family reception areas.

The approval of the Emergency Resettlement and Return Programme by the government of Angola in June 2002 was a critical step in developing a concerted approach to the looming humanitarian catastrophe. In order to tackle the current emergency, an interagency rapid assessment of critical needs was conducted. The assessment was conducted in 28 locations in 12 provinces and, in the process, several important road corridors were cleared for humanitarian operations. The programme prioritised the return, resettlement and social reintegration of those who had been identified by humanitarian agencies. Its target group included more than 1.5 million people (approximately 310,000 families), as well as assistance to 350,000 former UNITA combatants and their family members.

The substantial humanitarian operation in Angola became the most expensive in the world during 2002 with 10 UN agencies, 100 international NGOs and more than 420 national NGOs, either active or registered in 13 sectors, providing assistance to two million Angolans. Eleven technical ministries and departments and all provincial governments are involved in humanitarian assistance. Overall coordination is undertaken by the Ministry of Social Affairs and Reintegration (MINARS) on behalf of the government and the OCHA, which serves as the coordinator’s secretariat. The government and humanitarian partners adopted a rights-based strategy in the 2002 appeal to ensure that assistance was provided in accordance with core constitutional principles and on the basis of international standards. By the end of 2002, 1.1 million

displaced people had resettled or returned to their areas of origin, although only 15% had done so as part of an organised plan and only 30% were living in areas where the preconditions specified in the norms were in place.

Conditions had generally stabilised by the start of 2003, resulting in the closure of therapeutic feeding centres and the withdrawal of many NGOs. The situation with regard to access has only worsened, however, as the rainy season has set in, with many quartering areas (since the disbandment of UNITA called gathering areas) difficult to access and at least one, Sambo in Huambo province, cut off from assistance due to a serious landmine incident. The WFP continues to distribute food aid to populations in the gathering areas, as does the government, as well as seeds and tools. Nevertheless, the humanitarian caseload is unlikely to decline significantly until the harvest in April 2003. The number of people requiring food assistance remains high at 1.8 million and an additional 300,000 may require assistance during the first quarter of the year.

The number of Angolan refugees is also a cause for concern. At the beginning of 2002, there were some 467,000 Angolan refugees in the neighbouring countries of the Democratic Republic of Congo, Zambia and Namibia. Formal repatriation programmes have not yet begun, but by mid-December, about 86,000 were estimated to have returned spontaneously, the majority to areas where basic conditions for return were not in place.

The ‘lands at the end of the earth’: Overview of the Kuando-Kubango province

The high-altitude and vast province of Kuando-Kubango covers an area of 200,000 km² and is sparsely populated. Known during colonial times as ‘the lands at the end of the earth’, Kuando-Kubango has a variety of different climates, ranging from tropical in the north to semi-desert in the south. Most of its 140,000 inhabitants engage in subsistence agriculture (growing massango, massambala, corn, cassava and beans) and cattle, sheep and goats are the main livestock. In terms of water usage, as highlighted by the UNDP, “current use of the basin’s water resources are limited to water supplies to small regional centers and some small scale floodplain irrigation” (GEF 2000). In addition, since independence in 1975, there have been no considerable developments and investments related to the Cubango and Cuito headwater rivers. A 1995 provincial rehabilitation plan indicated that the province’s development would entail a considerable investment in water supply, sanitation, agriculture and transport. These are still to be undertaken.

Traditionally a UNITA stronghold, this province was subject to a major government offensive during 2001 and early 2002. Having ensured that the borders with Namibia and Zambia were cut off as supply routes to UNITA, FAA hunter battalions implemented follow-up operations sending UNITA forces into Mexico province. A large number of landmines were laid along the borders as a precaution, and mine infestation has been reported throughout the province, including in areas
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near Menongue and Cuito Cuanavale. Largely as a result of this last phase of the war, there are now 66,431 confirmed and 204,024 unconfirmed internally displaced people in the province (OCHA Angola 2002b). Humanitarian organisations have been present only in Menongue (the capital) for the past two years. All roads outside the existing security perimeters are in poor condition and the Cuito Cuanavale airstrip requires repair. The OCHA was only able to enter Caiundo, Mavinga and Savata in April 2002 to conduct a rapid assessment of critical needs, during which the roads from Menongue and Cuito Cuanavale to these locations were opened for humanitarian operations. Access to Mavinga is very difficult as a result of destroyed infrastructure and the fact that roads remain heavily mined.

The assessments conducted by the OCHA revealed high levels of malnutrition, in particular in the quartering and family reception areas in the province. In addition, although recent mortality and morbidity rates are unavailable for the province, the assessment found that the main causes of death and illness are malaria, anaemia, tuberculosis and malnutrition. The OCHA reports that, since January 2002, 2,307 new displaced persons have been confirmed. Temporary resettlement continues for new arrivals at Menongue (OCHA Angola 2002a). These waves of depopulation and displacement in Kuando-Kubango have the potential to affect the hydro-environmental integrity of the source. In fact, some of the main threats to the Okavango River basin arise from patterns of unsustainable development, including overgrazing resulting in accelerated land and soil degradation in Namibia and Botswana; unplanned developments in Angola along the demined transport routes/corridors in the Cubango and Cuito sub-basins as post-civil war resettlement occurs; and finally, pressure for new and increased abstraction of raw water to service urban expansion and irrigated agriculture.

To face the current situation, the Kuando-Kubango provincial government has identified the following priorities under a provincial emergency plan of action:
- **agriculture and food security** – improve food security by distributing land and providing agricultural inputs and technical support, and promote reforestation in resettlement areas;
- **health and nutrition** – reduce child morbidity and mortality for malaria;
- **water and sanitation** – improve sanitation by constructing pit latrines in areas with high concentrations of internally displaced people, and conduct awareness and information campaigns on safe water and excrement disposal;
- **education** – expand access to education by building emergency schools in resettlement areas;
- **protection** – provide displaced people with proof of identity;
- **mine action** – reduce mine accidents by demining resettlement sites and access routes and conducting mine awareness campaigns; and
- **resettlement** – support the resettlement of 4,000 families in compliance with the norms, and establish a reception area for new displaced people arriving in Cuito Cuanavale.

The peace dividend in Angola: Strategic implications for Okavango basin cooperation

“[T]he Okavango River Basin remains one of the least human impacted basins on the African continent. Mounting socio-economic pressures on the basin in the riparian countries, Angola, Botswana and Namibia, threaten to change its present character. It is anticipated that in the long term this may result in irretrievable environmental breakdown and consequent loss of domestic and global benefits” (GEF 2000).

“[V]ery little is known about the water use in the upper catchment, because the Angolan civil war has prevented any baseline data from being collected … ironically, a possible peace dividend will be the development of the upper basin, which in turn will negatively impact on one of the last pristine river systems in Africa” (Green Cross International 2000 – authors’ emphasis).

Part of Angola’s regional strategic importance stems from the fact that it is the main contributor to the Okavango River basin. As can be seen in map 1, the Cubango and Cuito headwater rivers originate in the Angolan province of Kuando-Kubango. Flowing southwards, these two tributaries converge and run along the border with northern Namibia. At the point where the Cubango and Cuito rivers meet, they become the Okavango River, entering the Caprivi Strip in Namibia 50 kilometres downstream before flowing into Botswana. In fact, as pointed out by the UNDP, “the economic and ecological vitality of the Okavango River Basin and its associated wetlands depends upon the detailed character (timing, volumes, duration) and quality of the annual flow regime generated in the source catchments of Angola” (GEF 2000). The Okavango basin straddles sub-humid climatic zones in Kuando-Kubango to arid climatic zones in northern Namibia and Botswana.

Water is one of Angola’s richest assets and its efficient use holds the key to equitable social and economic development. Most specialists consider that Angola will not face serious water scarcity problems in the foreseeable future, at least until 2025. However, because the Okavango basin is increasingly unlikely to fulfil the combined demands of a peaceful Angola, Namibia and Botswana, and because activities in the headwaters can significantly affect flows, stakeholders are taking a keen interest in Angola as it emerges from war. In this respect, Angola’s medium term development plans for the region are being carefully monitored. Agriculture and the building of any dams in the catchment area (Ellery & McCarthy 1994:159-168) have been identified as some of the potential threats to the Okavango River basin. In fact, the eutrophication that may result from agricultural development in the catchment “may profoundly affect the nature of vegetation communities in the upper reaches of the fan, and thus the patterns of sediment and water dispersal.” In addition, “sustained removal of vegetation may result in salinisation of surface water, and would have a

“[T]he development of any dams will alter the pulsed nature of the flooding, with detrimental environmental effect in the delta. Agricultural runoff will change the nutrient loads, impacting on one of the basic elements of the aquatic ecosystem functioning in the delta.”

While upstream abstraction of pollution reduces river flows and water quality downstream, it is also important not to lose sight of the less obvious fact that downstream developments can generate harm upstream unless riparian states share similar values concerning biodiversity and natural heritage. The spread of alien species may be presented as an example of this. Likewise, the Cubango River, which forms part of the international boundary between Angola and Namibia, has the potential for positive or negative externalities.

Development plans generally require significant increases in water use, but these are often premised on mutually exclusive claims for water that have the potential to cause tensions between countries. When countries are able to move beyond an approach premised on maximising usage for individual states, to a system-wide perspective, the potential of cooperative management to increase economic growth, environmental management, and geopolitical stability is raised considerably.

The need for interstate coordination with regard to the Okavango River basin led the three riparian countries to meet in Windhoek in 1993 and to establish the Permanent Okavango River Basin Water Commission (OKACOM) in September 1994. OKACOM represents the most important institutional structure where, through negotiation, all transboundary water issues can be resolved. OKACOM includes the presence of high-level interministerial representation to advise on technical and policy issues. Until recently, the civil war and UNITA's effective control of the province of Cunene and Okavango rivers, and the presence of high-level interministerial representation to advise on technical and policy issues.

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explored in the interests of an integrated, cross-sectoral and participatory basin approach. Basin-wide cooperation necessitates strong cooperation mechanisms. The implications for this, however, is that there must be capacity at national level alongside the promotion of inter-riparian dialogue between the three countries, including joint management and development of the shared watercourse. However, negotiations and opportunities for joint development are currently constrained by considerable capacity imbalances among the countries and uneven ability (limited in the case of Angola) to analyse and inform policy positions and decisions.

Conclusion

The likelihood of a return to civil war in Angola remains low. However, the variety of humanitarian and infrastructural problems in the upper Okavango River basin are extremely complex. Angola’s development needs are extensive and pressure is likely to be placed on the water resources of the basin in the near future. The proper management of these very valuable resources is therefore of the utmost importance, not only to ensure that the country can overcome the ravages of war, but also to protect the wealth of the Okavango River basin for years to come.

References


Porto & Clover


