



## VC5- ENVIRONMENT AND SUSTAINABILITY ISSUES FOR HORTICULTURE

### MOZAMBIQUE POSITION PAPER

#### Present Status of environmental impact and sustainability measurements for horticulture

Mozambique suffers from intense and frequent climatic disasters such as: floods, droughts, and storms, which include tropical cyclones. These climatic disasters have an impact on the population and on the agricultural and horticultural production.

Since 1980, Mozambique has known 8 major droughts as summarized thereafter:

- 2002: 43 districts affected in the South and Centre
- 1999: 1 million people affected
- 1997: 8.000 people affected in Inhambanne
- 1994-1995: 1.5 millions people affected in the North and South. Shortages of drinking water and outbreak of cholera
- 1991-1993: 1.32 millions people affected. Shortage of drinking water
- 1983-1984: Most part of the country affected, cholera
- 1981-1983: 2.46 millions people affected in the South and Centre
- 1980: 60.000 people affected in the South and Centre.

The country has also known tropical cyclones and floods as table 1 and table 2 present.

**Table 1: Tropical cyclones, Mozambican costline:**

Year	People Affected	Death
1984	350.000	109
1998	90.000	100
1994	900.000	52
1996	200.000	11
1997	80.000	87
2000	650.000	700 deaths in floods partly caused by the cyclones
2000	650.000	
2000	11.000	

**Table 2: Floods in Mozambique, since 1980:**

<b>Year</b>	<b>Description</b>
2001	Rio Zambeze, 115 deaths, 500.000 people affected
2000	Rio Limpopo, Maputo, Umbeluzi, Incomati, Buzi e Save. 640 deaths 2 millions people affected. Worst floods in the last 150 years
1999	Sofala e Inhambane. National road closed for 2 weeks. 100 deaths and 300.000 people affected.
1997	Buzi, Púngue e Zambézia. 78 deaths. 300.000 people affected
1996	All the Southern rivers. 200.000 people affected
1985	9 rivers in the Southern provinces. Worst floods in 50 years after 4 years of droughts. 500.000 people affected
1981	Rio Limpopo, 500.000 people affected

All these climatic events affect horticultural production negatively through diverse linkages. In the case of floods, the land available for production may be reduced and access to the main roads may be cut (as happened in 1999 with the national road). After a drought or a flood, the quality and productivity of the land may decrease. A drought will lead to water shortages hampering not only the water available for the population but also for agricultural purposes. Finally, all events will reduce the investment capacity of the population.

There is, in general, a lack of data to statistically establish a link between climatic disasters and horticulture production but a few studies exist that have established this relation. For example, a study by the World Bank (2006, Mozambique Agricultural Development Strategy, Stimulating Smallholder Agricultural Growth) establish through regression analysis that rainfalls and climatic shocks both have a negative impact on smallholder maize production and that the droughts of 2001-2002 had a negative impact on rural crop income.

### ***National Organization apparatus***

The Ministry of Environment (MICOA) deals with issues related to climate change in Mozambique and has organized an inter-institutional Group called “NAPA TEAM”. It has establish a National action plan for adapting to climate change. Within this plan, four main actions are aimed at reducing the impact of climate change: Strengthening of preventive alert; Strengthening the capacity of agrarian producers to answer to climate change; Decreasing the impacts of climate change on the cost area; and finally, Improving the Management of water resources.

Mozambique has signed two main documents on climate change: the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol.

### ***National programs to enhance adaptation to climate change***

There are a series of national programs working, most of the time indirectly, towards enhancing the adaptation to climate change. For example, the program MINAG- PRO- HORTA is a Recovery Program for the Horticulture Production which installs Greenhouses, a wholesale market place, cold rooms to support horticultural production.

The Program of Urban Horticulture supports the continuation of Horticultural production during the whole year and benefited from packing house subsidized by the Government and cooperation partners in collaboration with the association of producers. The objective of this program is to support small farmers in horticulture activities in order to increase the availability of vegetables to the local market along the year and satisfy different segments of consumers at local and regional market, timely in quantity and good quality through production, agro-processing and adding value of fruits and vegetables.

Universities and research institutes, such as UEM and IIAM, are also involved through research on climate change issues.

### **Present management of climate change impact on horticulture**

#### ***Measures taken at the national level***

At the national level, Mozambique has adopted his Strategic Plan for the Environment for 2005-2015 which refers to issues such as land degradation (erosion, loss of fertility, soils salinization), pollution (air and water), etc. The Government has adopted and implemented policies, strategies and development programs that includes considerations on climate change, such as:

- The Plan of management for natural disaster (Plano Director de Gestão de Calamidades Naturais) and,
- The National action plan for adapting to climate change (Plano de Acção Nacional para Adaptação às Mudanças Climáticas).

#### ***AdHoc Committee: Horticulture Task Force***

The Horticulture Task Force is the national entity bringing all actors of the sector together to deal with issues affecting the sector, including climate change issues. The Task Force's members include: the Public Sector (MINAG, MIC, IPEX, INNOQ), the Private Sector, ONGs and Cooperation partners (FAO, USAID, EU, UNIDO, ITC, TECHONOSERVE, SNV), and the Eduardo Mondlane University (UEM).

#### ***Financial support to Horticulture***

The horticultural sector beneficiates from funding which deal directly or indirectly with climate change issues. Among this:

- GOVERNO/MINAG-AGRA
- USAID (Revolving Fund)
- Netherlands Climate Assistance Program - NCAP (Revision, preparation, formulation and implementation of policies)

- UNDP (Support fund for the reduction of disaster)

**On going strategy at regional level**

There is only a low level of regional coordination focusing on issues of climate change's impact on horticulture. Nonetheless, at the international level, MICOA works in collaboration with the Netherlands Climate Assistance Program – NCAP; which is also involved in: Bangladesh, Bhutan, Bolivia, Colombia, Ghana, Guatemala, Mali, Mongolia, Senegal, Suriname, Tanzania, Vietnam, Yemen.