

STATEMENT OF ORIGINALITY

The research work contained in this thesis was conducted between February 2002 and May 2004. It is original work except where due reference is made. It has not been and shall not be submitted for the award of any degree or diploma to any other institution of higher learning.

Signature.....

ACKNOWLEDGEMENTS

First, I would like to thank God for bringing me this far and for giving me the wisdom, the courage and the strength to go on.

I would like to acknowledge my gratitude to every one who gave encouragement, advice and assistance.

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To START, thank you very much for the award and a great opportunity to attend the International Young Scientist Conference on Global Environmental Change.

Finally, I would like to thank my beloved husband for his continuous support, motivation and encouragement.

DEDICATION

This thesis is dedicated to my daughter Lisa and my husband Steve. They have been my inspiration and motivation throughout this work. I love you both.

PREFACE

This study focuses on vulnerability to climate variability in Botswana. The study examines vulnerability of rural societies and the configuration of forces that shape their ability to cope and adapt to climate variability. The research was sponsored by START. START is a non-governmental, non-profit organization that seeks to establish and foster regional networks of collaborating scientists and institutions in developing countries.

Over the three years of writing my PhD, I had the opportunity to attend the First AIACC (Assessment of Impacts and Adaptation to Climate Change) Regional workshop and open meeting for Africa and Indian ocean Islands. This workshop was held in South Africa, in the year 2003. I also attended the International START Young Scientists Conference on Global Environmental Change, which took place in Trieste, Italy in 2003. In 2004, I had the opportunity to attend the Norway + SAVI workshop held in Johannesburg, South Africa. From these workshops and conferences I have gained valuable insights into vulnerability assessment.

In 2002, I was awarded a START scholarship, which included tuition and research. This is a highly recognized scholarship that is awarded to selected young scientists. I was also selected by START to present a paper at the International START Young Scientist Conference on Global Environmental Change, which was held in Trieste, Italy in November 2003. Currently I am in the process of preparing a paper for publication.

ABSTRACT

Due to increasing rapid environmental change, coupled with changes in social, economic and political conditions, vulnerability assessments have become increasingly important for understanding society's capacity to deal with such changes. The aim of this research is to examine vulnerability of rural societies as well as the configuration of forces that shape their ability to cope and adapt to climate variability. The study compares two rural societies living in different climatic regions in Botswana. These are, the southwestern part, which has the driest climate and the northern part, which has the wettest climate. This detailed study will help us understand how different societies and individuals, living under different climatic conditions, shape their livelihood systems to buffer against climate variability.

Historical analysis, secondary sources, questionnaires, participatory rural appraisal and observation are some of the methods used to capture data. The study demonstrated that climate variability has had various impacts on the communities of Matsheng and Kasane. In an attempt to cope with the impacts of climate variability, various mechanisms are used. These include, reliance on government assistance, temporary migration, reduced number of meals eaten per day, engagement in labour for cash or in-kind, formal employment and prostitution. Several constraints were found to affect coping and adaptation strategies in Kasane and Matsheng. These constraints include, poverty, HIV/AIDS, unemployment, gender inequality and environmental factors. The study also demonstrated that female-headed households are the most vulnerable to climate variability. Vulnerability of female-headed households can mainly be attributed to poverty and inequality.

In conclusion, the study provides knowledge based on peoples experiences, which will help planners and policy makers to come up with more effective measures for reducing vulnerability to climate variability and possible future changes in climate. The knowledge will also contribute to understanding the process of social adaptation to past and current climatic conditions.

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LIST OF ACRONYMS

AGU	American Geophysical Union
AIACC	Assessment of Impacts and Adaptation to Climate Change
AIDS	Acquired Immune Deficiency Syndrome
BIDPA	Botswana Institute of Development and Policy Analysis
DFID	Department for International Development
ECA	Economic Commission for Africa
FAO	Food and Agriculture Organization
G8	The Great Eight Countries
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IGBP	International Geosphere-Biosphere Programme
IHDP	International Human Dimensions Programme
IISD	International Institute for Sustainable Development
ITCZ	Inter-Tropical Convergence Zone
IPCC	Intergovernmental Panel on Climate Change
NDMC	National Drought Mitigation Centre
NRC	National Research Council
RADS	Remote Area Dwellers
RVAC	Regional Vulnerability Assessment Committee
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SAVI	Southern Africa Vulnerability Initiative
SEI	Stockholm Environmental Institute
START	a global change SysTEM for Analysis, Research and Training of the International Human Dimensions of Global Environmental Change

Programme (IHDP), the International Geosphere-Biosphere Programme (IGBP) and the World Climate Research Programme (WCRP)

TB	Tuberculosis
UCS	Union of Concerned Scientists
UK	United Kingdom
UN	United Nations
UNAIDS	United Nations programme on HIV/AIDS
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
US	United States
WFP	World Food Programme
WMO	World Metrological Organization
WWF	World Wildlife Fund