

## Chapter 3

# The Impact of Climate Change and Variability on Small-Scale Peri-Urban Horticultural Farmers in Domboshawa, Zimbabwe

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### ABSTRACT

*Zimbabwe is a semi-arid country reliant on regular rains (November-April). Mean annual rainfall is low, and many rivers in the drier parts of the country are not perennial. In the small-scale horticultural sector, irrigation becomes handy. Rainfall exhibits spatial and temporal variability. This scenario is characterized by shifts in the onset of rains, increases in frequency and intensity of heavy rainfall events, increases in the proportion of low rainfall years, decreases in low-intensity rainfall events, and increases in the frequency and intensity of mid-season dry spells. Drought have increased in frequency and intensity. Agriculture is the main source of income for most smallholder farmers who depend on rain-fed cropping and livestock rearing. Adaptation of agriculture to climate variability and change impacts is vital for livelihood. To develop appropriate strategies and institutional responses to climate change adaptation, a clear understanding of climate change impacts on smallholder farmers at farm-level is vital.*

DOI: 10.4018/978-1-5225-7302-9.ch003

## **INTRODUCTION**

### **Background to the Study**

Domboshawa has been in existence before the colonization of Zimbabwe by the British South Africa Company (BSAC) in 1896. Domboshawa residents have been living as horticultural farmers. However, with the advent of colonization these local people were some of the first to witness “land grabs” by the settlers as their lands are very close to Harare. Resultantly, their cultivated lands dwindled in size due to appropriation by settlers. They had to look for alternative livelihood strategies to compensate for the lost land in order to pay for various taxes that were levied on them (Vambe, 1972).

Farmers in Domboshawa have always been predominantly horticultural although with, land grabs, economic challenges and climate change farmers have faced significant challenges. The change in climate is a challenge for both present and future generations. Rainfed agriculture accounts for 80% and 93% of cultivated areas globally and in Sub Saharan Africa respectively and contribute to 62% of the world’s staples (FAO, 2004). Africa is particularly vulnerable; its 140 million small holder farmers rely on rainfed farming which is affected by disasters compounded by conflicts, low adaptive capacity, poverty, weak institutions and drought (Rukuni, 2001). The biggest concerns for many in Africa are that yields keep on decreasing while the semi- arid conditions are increasing. (Drechsle & Kunze 2001). In Zimbabwe climate changes has had devastating effects especially in the agriculture sector. Climate change and its associated stressors influence human development through supporting or destabilizing livelihood systems especially that of poor and vulnerable people.

### **Zimbabwe’s Small-Scale Horticulture Sector**

Zimbabwe’s economy is agro-based. Agriculture contributes more than 20% of the Gross Domestic Product (GDP) and provides an income to more than 75% of the country’s 15 million (Zimbabwe Human Development Report, 2017). Three quarters of Zimbabwe’s population is rural and their livelihoods are entirely dependent on agriculture. At independence, in 1980 large scale commercial farms (LSCF) such as Frupac, Cairns, Favco, Hortico, Hyvelde Horticulture Zimbabwe, Interfresh, Nutresco, Oceanic and Outspan and Selby Enterprises dominated the horticulture sector with production focused mainly on fruits and vegetables. Markets were liberalized beginning the 1990s in line with the structural adjustment programme (SAPs). Small scale horticultural farmers entered the sector and also brought in new varieties. Horticulture refers to the cultivation of fruit, mushrooms, roots and

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