

Environment and Sustainability in Horticulture in Zambia

Presented at the Video Conference on High Value Agriculture in Eastern and Southern Africa on 13th October 2010 at the World Bank Offices, Lusaka

By
Munguzwe Hichaambwa
Food Security Research Project



Environment & sustainability issues of concern

- National Policy on Environment document identifies:
 - Deforestation (250-300 thousand ha/year)
 - Land degradation
 - Wildlife depletion
 - Soil erosion
 - Loss of productivity
 - Inadequate sanitation
 - Air and water pollution

Issues related to climate change

- Mean annual temperatures have increased by 1.3°C since 1960
 - 0.6°C/decade and 10 times higher than global rate or that of Southern Africa
 - This constrains crop yields
- Mean annual rainfall has decreased by 1.9 mm per month (2.3%) per decade
 - Large decrease in the December-January-February rainfall (7.1mm/month/decade)

Issues cont'd

- General trends are towards:
 - Higher average temperature, and
 - Possible decrease in total rainfall
 - But data on emergency events suggest a drastic increase in flood events
- All in all, this climatic variability has impacts through:
 - Low frequency high impact extreme weather events (droughts & floods)
 - High frequency low impact events (erratic rainfall, warmer days & nights, emergence of pests)

Issues in horticulture

- No data on environment and sustainability issues specific to horticulture sector
- Issues captured as they relate to agricultural sector as a whole:
 - Land degradation
 - Contamination of surface and underground water with fertilizers and chemicals
 - Horticultural marketing putting greater challenges on city authorities to clear large heaps of discarded produce in and around markets

Issues in horticulture cont'd

- Impacts/consequences of climate change
 - Reduced water availability
 - Increased irrigation cost as more water needed to apply due to increase in temperatures
 - Reducing produce quality due to increasing temperatures
 - Increase in pests/diseases even in the cool dry season because temperatures have increased
 - Missing a whole cropping season due to late start of rains
 - ✓ e.g. rain-fed rape has to be harvested by January to escape pest/disease pressure; planting by December

Institutional arrangements for Addressing issues

- No arrangement specific to horticulture sector
- Environmental issues a mandate of Government ministry (MTENR), under which is the ECZ (statutory body to protect environment & control pollution)
- As a signatory to UNFCCC Zambia:
 - Participates in UNFCCC processes
 - Has developed and submitted the National Adaptation Plan of Action (NAPA) - (2007)
- MTENR has established the Climate Change Facilitating Unit (CCFU) for coordinating climate change issues in the country

Management of climate change impacts on horticulture

- Adaptation measures at production levels:
 - Relocating to higher grounds
 - Planting early, drought resistant varieties/crops
 - Using drip irrigation
 - Water harvesting
 - Mulching & organic manure
 - Minimum tillage
 - other conservation agriculture techniques

Management of impacts cont'd

- No specific responses specific to horticultural production & marketing
- CCFU is developing a National Climate Change Response Strategy (NCCRS)
 - Building on existing national and regional priorities
 - So far reactions have been ad hoc and uncoordinated and achievements limited
- Other donor supported activities related to addressing climate change issues also going on (see position paper)

Regional coordination

- Zambia a part of the 12th session of the African Ministerial Conference on Environment (AMCEN)
 - Need to integrate Africa's existing and new climate change programmes under a consolidated framework
- A member of a number of adaption, mitigation & supporting measures regional programmes
 - The majority are SADC based
 - COMESA Climate Change Initiative
 - Africa Bio-Carbon Fund (part of Africa Bio-Carbon Initiative)

Thank you