

## Chapter 2.

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# Background to Natural Disasters in Mozambique

## 2.1 Natural disaster context in Mozambique

The World Bank notes that natural disasters, along with the social and economic impact of HIV/AIDS, are one of the main risks to the achievement of Mozambique's poverty reduction strategy. From 1965 to 1998, there were twelve major floods, nine major droughts, and four major cyclone disasters. Droughts, exacerbated by the impact of the war, have had the most devastating impacts. Four major droughts and famine between 1980 and 1992 caused an estimated 100,000 deaths (Maule 1999; World Bank 2000c; 2001b) (see also Annex B).

The geography of Mozambique is dominated by ten main river systems that cross the country from west to east and drain into the Indian Ocean along Mozambique's 2,500 km coastline. The catchment areas of these rivers drain water from vast swathes of southern Africa, stretching into Botswana. The management of water flows from two major dams, the Cabora Bassa and the Kariba, also has a major impact on flood risks in Mozambique. Early warning and flood control systems for Mozambique are therefore a regional issue that involves close collaboration with other countries of the Southern Africa Development Community (SADC).

In addition to flood risks from high rainfall in the river catchment areas, Mozambique is prone to tropical cyclones that travel up the Mozambique Channel, particularly in the period of January to March each year.

Given Mozambique's propensity for natural disasters, a surprisingly small amount has been written on this subject. There is a distinct lack of analysis of flood-prone areas, flood impacts, and potential mitigation and preparedness measures. A review of the literature in 1999 found no information regarding socio-economic vulnerability to floods. Only 16 of the country's 500 hydro-meteorological monitoring systems were functioning in 1997 (Maule 1999).

There are historical reasons for the acknowledged lack of preparedness for the 2000 floods. Until the late 1990s, disaster management in Mozambique was a reactive process, mainly due to the instability and insecurity caused by 17 years of war (Maule 1999). Following the end of the war in 1992, the government of Mozambique, the Mozambique Red Cross, national NGOs, and international agencies wanted to move away from the war-time relief mode. Development became the priority, and disaster prevention and preparedness were not intergrated into those efforts.

The government disaster relief agency (Departamento de Prevenção e Combate as Calamidades Naturais, or DPCCN) had an unsustainable post-war delivery infrastructure of 3,000 staff and 400 vehicles. In 1999, Government decree no. 37 replaced the DPCCN with the National Disaster Management Institute (Instituto Nacional de Gestão de Calamidades or INGC) with an emphasis on coordination rather than delivery (see sections 3.1, 4.2).

During the same period, national agencies such as the Mozambique Red Cross and the Christian Council of Mozambique scaled down their disaster response capacities that had become financially unsustainable. One international NGO reported that it was working actively "to root out the remnants of emergency thinking" in its staff.

The scaling down of preparedness and response capacities during the late 1990s coincided with a period of few major disasters. This resulted in diminishing institutional memories (Maule 1999). Disaster preparedness and contingency planning among all agencies dropped off the list of priorities (UNICEF

2000a). Agency strategy documents for Mozambique did not heavily feature the possible threat of major natural disasters.

Seasonal flooding took place in early 1999, and the INGC and other agencies did draw up contingency plans for 2000 in anticipation of further flooding, although not on the scale that occurred. The government appealed for US\$2.7 million for immediate preparedness and mitigation activities, but less than half of that amount was pledged by international donors (ISDR 2002).

## 2.2 The Mozambique context for recovery

Mozambique is one of the poorest countries in the world, listed 170<sup>th</sup> out of 173 in the UN Human Development Index (UNDP 2002). Sixty-nine percent of the population lives below the established poverty line of US\$ 0.40 per day.

The country has faced seemingly overwhelming odds since Independence in 1975. The Portuguese rapidly left a highly undeveloped country with very low levels of education and training and an economy and transport system skewed to the rest of southern Africa's economic needs. The creation of the rebel Renamo (Resistência Nacional Moçambicana) movement by the Rhodesian government in 1976, which was subsequently backed by South Africa, led to a 17 year civil war and an extended period of attack and destabilization by South Africa in defense of its *apartheid* system.

The war resulted in at least one million deaths and devastated many parts of the country and its infrastructure. Over one third of the population was displaced at some point, and 1.7 million lived as refugees in neighboring countries. Sixty percent of primary schools and 40 percent of primary health posts were destroyed.

Following a peace agreement in 1992, elections were held in 1994 and the UN supervised the return of refugees and internally displaced people, and the demobilization of 92,000 ex-combatants.<sup>2</sup>

Mozambique remains a developing democracy with substantial tensions between the Renamo areas of the north and center and the Frelimo areas of the south, including the capital Maputo. Second general elections were held in 1999 and Renamo, disappointed by the result, challenged the validity of the elections and threatened to set up its own government. These political developments were overtaken by the 2000 floods, but the volatile relationship between the two political parties in the Parliament remains an impediment to Mozambique's transition to a more stable political environment (MRC 2002). Rioting in parts of the north and central provinces of Mozambique in November 2000 was a painful reminder of the ongoing tension following the bitterly fought civil war. North-south tensions are further exacerbated by the difficult road communications in such a long country, with the major transport routes running east-west.

Economically, the Frelimo government, under heavy pressure from donors, started to transition from a centrally-planned economy with a socialist approach to a market economy back in 1987. Since the war ended, the country has maintained a high growth rate, averaging 8 percent, partly due to the catching up process once land was accessible, and once substantial recovery projects and mega projects began, such as the Mozal aluminum plant that started production in 2000 (Batley; GoM 2001c).

There are a number of features of this economic growth:

- Agriculture and fisheries contribute 31 percent of Mozambique's GDP and engage 80 percent of the population. Services, including tourism, account for around 40 percent of GDP, and manufacturing and construction contribute 19 percent (African Development Bank 2002).

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<sup>2</sup> 70 percent of demobilized ex-combatants found secure jobs (UN 2000).

- Mozambique has received continually high levels of international donor support and has a substantial dependency on foreign assistance, with more than 50 percent of its public spending and about two thirds of public investment coming from external sources (Batley 2002).
- Economic growth has tended to be concentrated in and around Maputo, and to a lesser extent in Beira, in the center. Maputo produces 40 percent of GDP and accounts for 10 percent of the population (GoM 2001c). The impact of economic growth has been uneven with parts of the population of urban areas benefiting disproportionately, particularly in Maputo.
- There are substantial differences in social conditions across the country. The Infant Mortality Rate for Maputo is 60 per 1000 live births and 183 for Zambezia. In 1997 only 14 percent of women and 44 percent of men in the north were literate, compared with 77 percent and 93 percent, respectively, in Maputo (EC 2002).
- Mozambique's economy remains very dependent on neighboring economies, particularly that of South Africa. Zimbabwe's economic decline has had a negative impact on the Mozambican economy.
- There have been social costs of economic restructuring, for instance the liberalization of the cashew nut processing industry involved a loss of 10,000 jobs (IRIN 2/10/02).
- In September 2001, Mozambique became the third country (after Bolivia and Uganda) to reach the HIPC completion point, resulting in a reduction of total external debt by 73 percent since 1996 (WB News Release 25/9/01).
- Mozambique continues to be held back by its poor infrastructure. It still remains uneconomical or impractical to move food surpluses from one part of the country to another.
- The acute shortage of Mozambicans with higher education qualifications also remains a major impediment to development (WB 2001d). In 2000, only 6 percent of staff in the Ministry of Planning and Finance held university degrees (Fozzard 2002).

The Action Plan for the Reduction of Absolute Poverty (PARPA) envisages reducing the proportion of GDP spent on priority social areas during 2004 and 2005 in order to help bring government budgets into balance and reduce the country's dependence on external assistance. It remains to be seen whether this shift in resourcing can be squared with the massive need for continued investment in basic services such as health and education (MRC 2002a; SCF 2000a).

The Mozambican population is predominately young and rural, with only 23 percent of the population living in urban areas (provincial capitals) and almost half of the entire urban population living in Maputo city. (UN System Mozambique 2001). Mozambique has one of the lowest urbanization rates in the world (GoM 2001c).

A significant factor bearing on the response to and recovery from the floods of 2000 and 2001 has been Mozambique's positive relationship with its donors. The donors developed sympathy, respect, and solidarity for Mozambique during its suffering as an anti-*apartheid* Front Line State. Strong links were developed then with Nordic governments and the UN. Wider donor respect has grown through the 1990s as a result of the management of the economy and the success of the peace process. A key element of this donor support has been the United States' commitment, seeing Mozambique's continued political stability and economic growth as essential to its interests in southern Africa.

"Mozambique has become Africa's most successful example of post-conflict reconstruction and development. Rapid economic growth, poverty reduction and political stability have been underpinned by market reform, democratic development and national reconciliation" (EIU Mozambique Country Profile 2001).

“Mozambique is to be commended for its successful record of policy implementation, which has, over more than a decade, brought stability and rapid economic growth to one of the world’s poorest countries.”<sup>3</sup>

There is a long history of donor coordination in Mozambique and a continuing high level of coordination that has increased significantly over the last few years. Every sector has a donor or donor/government focal group. Increasingly, donors and government are moving towards coordinated sector-wide approaches and common mechanisms for appraising, monitoring, and funding sector programs. Health, education, agriculture, roads, and macro-financial support all have particularly strong donor or donor/government groups. Non-sector specific groups also exist, such as the EU Heads of Cooperation Group (DFID 2001).

In spite of the scale of donor support and the power that lies in donors’ hands, there is a sense of partnership with the government in which the latter keenly exerts its sovereignty. Much of the donor-supported assistance is focused on working with and in support of government departments. However there have been some concerns that donors have weakened public administration by using semi-autonomous project management units and by hiving off government staff to their own projects (Montes 2000).

In relation to the impact of the flood disasters of 2000 and 2001 and the subsequent recovery process, some features of Mozambique’s society can be noted:

- Nearly 70 percent of Mozambique’s population falls below the official poverty line.
- Female-headed households are prominent in the South, as is a matrilineal society in the North. Mainly male migrant labor to the mines of South Africa has been an important livelihoods feature; 25 percent of households receive remittances (UNRC 2001a).
- As in the rest of southern Africa, HIV/AIDS is becoming a dominant feature of mortality rates. AIDS prevalence was 16 percent in 2000, but over 20 percent along some transport corridors (UNRC 2001a). HIV/AIDS now constitutes the greatest single threat to development (WB 2000f) and a constraint on economic growth with an estimated medium term loss of 1 percent growth of GDP (GoM 2001c).

The capacity and resources to work land are generally the limiting factors to cultivation in many areas of Mozambique (GoM 2001c). However, there was a low incidence of land conflict as millions of people returned to rural areas after the war ended, with the allocation of land being managed through local processes and with local leaders (Tanner 1996). The 1997 Land Law represented an important effort to integrate customary and formal legal frameworks, to secure land rights for communities, families and individuals, and stimulate development in rural Mozambique. It emerged from an unparalleled process of dialogue and collaboration between the government, civil society, and specialists (Tanner 2002). Some conflicting interests in land and resource use did emerge in post-war Mozambique, particularly in areas near Maputo (McGregor 1997). The community survey found that the post-flood resettlement program caused tensions in these areas.

### 2.3 The 2000 and 2001 floods

Mozambique’s floods in 2000 were created by a succession of tropical storms, starting with depression Connie between 4-7 February. Cyclones Eline and Gloria followed later in the month. Heavy and persistent rain across southern Africa resulted for the first recorded time in the simultaneous flooding of the Limpopo, Incomati, Umbeluzi, Save, Buze and Pungoe rivers. At least 700 people died, 650,000 were displaced and 4.5 million were affected, totaling about a quarter of Mozambique’s population (GoM 2000f).

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<sup>3</sup> IMF Executive Board Deputy Managing Director and Acting Chairman Shigemitsu Sugisaki News Brief 01/93 Sept 20 2001 after a third review of Poverty Reduction and Growth Facility (PRGF).

The flooding devastated the agriculture sector, partly because of the prolonged nature of the inundation in some areas. 140,000 hectares of crops were destroyed or seriously damaged and irrigation systems were also destroyed. An estimated 350,000 livestock were lost or seriously injured and 6,000 fisherpeople lost 50 percent of their boats and gear (FAO 27/3/00).

A massive national and international relief operation avoided greater loss of life with 16,500 people rescued by aircraft and over 29,000 by boats (IFRC 2002). The displaced were accommodated in 100 temporary centers, the largest being Chiaquelane with a peak population of 80,000 people. Public health measures avoided measles and cholera epidemics. A feature of the international aid coordination was that it was set up within the INGC, with the latter being led during the peak of the operation by the Minister for Foreign Affairs and Cooperation. In this way, Mozambique preserved an element of national sovereignty and control.

The government of Mozambique made three successive appeals totaling US\$160 million for emergency assistance during February and March 2000 with a response of over 100 percent.

The 2001 floods mainly affected Zambezia, northern Sofala, then the Tete and Manica provinces in Central Mozambique during February and March. The floods were caused both by prolonged and intensive rains at the end of 2000 and in early 2001 in central Mozambique, and by neighboring countries' increasing flows from the Kariba and Cabora Bassa dams. In March coastal Nampula was hit by cyclone Dera. About 500,000 people were affected, of which 223,000 were displaced (see GoM 2001d for further details). Loss of life was minimal because of the slower onset of the disaster, as compared with the "wall of water" impact of the 2000 floods further south.

On February 21, the government of Mozambique declared a flood emergency and appealed to the international community for US\$30 million in emergency assistance. By mid-May 2001, 93 percent of the appeal had been met (GoM 2001d).

Agencies were better prepared to respond to the 2001 floods because the systems and contacts established in 2000 were in place. The rolling nature of the disaster made it a somewhat less daunting emergency than the 2000 floods. The government, the UN system, and the major agencies, such as the Mozambique Red Cross, had all undertaken lessons learning exercises and developed contingency plans, which resulted in significant improvements in responses (UNICEF 2002d). Preparedness measures had been taken, including the pre-placement of food, boats, and other relief materials. Contact with neighboring countries also resulted in some coordination of discharges from the Kariba and Cabora Bassa dams.