

## Chapter 8

# Water Scarcity and Household Coping Strategies in Maun, Botswana

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### ABSTRACT

*Water is basic necessity for life, and in many parts of the world its demand exceeds supply due to socio-economic and environmentally related factors. The village of Maun located in north western Botswana, also known as the headquarters of numerous safari and air-charter operations who run tourism related trips into the Okavango Delta, faces persistent water shortage in spite of its location in an area where surface is abundant. Water shortage has had dire impacts on livelihoods of Maun residents and other economic activities. This study investigated the nature of the water scarcity problem in Maun village. The specific objectives of the study were 1) to investigate the causes of water shortage in Maun, 2) to determine the effects of water scarcity on households, and 3) to determine coping strategies for water shortage in Maun. Data was gathered through interviewing households located in a site severely impacted by the problem. Key informant interviews were also held with water supply authorities at the Department of water Affairs in Maun. This study revealed that water scarcity problem in Maun emanates not from environmental constraints, but rather from poor planning by water supply authorities.*

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## **INTRODUCTION**

Water is a basic necessity for life and economic development. The demand for potable water varies from one region to the other, and in many countries exceeds supply due to the combined threat of climate change and population growth (Balzarini, 2006; Kelkar et al., 2007; UN Water 2007). About a third of the world's nations are faced with water stress. According to UN Water (2007), "one-fifth of the world's population, live in areas of physical scarcity, while 1.6 billion people, or almost one quarter of the world's population lack the necessary infrastructure to take water from rivers and aquifers". Half of human population in Africa lacks clean water for drinking, a situation which presents challenges for the continent' to achieve Millennium development goal 7 which is safe and access to water by 2015 (NEPAD, 2006; Kauffmann, 2007; Dar and Khan, 2011). In arid and semi arid regions of the world, urbanization, population growth, the rate of economic development, and pollution, are some main drivers of water scarcity (FAO, 2012). Africa has limited sources of drinking water and the most secure source is underground water which is very costly to reticulate and maintain (UNICEF and WHO, 2008; UNECA, 2006). Sub Saharan Africa is the most hit by water shortage. Countries such as South Africa, though considered more developed than most other African countries, still experience a mismatch of water supply and demand (Herold, 2009). In Zimbabwe, water shortage that hit the city of Mutare, led the government to transfer water from Pungwe River through the pipelines (Mukheli et al., 2002). In Tanzania physical water resources are abundant, but the country is faced with economic water scarcity as large amounts of annual surface run-off are not harnessed left to flow into the Indian Ocean and the large lakes (Van Koppen et al., 2004).

Botswana, characterised by semi arid type of climate and geographically located in southern Africa, is no exception when considering the problem of water scarcity. Scarcity of water is common country-wide, however in some places the problem is more severe than in others. Districts such as Kgalagadi and Ngamiland face acute shortage of potable water. Variable and less rainfall and poor supply management of water resources are among the many factors responsible for water scarcity (Mmopelwa et al., 2005; Batisani and Yarnal, 2010).

One of the urban villages in Botswana that has been experiencing a serious water shortage is Maun. Persistent water shortage in the village has been experienced for many years, despite the fact that Maun village is surrounded by surface water, including that from the Thamalakane River. Water shortage affects households and a number of economic activities including those that are tourism related. This study seeks to investigate the nature of water scarcity problem in the village of Maun. Specifically, the study was carried out to investigate the causes of water shortage in Maun; determine the effects of water scarcity on households and to determine coping strategies for water shortage in Maun.

## **METHODOLOGY**

### **Description of Study Area**

The village of Maun is located in Ngamiland District in the north-west of Botswana. The district experiences hot (30-40°C) wet summers and cold winter (15-20°C) (PLANTEC, 2003). The rainfall occurs between the months of November and March, with an average of 510 mm. The CSO (2011) estimated the

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