

# Gender and Climate change: Botswana Case Study

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## Abbreviations and Acronyms

<b>CCA</b>	Climate Change Adaptation
<b>UNFCCC</b>	United Nations Framework on Climate Change
<b>CBNRM</b>	Community Based Natural Resources Management
<b>CBO</b>	Community Based Organisation
<b>CDM</b>	Clean Development Mechanism
<b>CHA</b>	Controlled Hunting Area
<b>COP</b>	Conference of Parties
<b>CSO</b>	Central Statistics Office
<b>ENERGIA</b>	International Network on Energy and Sustainable Energy
<b>HBC</b>	Home Based Care
<b>HBF</b>	The Heinrich Böll Foundation
<b>HIV/AIDS</b>	Human Immuno Virus/Acquired Immune Deficiency Syndrome
<b>INC</b>	Initial National Communication
<b>IPCC</b>	InterGovernmental Panel on Climate Change
<b>ISPAAD</b>	Integrated Support Program for Arable Agricultural Development
<b>OCT</b>	Okavango Community Trust
<b>ODMP</b>	Okavango Delta Management Plan
<b>OPT</b>	Okavango Polers Trust
<b>RADs</b>	Remote Area Dwellers
<b>RADP</b>	Remote Area Dweller Program
<b>TB</b>	Tuberculosis
<b>UNDP</b>	United Nations Development Program
<b>VDC</b>	Village Development Committee
<b>WMA</b>	Wildlife Management Area
<b>WEDO</b>	Women's Environment and Development Organisation
<b>CBPP</b>	Contagious Bovine Pluero Pneumonia
<b>MFDP</b>	Ministry of Finance and Development Planning
<b>TGLP</b>	Tribal Grazing Land Policy
<b>WMO</b>	World Meteorological Organization

# 1. Executive summary

The disadvantaged position of women means greater difficulty in coping with disasters, environmental change and climate variability. Gendered divisions of labour often result in more women represented in agricultural and informal sectors, which are more vulnerable to environmental variability and climate change. Women in general are also responsible for reproductive tasks such as food and energy supply for the household as well as many care-giving tasks, such as caring for the children, sick and the elderly. Women's responsibilities and vulnerabilities are often amplified by environmental and climate change. Climate change therefore magnifies existing inequalities, reinforcing the disparity between women and men in their vulnerability to and capability to cope with climate change.

This has prompted The Heinrich Böll Foundation (HBF) to commission a study to investigate the gender differentiated impacts of climate change in Southern Africa; specifically Botswana, Mozambique, Namibia and South Africa. This report presents the findings of the Botswana case study, conducted between July and November 2008.

The general objective of this report was to analyse differentiated impacts of climate change and climate variability. Furthermore, it was to examine the gendered dimension of climate change, its impacts and women and men's responses, with the aim to develop and inform around gender sensitive mitigation and adaptation policies. The central research question that the study sought to answer was *'Are women and men in southern Africa affected by climate change differently?'* To answer this question, a detailed understanding of women and men's interaction with their immediate environment (natural and social) and their perceptions on the use of climate sensitive resources is critical. This requires a deliberate gender differentiated enquiry into the experiences of these men and women in

order to understand how they experience their lives, especially around their different roles and responsibility. The methods used for this study were therefore qualitative social research methods that involve the field research approach.

Two villages in rural Botswana were selected to form the two case studies for the research. For the interest of comparison, the study chose the two villages because of their different environmental conditions, political landscape and socio-economic profiles. Seronga was selected because its people are almost entirely dependent on the goods and services derived from the Okavango river basin, it has rich biodiversity, rich ethnic diversity and is located in a wetland system that is of national and international importance (Ramsar site), located in the north-western part of Botswana. Chobokwane, in contrast, is located in the extreme arid (desert) environment of the Kalahari in the south-western part of the country. With the exception of veldt products, the people of Chobokwane derive little goods and services from the Kalahari system.

The general perception of the communities consulted is that over the years, there has been a steady increase in temperature, particularly during the summer season. The rains have also been less frequent and more sporadic, and since climate status is the single most important determining factor for arable rain-fed agriculture, reduced rains have led to reduced rain-fed agricultural yield for the farmers. The rainy season has also changed causing confusion to the farmers regarding first rains and planting times. In the case of Seronga, the elderly have experienced a receding flood plain over the years and extreme drought in some years. All these changes, perceived or real, have led to reduced agricultural yield, particularly in Seronga where the majority of its people are engaged in agricultural activities. In the case for Chobokwane, increased temperatures and reduced rainfall has

been blamed for the few and isolated cases of cattle death in the village.

The study also revealed the following specific findings:

Climate variability has had an impact on arable farming. In Seronga, it was reported that yields from rain-fed agriculture have been very low in Seronga and this was attributed to the low, erratic and unpredictable rains in the recent past. Women are most affected by this as arable farming is predominantly a female activity. In contrast, climate variability is not likely to affect the Basarwa in Chobokwane when it comes to arable farming as they are traditionally hunter-gatherers and do not engage in subsistence arable farming. Yet it is noted that drier climate may affect animal population, and patterns of migration impacting on hunter gatherer life.

Ecosystem resources from the Okavango River and Delta play an important role in shaping the livelihood activities of the people living along the river. The collection of reeds and grass, the making of baskets and fishing are three of the most important activities undertaken in the Okavango through the direct use of natural resources from therein. These activities are also some of the most gendered activities found among the Okavango Delta inhabitants. The impact of climate change on these ecosystem goods and services could not be established; however, noted changes to these ecosystems will certainly impact on people's livelihood given the current challenges of climate change and climate variability. These are seen as additional stressors that will impact on people's livelihood options. More research needs to be conducted to assess the impact of climate change on the availability of natural resources

The impact of climate change on work could only be established if work means women meet both productive and reproductive responsibilities. It is then established that women's workload for reproductive and productive needs will increase tremendously and families get poorer. It is expected that with reduced natural resource based livelihood options, more people will be looking for employ-

ment in order to supplement their income/livelihood. In many cases, particularly in Seronga, men are more likely to be employed in a village setting, as the women end up staying at home taking care of the children, elderly and the sick.

Malaria, HIV and AIDS and cholera are the existing health challenges faced in Botswana. These affect men, women and children, especially children and those that have a compromised immune system such as HIV positive people. However, with reduced livelihood options, climate induced poverty and lifestyle changes, women get poorer and they cope through prostitution to sustain families. This leads to increase in HIV and AIDS cases and other related sexually transmitted diseases. It is also expected that with increased temperatures due to climate change, the prevalence of Malaria-carrying mosquitoes will likely increase, not only affecting the most vulnerable group being women and children, but also increasing the burden of women caring for the sick.

Most women are engaged in the utilisation of veldt products as a source of not only food but income generation. They are therefore most vulnerable to drier climate and variable rainfall patterns.

The main policy recommendation from this study is that Governments should mainstream gender differentiated perspectives around climate change into their national policies, action plans and other measures on sustainable development and climate change. This can be done by carrying out systematic gender analysis, collecting and utilizing sex-disaggregated data, establishing gender-sensitive indicators and benchmarks and developing practical tools to support increased attention to gender perspectives. Consultation with and participation of women in climate change initiatives must be ensured and the role of women's groups and networks strengthened. Some of the specific recommendations of the study include:

Government interventions on arable agriculture should not only focus on provision of farming inputs and technological packages but should include mainstreaming of gender and HIV and AIDS. Women and youth should particularly be tar-

geted through focused programmes such as provision of draught power to women and the most vulnerable.

Access to credit becomes very important in instances where women do not meet their needs. However, the prerequisites and processes for accessing these credit initiatives are sometimes exclusive and therefore exclude certain members of society, particularly women, from accessing them. These credit programmes should be reviewed specifically to mainstream gender and allow equal access to related training, credit and skills-development programmes to ensure women's full participation in climate change initiatives.

There is limited available survey data to clearly expose the disparity between female and male energy needs, use and how the gender groups are performing in terms of accessing modern energy sources/fuels. It is recommended that research/surveys in this area be conducted to inform energy related policies.

Women still have to travel long distances to collect water. Water supply services need to be improved to provide reliable access to clean, potable water for basic needs that can also be used for productive purposes.

The need for skills among women to engage in economically productive activities such as basket weaving and commercial fishing is high among rural villages. Programs geared at training and capacity building in all areas of business (such as marketing and book-keeping) as well as the devel-

opment of the skills of those interested in learning weaving and fishing skills is needed. Development of reliable markets for local produce would go a long way in making local economic activities such as fishing and basket making economically viable. Support for women's groups to share experiences and exchange lessons in what they engage in should also be promoted.

Programmes on domestic violence on women should be promoted

A study of this nature requires extensive time resources in order to fully appreciate and capture the experiences and perspectives of the subjects and issues under investigation. Insufficient time was therefore one of the main issues that presented challenges to the fieldwork/data collection aspect of the research. Language also became a challenge, especially in the Chobokwane study area.

Another major limitation to the study is the lack of available and relevant climate change data. The study aimed to draw conclusions on the possible impacts of climate change on both women and men, but that proved to be a challenge because of lack of climate change data over a long period of time and lack of gender disaggregated data. In dealing with this challenge, the study made an assessment of existing livelihood challenges faced by both men and women, particularly as it relates to climate sensitive sectors and concluded that climate change will become an additional stressor in an already complex system.

## 2. Introduction

The Heinrich Böll Foundation (HBF), a not-for-profit organisation, has commissioned a study to investigate the gender differentiated impacts of climate change in southern Africa; specifically Botswana, Mozambique, Namibia and South Africa. This report presents the findings of the Botswana case study, conducted between July and November 2008.

### 2.1 Back ground to the study

Addressing the threat of climate change is a current global priority. Unless it is effectively dealt with, climate change will have a dramatic impact on the environment and on economic and social development (UNDP IPCC Fourth Assessment Report, 2007a). Climate change is also likely to exacerbate both natural disasters and potential conflicts over natural resources. The most recent large international gathering on Climate Change, United Nations Climate Change Conference in Bali in December 2007, clearly reaffirmed Member States' commitment to addressing climate change and the Bali Action Plan was then born. The Bali Action Plan confirmed that effectively addressing climate change requires a multi faceted approach, which put gender issues as central to effective mitigation, adaptation, technology and financing (Banda, 2009).

Developing countries are especially vulnerable to the negative effects of climate change. According to the 2006 Stern Review, developing countries are geographically vulnerable, located where climate change is likely to have damaging impacts and most importantly, developing countries are likely to have the least capacity to adapt to these changes due to poverty and the most affected will be women and children...

It is said that amongst the most vulnerable, rural women in comparison with men, show higher levels of vulnerability to climate change. Women are one of the most disadvantaged and neglected

groups in society, making them vulnerable to the effects of climate change. Vulnerability as defined by Adger (2006) is the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt. Not all groups in society have the same adaptive capacity, since all do not present the same vulnerabilities. Any group lacking in the financial, social, and political means of securing alternative livelihoods are more vulnerable to the impacts of climate change.

In order to fully contextualise the link between gender and climate change, it is important to understand gender in the Southern African context, the vulnerabilities that exist, differentiated impacts and the links between gender and climate change. The vulnerabilities will determine how men and women in Southern Africa will effectively deal with climate change.

The objective of this report is to analyse the gender dimension of climate change, its impacts and responses, with the aim to develop gender sensitive mitigation and adaptation policies. Gender aspects of climate change have largely been ignored in international debates and in international policy frameworks. It was only in 2002, at the UNFCCC Conference of Parties (COP) 8 that gender was discussed at a side event and a decision was made to mainstream gender into climate change policies and programmes.

The general objective of the study is to answer the question 'are women and men in southern Africa impacted by climate change differently?' However, the specific questions that the study aims to investigate are the following:

- How women and men are differently impacted?
- What are the physiological, political, economic and societal causes for the differences experienced, if any?

- What are the current coping and adaptation strategies and capacities?
- How can the capacity of women and men be strengthened to better adapt to climate change and climate variability?

The study was conducted in two villages in Botswana, one, Chobokwane, located in the Kalahari Desert and the other (Seronga) located in the Okavango Delta part of Botswana. The Kalahari Desert conditions are dry, with sandy soils that have low agricultural potential. The Okavango Delta, on the other hand, is a swamp with permanent and seasonally flooded areas and supports lots of biodiversity. The soils are however not highly suitable for agriculture either. Chobokwane is a settlement occupied by a predominantly San community,

while Seronga is a village inhabited by predominantly Bayei, but also has a large number of the Hambukushu. Seronga is a fishing, and agro-pastoral community, while the San are traditionally hunter-gathers, who however, due to conservation policies, engage in little or no hunting, but have instead been encouraged to engage in mainstream Tswana livelihood activities such as agro-pastoral farming. Through the Remote Area Dweller (RAD) programme, the Government of Botswana provides destitute families with start-up packages to engage in such activities as livestock rearing and crop farming. This programme has however had mixed results in the Kalahari areas as natural conditions are harsher and make these strategies harder to pursue. A more detailed description of the two study areas can be found under *Section 4*.

# 3. Literature review

## 3.1 Conceptual framework

### 3.1.1 Gender in the Southern African context

Southern Africa is faced with a multitude of developmental challenges ranging from high population dynamics, low levels of development, poverty, poor infrastructure, the effects of HIV and AIDS, natural catastrophes such as floods and drought, high levels of environmental degradation and more recently, climate change. Men and women experience each of these challenges differently because of their differential access to and control of resources. Deeply entrenched gender inequalities exacerbate many of the challenges that already exist in Southern Africa. Much progress has been made to address the inequalities. Most countries have enshrined gender equality in their constitutions. Most Governments have signed and ratified international and regional instruments that promote gender equality and prevent the discrimination of women. Some countries have even progressed to the extent of developing national gender policies that reinforce the constitution and the gender commitment at international level.

Progress has however been slow. Although a large body of research has revealed women's disproportionate burden of poverty, previous and current poverty reduction strategies have not given sufficient attention to women's poverty and its causes, nor have they allocated the requisite resources that would create the necessary conditions for women to move out of poverty. Despite women's significant roles in agricultural production, many women in Southern Africa are still denied the right to own or inherit land. They rarely have access to extension services, credit and training in new technologies.

New and emerging challenges are reversing some of the gains that women have achieved in Southern Africa and in some cases, creating new burdens. The HIV/AIDS pandemic increase their responsibilities for care and support of the family. Women's pow-

erlessness, poverty and lack of decent employment opportunities have resulted in higher numbers of women being afflicted by the HIV/AIDS pandemic. Climate change is another emerging challenge that is also affecting women, and exacerbating the inequalities that exist. Because of their roles, unequal access to natural resources and limited decision making position, women are more vulnerable to the effects of climate change.

### 3.1.2 Gender and vulnerability

Vulnerability is defined as the extent to which a natural or social system is susceptible to sustaining damage from a stressor, in this case, climate change. Vulnerability is a function of the sensitivity of a system to changes in climate, the degree to which a system will respond to a given change in climate, including beneficial and harmful effects. Vulnerability is dynamic and susceptibility changes according to loss caused by exposure to disaster or unequal risk of individuals, communities and systems. The role of pre-existing condition of systems of physical and social space is important in considering vulnerability. Pre-existing conditions include; the geographical location; nature of dwellings; access to physical infrastructure, information and communication systems; patterns of social capital; and the ability of different groups or individuals to secure alternative livelihoods and ensure the flow of resources – financial, social and political – to maintain livelihood security (Twigg, 2001). Because of the gender differences in property rights, access to information and in cultural, social and economic roles, the effects of climate change are likely to affect men and women differently. Women, particularly rural women, compared to men show higher levels of vulnerability to climate change, since their participation in institutional and economic dynamics is characterized by gender-based limitations in access to resources

when performing their productive, reproductive and community roles.

### **3.1.3 Gender and adaptation**

Adaptation is generally perceived to include an adjustment in social–ecological systems in response to actual, perceived, or expected environmental changes and their impacts. Smit and Wandel, 2006 describes adaptation as a process, action or outcome in a system (household, community, group, sector, region, country) to better cope with, manage or adjust to some changing condition, stress, hazard, risk or opportunity. Numerous definitions of adaptation are found in climate change literature, mostly variations on a common theme. In the climate change context, Smit et al. (2000) refer to adaptations as “adjustments in ecological-socio-economic systems in response to actual or expected climatic stimuli, their effects or impacts.” Pielke (1998), also in the climate context, defines adaptations as the “adjustments in individual groups and institutional behaviour in order to reduce society’s vulnerability to climate.”

Adaptation efforts should be directed to the areas in a community with the least capacity to adapt or those groups with the greatest vulnerability. Women show higher levels of vulnerability and adaptation will therefore be crucial in reducing these vulnerabilities to climate change and will be a key response by Southern Africa.

### **3.1.4 Gender and adaptive capacity**

When an individual, community or system is exposed to climate change, the degree to which adjustments in practices, processes, or structures can moderate or offset the potential for damage or take advantage of opportunities created by a given change in climate is known as adaptive capacity. The capacity to adapt will vary for different systems and levels of vulnerability. A highly vulnerable system would be a system that is very sensitive to modest/small changes in climate, where the ability to adapt is severely constrained, such as women.

Adaptive capacity is context-specific and varies from country to country, from community to com-

munity, among social groups and individuals, and over time. The capacity of a household to cope with climate risks depends on the enabling environment of the community. Most communities and sectors can cope with (or adapt to) normal climatic conditions and moderate deviations from the norm, but exposures involving extreme events that may lie outside the coping range may exceed the adaptive capacity of the community.

### **3.1.5 Differentiated impacts**

It is globally accepted that climate change will affect all countries; however its impacts will be differently distributed among different regions, income groups, and occupations and between women and men. Poor women and men, especially in developing countries, will be disproportionately affected. Studies on natural disasters have shown that women who did not enjoy socio-economic rights are more vulnerable to natural disasters than men (Davies et al., 2008). For example, “in 1998, when severe flash floods hit Bangladesh, women’s mortality reached 90 percent”. This is because it was not socially acceptable for women to leave home without their husbands or leave their children behind. Nor were women taught how to swim. This shows that women and men are impacted differently by stressors and this is mainly due to the existing gender inequalities. Box 1 provides a summary of some of the gender issues in climate change.

### **3.1.6 Climate change**

Climate change, as defined by the IPCC, is a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity (IPCC Fourth Assessment Report, 2007). According to the IPCC, Africa is projected to have an increase of 5-8% of arid and semi-Arid land due to climate change.

The IPCC concluded that poor communities can be especially vulnerable as they tend to have more limited adaptive capacities, and are more depend-

ent on climate sensitive resources such as water and food supplies from agriculture. A vulnerability approach to climate change is therefore necessary to identify, delineate, and understand those driving forces that increase or decrease vulnerabilities.

### 3.1.7 Climate change in Botswana

Botswana signed the United Nations Framework Convention on Climate Change at the United Nations Conference on Environment and Development (UNCED), the 'Earth Summit' that was held in Rio de Janeiro, Brazil 1992 and ratified two years later on 27 January 1994. In 2001, Botswana developed the Initial National Communication (INC) to the UNFCCC, which is an assessment of Botswana's current status with regards to climate change data, policies and measures that address climate change and projected impacts arising from climate change.

According to the INC, Botswana only contributes

about seven percent of Africa's total greenhouse gases, while Africa contributes about five percent of the global total. Botswana is also considered to be a net sink for greenhouse gases, since emission levels are less than the rate of carbon uptake. It is estimated that the climate changing effect of the emissions are 52% due to carbon dioxide, 33% due to methane and 16% due to nitrous oxide. The sum of this is equivalent to 0.02% of the global anthropogenic emissions (Botswana INC, 2001).

The Initial National Communication (2001) suggests that Botswana is highly vulnerable to the impacts of climate change. Temperatures are predicted to rise by 1-3°C during the next 100 years due to greenhouse gas emissions. Rainfall models for Botswana are less consistent; however, an overwhelming majority of the models seem to suggest a general decrease in rainfall for Botswana.

## Box 1: Gender issues in climate change

Rural livelihoods of women and men differ widely between regions. However, certain issues are relevant to understand gender-related patterns of vulnerability.

- The majority of women farmers **do not have secure land rights**. This has negative implications on their capability to adapt their agricultural activity to changing ecological conditions, since land can't be used as collateral for accessing credit. Furthermore, security of land tenure is a basic incentive for undertaking sustainable agriculture investments, in terms of infrastructure and know-how.
- Women's **productive assets are generally of lesser value than those of men**. This can be due to inheritance patterns, or related to the agricultural activities of women and men: women often undertaking activities which need less capital. As both a cause and effect, women's economic activities are often less economically

profitable than those of men. This limits their potential for expansion and increases their vulnerability in the face of shocks such as sudden shortages in food supplies, in income, crop failure, natural disasters, etc.

- Women in rural areas worldwide **have lower educational levels** than rural men. This hampers their access to information and know-how which could complement and optimise their own knowledge. Illiteracy, which is generally higher among women than among men, reduces their possibilities for gaining wage employment, which could be an important source of alternative income.
- Women farmers' **participation in farmer's organizations and commercial networks**, which would allow their articulation to markets and resources such as credit, tend to be mediated through male relations. This can lead to their specific needs being neglected.

(Source: Lambrou and Laub, 2004)

The climate change predictions are as follows:

- **Livestock production:** It is predicted that the recurrent droughts would become deeper, longer, more severe and more frequent during the summer season. This impact is expected to affect livestock production, a mainstay of the majority of the people of Botswana.
- **Crop production:** crop yields are expected to reduce by about 30% for both maize and sorghum, due to a hotter and drier climate.
- **Water resources:** a detailed analysis of the climate change impact on water resources has not been undertaken, it is however predicted that under a warmer and drier climate, the water resources will be stressed even further.
- **Human health:** the link between climate change and health needs to be further investigated.

### 3.2 Botswana and efforts at placing gender in national development

The government of Botswana has put in place a number of mechanisms to improve the position of women in Botswana. These range from the creation of institutional frameworks that deal with problems faced by women and advances women's agenda, to the enactment of legal instruments that eliminate the discrimination of women. Non-governmental Organisations (NGOs) have emerged to fight injustices against women and to advance the status of women. These efforts are supported by the Botswana Constitution, which states that every person in Botswana is entitled to basic/fundamental rights and freedoms, irrespective of their race, place of origin, political opinion, colour, creed or sex.

Furthermore, in 1981, the Government of Botswana signed the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) and it is therefore bound by the convention to undertake certain measures to end all forms of discrimination against women. In recognition of the importance of the contributions by women's organisations and non-formal groups to national development, Botswana established the Women's

Affairs unit in 1981, and then upgraded into a department in 1996. Its core function is to ensure that government, non-government and private organisations incorporate gender aspects as far as possible in information they generate and disseminate. In addition, the department promotes the involvement and participation of women on all aspects of development

Botswana also developed several national policies and legislation in order to align with the provisions of the CEDAW. Laws such as the Citizenship Act, Mines and Quarries Act, Criminal Procedure and Evidence Act, Deeds Registry Act, Penal Code Act, Affiliations Proceedings Act, Public Service Act and the Marriage Act have been amended to comply with the treaty obligations. Furthermore, in 2004, the Abolition of Marital Power Act was enacted, which abolishes the common law principle of marital power and replaces it with equal powers of spouses married in community of property. Family law subordinates married women to their husbands and leaves important decisions about property, and children, to the husband. The common law rule of marital power suggests that the husband is the head of family, as such; he has decisive say in all matters concerning the life of the wife. It also implies that the husband is able to represent his wife in legal proceedings or any contractual transactions.

Before the 1996 Deeds Registry amendment, immovable property could not be registered in the name of a woman married in community of property; such property had to be registered in her husband's name. The abolition of marital power act has now removed restrictions which marital power placed on the legal capacity of a wife and abolishes the common law position of the husband as head of the family. This means that a married woman in Botswana is able to make important decisions about her life, without necessarily requiring the husband's approval. This is considered one of the most important milestones in improving the position of women and promoting gender equality in Botswana.

## 4. Approach & methodology

### 4.1 General approach

The central question that the study sought to answer was 'Are women and men in southern Africa affected by climate change differently'. To answer this question, a detailed understanding of women and men's interaction with their immediate environment (natural and social) and their perceptions on the use of climate sensitive resources is critical. This requires a deliberate gender differentiated enquiry into the experiences of these men and women in order to understand how they experience their lives. With this in mind, the study sought to get a textured, nuanced story from below and place it within the broader political debates around gender and climate and environmental change, placing it within the specific context of southern Africa.

Participatory vulnerability assessment was the approach used to answer the research question. This was necessary to identify and understand those driving forces that increase or decrease vulnerabilities from the gender perspective. The methods require the active involvement of community stakeholders, information collection on community relevant phenomena and processes, the integration of information from multiple sources, and the engagement of decision-makers (Smit and Wandel, 2006). Participatory vulnerability assessments allow for the recognition of multiple stimuli beyond those related to climate, to include political, cultural, economic, institutional and technological forces. Furthermore, the methodologies recognise the interaction of various exposures, sensitivities and adaptive capacities over time. What is vulnerable in one period is not necessarily vulnerable (or vulnerable in the same way) in the next, and some exposures and sensitivities develop slowly over time. Finally, the approach recognises that sources of exposures, sensitivities and adaptive capacities function across scales, from the individual to the national (Smit and Wandel, 2006).

The system of interest in this case is the community, but the analysis seeks to identify the broader conditions and structures within which the community functions. The study began with an assessment of current exposures, sensitivities and current adaptive capacity of women and men (including such tools as semi-structured interviews, participant observation and focus groups), as well as insights from local and regional decision-makers, resource managers, scientists, published and unpublished literature, and other available sources of information. The aim of this analysis is to identify and document the conditions or risks (current and past exposures and sensitivities) that people have to deal with, and how they deal with these, including the factors and processes that constrain their choices (current and past adaptive capacity)..

Prior to the field work, an inception workshop was held in Cape Town to discuss and standardise the approach and methodology for all the studies in the four countries. This way, the findings for all the countries can easily be compared. The methods agreed upon are explained in detail in the sections below. It was also agreed that research should be conducted in two sites, preferably with differences in climate, geographical location and ethnic composition. In the case for Botswana, those two sites are Seronga and Chobokwane. These villages will be discussed in more detail in Chapter 4. The methods used for this study are explained in detail below:

**Interviews** – These included semi-structured interviews, focused group discussions and in-depth interviews with key actors in the communities. Semi-structured interviews were used mainly to understand the general perspective of locals about the use of their immediate natural environment and the resources therein. Most semi-structured interviews involved discussion on many issues

from gender relations and local politics to specific livelihood activities such as fishing, farming or reed collection. These were also used to identify key informants that could later be contacted for interviews on specific issues that they were knowledgeable on. Participants of semi-structured interviews were of different age groups including young (as young as 16 years old) and old (as old as 80 years old) family members from different generations, friends and acquaintances. These interviews were structured more like informal discussions than interviews. This allowed respondents to talk about any issue they perceived as relevant to the discussion. Rich data was acquired through this method as respondents did not perceive the interviews as questioning sessions but a curious interest in their lives by outsiders.

**Focus group discussions** – These were used mainly to acquire information on a specific subject from a specific group of people such as farmers, women basket weavers, or fishermen. This required detailed preparation of a checklist of questions on specific issues surrounding the activity being studied. For instance, detailed focus groups discussions were held with a group of 14 small-scale commercial fishermen who are members of the Seronga Fishermen Association; a group of 7 farmers (four men and three women between the ages of 33 and 75); a group of young women involved in basket weaving, a group of older women who collect reeds, prominent women and men

In the community who are knowledgeable on natural resource management issues, local politics and other rural development issues, and 2 life histories with 2 women (a 44 year old and a 62 year old) who are involved in farming (agro-pastoral and reed collection and basket weaving).

**Document content analysis and literature review** – This was carried out throughout the research process, before, during and after the fieldwork. Policy and other official documentation gave insight into the Government's philosophy on gender and natural resource management and use

issues. This process not only helped shape the kind of questions to ask (additional to those already prescribed in the questionnaire, but also gave information that could not be gained in the field, partly because of time constraints and also because people did not have this information). Relevant documents for the study, including policy documents, legislation, plans, strategies and reports of relevant past projects were identified for the review. The aim of the document research was to collect information that will enhance the researchers understanding to the project and subject area. Documents identified are listed below. However, a more comprehensive list of documents reviewed is listed in the reference section of this report.

- National Development Plan 9 (2003/4-2008/9)
- CSO 2001 Population and Housing Census, 2001.
- NDP 9 Mid term Review, 2006
- Okavango Delta Management Plan, 2008
- Land Management Plan for the Ghanzi Communal Area
- UNFCCC National Communication Framework
- Botswana National Action Program to Combat Desertification, 2006
- Policy on Women in Development
- Review of the Remote Area Development Program
- Relevant national policies, strategies and legislation on climate change and gender

#### 4.1.1 Participant observation

Even though this method requires extended periods of time in the study areas in order to make scientific conclusions, some insight was gained into the lives of the people and their interaction with each other and the resources and institutions around them through making observations. Visits to participants' fields, homes and resource collection sites proved very useful in understanding the local context. A scheduled visit to the Okavango Delta islands with women reed collectors helped the researchers appreciate what it takes to be a reed collector in an area not easily accessible. Informal discussions with members of different gender and age groups helped us appreciate the interactions

between men and women, young and old. The observation was made that older women are more articulate than younger ones; that women (especially older) are generally less articulate around men (especially their husbands); and that younger men relate well with older men.

The first step in this study was to come up with an inventory of demographic, economic, environmental and social conditions and land use patterns of the two study areas; Seronga and Chobokwane. This involved reviewing all the relevant documents on the two areas, including, but not limited to National Development Plan, District Development Plans, the 2001 Housing and Populations Report and associated documents, the 2003/2004 Household Income and Expenditure Survey, relevant legislations and other legal instruments.

#### **4.1.2 Semi-structured interviews**

A methodology workshop, held in Cape Town August 2008, helped formalise the 5 research questions for the study. To ensure comparability, guiding questions that formed a framework for interviews were designed by each researcher from each country. However, when in the field, the structured interview evolved into semi-structured as some questions were not applicable and in many instances, more probing had to be done in order to keep engaging the interviewee. The semi-structured interviews were found to be useful as they allowed for focused, conversational, two-way communication and most importantly, it allowed for a fairly open framework which was used both to give and receive information. Annex 1 provides the questionnaire that was used for this study.

#### **4.1.3 In-depth interviews with key stakeholders**

A stakeholder analysis was conducted to identify the primary and secondary stakeholders that are relevant to the study. Key stakeholders would typically include Government officials working in the Department of Wildlife and National Parks, social workers, nurses, health officials and chiefs. Not all of these were contacted as the time spent in

the field was limited and some of these respondents had prior engagements at the time that the researchers were in the field. Detailed consultation of official documentation was however made to compensate for this, but it is acknowledged that valuable up-to-date information could have been acquired through more interviews with this group of informants.

#### **4.1.4 Focus group discussions**

It was generally difficult to get more young men in interviews as most have travelled away from the villages in search of employment. Most young respondents therefore were women who stay in the village, often unemployed and caring for the young, old and sick. This however is an observation is itself that women seem to be more vulnerable to changes in the social and environmental conditions of any landscape.

#### **4.1.5 Limitations and challenges of the methodology**

A study of this nature requires extensive time resources in order to fully appreciate and capture the experiences and perspectives of the subjects and issues under investigation. Insufficient time was therefore one of the main issues that presented challenges to the fieldwork/data collection aspect of the research.

Language also became a challenge, especially in the Chobokwane study area. None of the researchers speak any of the San languages spoken in Botswana and therefore had to rely on a third party to interpret what was being said by the respondents.

A general lack of published official up-to-date sex-disaggregated data on statistics such as literacy rates, number of female headed households and other related data proved a challenge to making conclusion on certain issues.

There is insufficient climate change data and gender disaggregated data, drawing conclusions on the possible impacts of climate change on both women and men proved to be a challenge.

## 5. Description of study area

As noted above, two villages in Botswana were selected to form the two case studies for the study. For the interest of comparison, the study chose the two villages because of their different environmental conditions, political landscape and socio-economic profiles. Seronga was selected because its people are almost entirely dependent on the goods and services derived from the Okavango river basin, it has rich biodiversity, rich ethnic diversity and is located in a wetland system that is of national and international importance (Ramsar site), located in the north-western part of Botswana. Chobokwane, in contrast, is located in extreme arid (desert) environment of the Kalahari in the south-western part of the country. With the exception of veldt products, the people of Chobokwane derive little goods and services from the Kalahari system. These study areas are described in detail below.

### 5.1 Seronga

Seronga, located in Ngamiland District, is just 90km south-east of the Okavango River in the part of the Delta subsystem that is usually referred to as the Okavango Delta Panhandle. The Panhandle is the area of the Delta where the river flows in a permanent clearly-defined 90km stretch before dispersing into numerous channels that distribute the water over the whole delta. This area always has water, but the size of the floodplain is determined by flooding and drying. The floodplains are flooded during the peak flood period between March and July to form the seasonal swamps. During years of exceptionally high floods, spasmodic over-flow inundates areas beyond these seasonal swamps to form the intermittent floodplains in the peripheries of which are fossil plains that mark the coterminous extent of a more extensive wetland during the historical past (Hamandawana et al, 2007).

### 5.1.1 Climate

The climate of the Okavango Delta region may be described as semi-arid with very high summer temperatures and a pronounced dry winter season. The rainfall occurs between the months of October and March and is highly variable, ranging from 455mm in Maun to about 480mm over the Delta area. Summer temperatures reach an average high of 37 degrees Celsius. The surrounding dryland vegetation is dominated by tree and shrub savannas (Mmopelwa, 2005). The Okavango Delta contrasts sharply with the surrounding land where rainfall is low and erratic, evaporation rates are high and surface water is lacking for most of the year (Wolski and Savenije, 2006).

### 5.1.2 Ecology

Ecologically, the Okavango Delta is a complex and dynamic system. An ever changing mosaic of perennial and seasonal swamps, grasslands, intermittently flooded areas, and dry land, this oasis within the Kalahari Desert serves as magnet for many kinds of wildlife, especially when the rest of Botswana is dry. The size of the Delta varies dramatically from year to year, depending primarily on rainfall in Angola (Kgomotso and Swatuk, 2006). The waters are at their highest during the dry season (June-September) and their lowest during the wet season (November-March) (Neme, 1997) because the flow from Angola to Botswana takes about five months to reach the southern part of the Delta. The flooding and drying pattern of the Delta, as well as the spatial distribution of resources (drylands and floodplains, permanently flooded and seasonally flooded channels) introduces periodic shocks and opportunities into the livelihood strategies of the inhabitants. Seasonality requires adaptation and diversification of local livelihood strategies in order to continue benefiting from the resource. Climate variability of the area also adds to the complexity and unpredictability of the system. The challenges

for access and control of resources presented by these environmental conditions can be reduced or increased by development and environmental policies that are not compatible with the environmental conditions or current livelihood practices.

A reduction in the size of floodplains and drying up of rivers and floodplains, and/or changes in the courses of river channels has been observed all over the Okavango Delta, particularly in the past 30 years. This desiccation of river channels and floodplains, according to Kgathi et al (2007) has adversely affected access to water resources (humans and livestock), *molapo* (floodplain agriculture) farming, fishing and the harvesting of veldt products. Climate related changes such as a decline in rainfall poses a great challenge to some of the livelihood activities of the people in the Seronga area. A reduction in rainfall upstream in Angola and over the Delta would adversely affect the hydrological dynamics of the Delta and result in reduced floods, in turn negatively impacting on the floodplain and river based livelihood activities of the people resident in the area. Notable is the decline in floodplain agriculture, which people no longer practice not only because new land use regulations do not allow it but also because of a reduction in the flood extent, and in some cases complete desiccation of floodplains. Women particularly fish in the floodplains when the floods are lower, a seasonal activity that occurs when the floods start to recede in October. Inability to practice this activity poses a challenge to provision of household food security by women.

### **5.1.3 Land use**

Seronga is located in a communal land use area (NG11) designated for settlements, arable and pastoral agriculture and bordered (to the south by NG 24 and to the southeast by NG 12) by zones designated as Wildlife Management Areas used mostly for CBNRM activities. Land use in these zones is classified as tourism land use (ODMP, 2006). These land use types tend to conflict, resulting in loss of property and crops by farmers, and sometimes reduced access to resources by both livestock and wildlife.

### **5.1.4 Socio-economic**

Seronga is the largest settlement east of the Okavango River. The Okavango River is estimated to have about 3041 (including localities such as cattlepost and arable land areas) people in the 2001 national population census, 1736 of which are female and the remaining 1307 male. For Seronga itself, the population was counted as 1461 in the 2001 national population census. Seronga is an ethnically diverse village with three main groups residing in and around the village. These are Basarwa (San), the Hambukushu and the Bayei. These groups have different main economic activities that they engage in, with minor overlaps. The Basarwa are traditionally hunter gatherers, while the Hambukushu and the Bayei are not. They keep cattle from time to time and they also fish. The BaYei are the prominent ethnic group in Seronga, but a large number of the Hambukushu has settled in the village over time. The San are therefore the minority ethnic group in the village. There are a number of cases where the BaYei and San have intermarried.

The most important livelihood activities in Seronga, as indicated above include arable agriculture, pastoral agriculture, fishing, basket and grass collection, harvesting of veldt products and formal employment. Most of these activities are centred on the Okavango River and floodplains which offer a variety of ecosystem services that support these livelihood activities.

### **5.1.5 Health**

Like other rural places in Botswana, the HIV/AIDS pandemic has presented a shock to the livelihoods of people in the Okavango Delta region. HIV/AIDS prevalence in the Okavango was estimated at about 15% in 2004. This epidemic usually affects the most productive cohorts of the population. As Kgathi et al (2007) note, the HIV/AIDS pandemic presents a number of challenges and differs from other shocks in that it 1) has long-term impacts, 2) attacks the most productive cohorts 3) puts heavy pressure on women as they play a leading role in caring for the sick and orphans, 4) significantly reduces the gross

national product. Prior research in the study by Kgathi et al (2007) has revealed that all households in the study area were either AIDS-affected or AIDS-afflicted, the former being those that are not infected but have used their resources to support households afflicted by HIV/AIDS (e.g. support of orphans) and the latter being households with members who are ill or have died from HIV and AIDS. The perceived impacts of HIV/AIDS in the study area included increased financial costs, pressure on agricultural labour and loss of employment.

## 5.2 Chobokwane

Chobokwane, a Remote Area Dweller (RAD) settlement, within the Ghanzi District, has an area of 372 km<sup>2</sup> and population of 961. Chobokwane is located in the Kalahari, which lies within the Kala-

hari sandveld system that extends from Northern Cape Province in South Africa northwards to Angola (GoB, 2002).

### 5.2.1 Climate

The Ghanzi district is characterised by semi-arid climatic conditions of low altitude, hot summer periods and cool winter periods. The Ghanzi area experiences long spells of aridity. The area is also characterized by high rainfall variation, ranging from 857.5 mm in 1974 to 181.4 mm in 1992 (GoB, 2002). The minimum and maximum temperatures for summer periods in Chobokwane are 17.6 C and 32.6 C respectively and for winter months, 6.3 C and 25.5 C for the minimum and maximum respectively.

Table 1: General statistical data for Ngamiland District & Seronga Village

	NGAMILAND (DISTRICT)	SERONGA (VILLAGE)
Total population	124 712	1641 (currently estimated at about 3000)
Proportion of national population	8%	
Annual population growth rate (1991-2001)	2.8%	
Male population	59 661 (48.8 %)	683
Female population	65 051 (52.2%)	958
Number of households	4.7 persons	
Average household size	4.7 persons	
Number of male headed households	12 603 (47.9%)	
Number of female headed households	13 710 (52.1 %)	
% of employed population	36%	
% of unemployed population	64%	
Illiteracy rate	36%	

(Source: 2001 National Population Census)

### 5.2.2 Vegetation

Plants of the Kalahari are well adapted to the environment, ranging from root systems that are deep and well-spread out to tubers that produce leaves and flowers during the wet season. These tubers play an important role in the household diet of the communities inhabiting these areas, and are traditionally gathered as food by women and girls. A lot of the plants that grow in this area are also used for other purposes such as medicine. The Kalahari is characterized by low levels of soil moisture and the high infiltration rates make the soils of the area unproductive. The soils are predominately deep, structure less, fine sands, low in essential plant nutrients and low in organic matter (Dougill et. al., 1999). The area lacks any perennial rivers. Despite the absence of surface water, the mixed grass and shrub savannah have resulted in the view that the Kalahari is an untapped grazing resource; hence a concentration of commercial cattle ranches in the area. Tall trees (>10–15m) virtually do not exist in the Kalahari.

### 5.2.3 Socio economic

In rural Botswana, limited economic opportunities exist outside of the agricultural sector, which is also hardly productive. The rate of unemployment in the Ghanzi area is estimated to be more than 30% of the population (GoB 2002). The Ghanzi district

is one of the largest cattle producers in the country and the San men were historically herders in the predominantly white-owned cattle ranches found in this area.

The population of the Ghanzi district in 2001 was estimated to be 32,481, with 16,564 males and 15,917 females. The population for Chobokwane and associated localities, according to the CSO (2001) is a total of 961, of which 545 are males and 416 females. Chobokwane is shown to have the highest population growth rate in the district. The last recorded population reading for the previous census in 1992, was 192.

### 5.2.4 Livestock farming

The Government of Botswana has aggressively pursued policies of expanding privatised ‘ranch style’ livestock production, as a way of curbing environmental degradation in the communal areas of the Kalahari since its independence. In 1970, the Government of Botswana established forty ranches in the Kalahari through the first Livestock Development Project (LDPI). The project’s objective was to encourage small scale livestock farmers to commercialise their activities. In 1975, the Tribal Grazing Land Policy (TGLP) was introduced, aimed at reducing the environmental degradation attributed to overstocking in the commu-

Table 2. Chobokwane: facilities and extension services

TOTAL POPULATION	EXTENSION/ OPERATION STAFF	FACILITIES PROVIDED	LEADERSHIP STRUCTURES
<ul style="list-style-type: none"> <li>• 345 Female</li> <li>• 416 Male</li> <li>• Total 961</li> </ul>	<ul style="list-style-type: none"> <li>• Assistant Project Officer</li> <li>• Assistant Community Development Officer</li> <li>• Family Welfare Educator</li> </ul>	<ul style="list-style-type: none"> <li>• Health post</li> <li>• 1 Borehole</li> <li>• Primary School</li> </ul>	<ul style="list-style-type: none"> <li>• Headman of record</li> <li>• Village Development Committee</li> <li>• Councillor</li> </ul>

(Source: RADP Review, 2003)

nal grazing system. The policy's main objective was to alleviate environmental and social problems in the eastern part of the country by encouraging economically viable commercial livestock production in the western part of the country, i.e., the Kalahari. It achieved this by expanding cattle production in the Ghanzi district, through the establishment of ranches equipped with a borehole. Whether the intended social benefits of the TGLP have been achieved is highly debatable and widely criticised. Of note is the criticism that ranch owners continue to use their dual grazing rights on both private land, by virtue of them being ranch owners, and to communal lands, which is a constitutional right. This dual grazing right is criticised widely and is seen to be exacerbating the social inequalities in terms of access to grazing land and livestock. The social implications of the TGLP therefore include reduced status and increased poverty among rural dwellers (Dougill et. al., 1999).

Approximately 335,000ha of communal land was made into leasehold ranches under the TGLP

(Taylor, 2003), thereby reducing communal grazing land available for the subsistence livestock keeper. As a result, subsistence livestock keeping in Ghanzi district in the communal areas is not very common, with the exception of small stock. However, for the Basarwa in Chobokwane, livestock keeping is still not common and unpopular as it's not their traditional way of life.

### **5.2.5 Land use**

Chobokwane is classified a Remote Area Dweller Settlement. The RADP is part of the overall effort to combat poverty in Botswana. It is intended to target citizens of Botswana who live in settlements located far from centres of basic services and facilities, where there is severe poverty, low levels of education and literacy, and a deteriorating ecological resource base. Although discouraged, the area has mixed type of land use where ploughing fields and cattle posts are generally mixed. The major land uses in the area include grazing and veldt product collection.

## 6. Findings from the study

The following sections provide an analysis of the finding of the research conducted in the two villages in Botswana. The general perception of the communities consulted is that over the years, there has been a steady increase in temperature, particularly during the summer season. The rains have also been less frequent and more sporadic, and since climate status is the single most important determining factor for arable rain-fed agriculture, reduced rains have led to reduced rain-fed agricultural yield for the farmers. The rainy season has also changed causing confusion to the farmers regarding first rains and planting times. In the case for Seronga, the elderly have seen a reduction in the flood plain over the years and more extreme droughts. All these changes, perceived or real, have led to low agricultural yield, particularly in Seronga where the majority of its people are engaged in agricultural activities. In the case for Chobokwane, the few and isolated cases of cattle death in the village have been attributed to increased temperatures and reduced rainfall.

The cause of the climatic variation/change is not known to the majority of the rural population, but the general feeling of the two villages consulted is that there are changes that are taking place with regards to the climate. Climate change as a concept, its causes and possible impacts are not understood by the majority of the rural population, but the situation is slightly different in urban areas where the population is exposed to awareness material regarding climate change.

### 6.1 Gender profile

Given the intimate relationship between climate variability, vulnerability and poverty, a local-level gender-sensitive understanding of livelihood roles is all the more relevant for devising solutions. Women, men, boys and girls perform dif-

ferent tasks and have different roles. Table 3 and appendix 1 provide an in-depth analysis of the different roles men and women play in Seronga and Chobokwane.

### 6.2 Differentiated impacts of climate change on men and women

The following section attempts to address the above aspect and illustrate how men and women are differently impacted. The findings are arranged according to the sector that is impacted.

#### 6.2.1 Gender and arable farming

Agriculture is central to the lives of the rural poor, particularly in sub-Saharan Africa where the majority of its population are totally dependent on agriculture and its products. According to Seleka (1999), 70% of Botswana's population derives a livelihood from traditional arable farming and 90% of cultivated area is occupied by traditional system. Agriculture has been identified as one of the climate sensitive sectors and particularly vulnerable to the effects of climate change. The IPCC Fourth Assessment Report predicts that yield from rain-fed agricultural will decrease by 50% in Africa as a result of climate change. Agricultural production is projected to be severely compromised by climate change. Studies have shown that grain farming in Botswana is constrained by poor sandy soils and inadequate precipitation (Chipanshi et. al., 2003). Soils of the Okavango Delta region and in the Kalahari are arenosols, which are sandy and have a low water retention capability. The soils are therefore less fertile than the luvisols that are found in the North-eastern part of the country and as a result, less favourable to arable farming.

Studies conducted at the national level have revealed that communal rain-fed agriculture is not in a position to help the rural poor out of poverty

Table 3: Activity time sheet for men and women

ACTIVITY	AVERAGE TIME SPENT ON ACTIVITY (HOURS/DAY). SERONGA		AVERAGE TIME SPENT ON ACTIVITY (HOURS/DAY). CHOBOKWANE		COMMENT ON OBSERVATION
	Women	Men	Women	Men	
Collecting water	3	0	5	1	Men would usually do this if they have transport (e.g. vehicle and mostly during reticulated water unavailability)
Collecting reeds and cutting grass (when in season)	10	0	N/A	N/A	Husbands may accompany wives to the bush to camp for a few days but will not cut grass or reeds.
Collecting firewood	3 (twice a week)	3 (once or twice a month)	4	0	Men would usually do this if they have transport (e.g. vehicle)
Working in the fields	5	5	0	0	This work is generally done by both women and men working together. Women with no helpers usually organise a work party.
Fishing	2	8	N/A	N/A	For women this is only seasonal and mostly combined with other activities. Men only spend this much time if they are fishing in order to sell
Laundry	4	0	4	0	Men do not do laundry
Herding livestock	0	2 (average)	0	0	Single women who own livestock herd them themselves or employ a herd boy.
Working (Formal/informal employment)	0	2	0	5	The majority employed are men. In Chobokwane, employment forms the major source of income.

(MFDP, 2002). Seleka (1999) attributes this sector's poor performance to poor soil fertility, low and erratic rainfall, poor farm management, low adoption of improved technologies, inadequate farm inputs, poor access to credit, and inadequate training of farmers and extension staff. Efforts to

address these factors have also not yielded much productivity in the sector.

Farming in Seronga is still very traditional with an average farmer using traditional farming tools such as hoes and hand-operated ploughs. Draught power is also in the form of donkeys or cattle,

ownership of which is usually skewed towards the richer households, and men. Productivity is usually very low, resulting in very low yields. This makes subsistence agriculture a household activity which most (especially women) engage in to feed the household, with hardly any produce left over for sale. Any leftover produce is reserved for future use in times of low or no harvest, and also kept as seeds for the next ploughing season. In Seronga, crops grown under dryland farming include sorghum, maize, cowpeas, sunflower, groundnuts, melons, sweet reed, pumpkins and millet. It was reported that yields from rain-fed agriculture have been very low and this was attributed to the low, erratic and unpredictable rains in the recent past. Women are most affected by this as arable farming is predominantly a female activity.

In contrast, climate variability is not likely to affect the Basarwa in Chobokwane when it comes to arable farming as they are traditionally hunter-gatherers and do not engage in subsistence arable farming. The sandy soils and climatic condition in Chobokwane are not conducive for arable farming. Livestock farming is also not an activity that is particularly of interest to the Basarwa in Chobokwane. Just like arable farming, livestock farming is not a traditional activity of the Basarwa.

### **6.2.2 Gender and biodiversity goods and services**

The Okavango Delta hosts one of the world's most recognised biodiversity spots and has been listed as a Wetland of International Importance under the Ramsar Convention from 1997, with a number of endangered species, some of which are endemic only to the Okavango Delta. The Okavango Delta is the focus of biodiversity conservation in Botswana and a significant use of land has been categorised as Wildlife Management Areas (22%), and these are subdivided into Controlled Hunting Areas (CHAs-, administrative units used throughout the country to facilitate wildlife management). Moremi Game Reserve is a protected area within the Okavango Delta and it is a total conservation area, meaning that fauna and flora in this area is not accessible

for use by any community residing around that reserve. The Moremi Game Reserve covers a total area of 4871 square kilometres, which translates to about 7% of the area designated as the Okavango Delta Ramsar Site, which covers an area of about 55374 square kilometres, making it the world's largest Ramsar site.

The rich biodiversity found in the Okavango Delta is a direct response to the flooding and drying dynamics of the Okavango River system. The floods come in during the driest months of the year and when they recede, the rainy season begins. These variations in water flow contribute significantly to the development of rich fauna and flora. The system itself is said to be the most complex and dynamic, with a lot of ecological uncertainties. Scientific research has so far not been able to make concrete conclusions on the nature and extent of changes that the system would undergo due to extreme climate change related events, and what this means for climate change adaptation and mitigation planning. It is however, known that any negative changes could adversely affect the livelihoods of those dependent on the system, as is already evident through the impact of short term variations such as droughts and floods.

Ecosystem resources from the Okavango River and Delta play an important role in shaping the livelihood activities of the people living along the river. The collection of reeds and grass, the making of baskets and fishing are three of the most important activities undertaken in the Okavango through the direct use of uses from therein. These activities are also the some of the most gendered activities found among the Okavango Delta inhabitants, including those from the study area. These are discussed in detail below;

**Fishing** – A predominantly male activity, especially at small scale commercial level, fishing is perhaps the most important non-agro pastoral activity practised in the Okavango Delta, including Seronga. Men fish for subsistence and for commercial purposes all year round, while women only fish seasonally on the floodplains when the floods start



Figure 1: Fishermen showing the day's catch in Seronga

to recede in October. For women, fishing is purely a subsistence activity, done solely for household consumption. Fish forms an important part of household diet, eaten almost on a daily basis. Men and male children also fish for recreation, but also take their catch home for household consumption or for sale if there is demand for the catch. Men use modern, sophisticated fishing gear such as gillnets and motor powered engine boats, and hook and line. As a result, they catch larger species that are in demand in the market and are able to derive some economic benefits from the catch. Women on the other hand use cloths and sometimes traditional fishing baskets made out of reeds. Women usually engage in fishing alongside other activities done at the river such as washing laundry, and digging for water lily tubers, or even cutting reeds. Fishing therefore is not a core activity for women. Some of the reason that the women advance for not engaging in fishing, especially at a small scale commercial level is that they do not possess the skills to do so, particularly with regards to casting nets and powered boats (both wooden and engine) in the deeper parts of the river where animals such as crocodiles, hippos and elephants pose a danger.

Women (and other men who only fish for subsistence) only fish when the river/floods are low because they do not know/ are physically unable

to power engine boats (or do not own them) and access deeper and further fishing grounds, where fish species of commercial value are available.

The impact of climate change on fish resources quality and quantity could not be established in this study. However, given the current challenges in fishing, climate change is seen as an additional stressor that will impact on women's livelihood options. Because access to fishing is very limited for women and girls, it makes it necessary for this section of the community to purchase fish

if they have no one to fish for them. This implies that women must then have other income generating activities in order to purchase the fish. This then puts women at a further disadvantage as the possibilities of engaging in fishing activities are very limited in Seronga.

In the quest to promote conservation and sustainable management of fish resources, the Government has recently introduced fishing regulations that ensure the purchase of a fishing license for commercial fishers, who are predominantly male. These have been received with mixed sentiments, some community members stating that this negatively affects their livelihoods as they depend on fishing, while others argue that licenses will help regulate the activity and discourage misuse. Fish is available all year round in the study area because of permanent availability of water. Research has shown that the whole of the Okavango Delta is generally under-fished.

**Grass and reed collection**—A predominantly female activity, grass and reed cutting and collection are high labour intensive activities and require a lot of time from those who engage in it. Women use reeds and grass to build houses, fence courtyards, making different types of fish catching equipment. Usually a house is constructed using reeds and mud

and thatched with grass. This is also a female activity. If there are any left-overs, it is often sold, but generally these resources are used at the household level as most households collect for themselves. This activity is also engaged for income generation. The only production tool/equipment used for cutting reeds is a sickle, and cutting of reeds is considered unskilled labour as it does not require any real expertise (Mmopelwa, 2006), which means anybody can engage in this activity. Harvesting reeds is a time consuming activity, with a harvester spending on average 8 hours a day, when in season, to harvest two bundles measuring approximately 800mm in diameter and 10kg in weight. A bundle of reed is worth about US\$4.08 (Mmopelwa, 2006).

These resources are increasingly becoming harder to find and women have to travel further away from the villages to collect them. Some elderly women have indicated that they now have to travel longer to collect reed and grass, which in the past was not very far. The reason for the reduction in grass/reed quantity is not known, but it is expected that with reduced rainfall and change in weather patterns, a potential consequence of climate change, these challenges will become even more apparent. Currently, women travel in parties of 10 or so and camp

out in the wild (wild animal infested islands) for an average of 10 days. They spend more time in these islands and this is safety issue as they are exposed to the dangers of the wild animals. Transporting back the grass and reeds across the river is a challenge as these have to be carried in boats, which most women do not own. Those without boats hire boats (usually owned and operated by men) to transport their reeds and grass and often pay for this service with some of their collection.

**Craft production (Basketry)** – This activity is also dependent on ecosystem resources of the Okavango Delta. It is one of the activities that only women engage in. The skills for this kind of activity are concentrated among the older generation of women, with few younger women possessing the skill, having learnt it by watching their older relatives. More and more young women in Seronga expressed interest in learning how to weave these baskets so they can generate income. Basket weaving is a potentially lucrative economic activity because the products are very popular with international tourists and can be sold at a significantly high price. Most women engage in it mostly for these reasons. It is however a skills-based activity that requires training and labour commitment. Most women who would like to engage in the activity raise concerns of not being able to find training on how to weave baskets and also to conduct the business aspect of basket weaving. Lack of markets for products is one of the challenges facing the viability of this economic activity. The tourism industry is a potentially lucrative market as hundreds of thousands of tourists visit the Okavango Delta every year and are enthusiastic consumers of these products.

Materials used for making baskets are sourced from a number of plants including Mokola (*Fan*



Figure 2: A group of women after a grass and reed collection trip in the river



Figure 3: Baskets made by women in Seronga

*Palm – Hyphaene petersiana*) tree, grass and the roots of *Euclea divinorum* (*Motlhakola*) tree, the latter being used for dyeing the palm and grass. Women report that these materials (especially Mokola plant leaves) are becoming scarcer such that they have to travel to nearby villages where they are available. The raw material is reported to get scarcer, but this cannot be attributed to climate change. More research needs to be conducted to assess the impact of climate change on the availability of natural resources such as *Hyphane petersiana*. It is however expected that climate change will likely exacerbate the existing challenges, due to reduced rainfall and change in weather patterns.

The fact that women do not have access to basket weaving training programmes is very disheartening and discouraging for most women in Seronga. The will and interest to learn basket weaving is there, but most feel that because of its location and remoteness, government has no interest in improving their lifestyle and standard of living. This perception and the fact that the village is generally underdeveloped with no electricity and little access to water, has resulted in a general feeling of hopelessness among many women, causing despair and pushing women deeper into poverty.

**Veldt products and craft making** – In the case for Chobokwane, gathering of veldt products and hunting from the wild has reduced significantly over the years. Furthermore, most veldt products

in the Ghanzi district are rainfall dependent, with very little harvesting taking place during drought season. The collection of veldt products is mostly a female dominated activity done at a subsistence level. Sengaparile, also known as Devil’s Claw, is harvested and sold at a commercial scale to local NGOs such as Thusano Lefatsheng. The quantities harvested however have significantly reduced in the area, limiting economic opportunities for women. In 1993, Thusano Lefatsheng stopped buying Sengaparile from the area, due to its low available quantities. The following are harvested, mostly by the Basarwa communities: Morama, Moretlwa, Motsostojane, Borekhu, Ostrich shells,

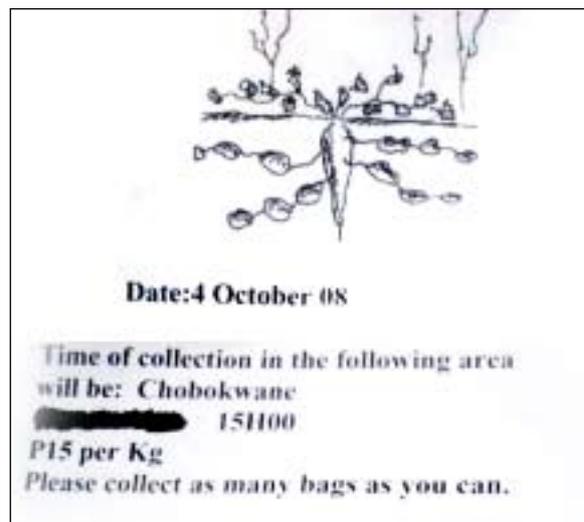


Figure 4: Notice of Sengaparile collection in Chobokwane

Mahapu Kgengwe. Morama is reported to have the highest economic value. With the exception of Sen-gaparile and Ostrich shells, the use of veldt products in the area is not regulated.

Women in Chobokwane and Basarwa in general, engage in craft making activities using Ostrich eggs to make jewellery, normally worn during cultural celebrations. Over the years, the craft have gained popularity, especially among the tourists. These crafts are now sold during festivities and from certain outlets around the settlement. Ghanzi Craft and Kuru Development Trust both purchase crafts from communities for sale, however, this is sporadic and therefore unreliable. This has caused women to either stop collecting the Ostrich eggs, or if they do, they make the crafts and sell at very low prices to tourists.

### 6.2.3 Gender and water

Life in Seronga is centred on a water source, the Okavango River and Delta. The river is not just a source of water when there is no potable tap water available in the village, but plays an important role in the livelihoods of the community. It provides ecosystem services such as food (fish, water-lily bulbs, papyrus etc), materials for shelter (grass, river reed), transport (use of wooden, pole-powered canoes and engine powered boats) and a source of water and grazing for domestic animals. These are important factors in the livelihood strategies and activities of the people of Seronga.

Reticulated water supply in Seronga is unreliable, sometimes not being available for days, causing people to go back to the river for water. The community has also raised concerns about the quality of the water, arguing that the colour of the water (usually a reddish, rusty colour) is a clear sign that the water is not safe, and therefore requires that it be treated for consumption. This perception, whether true or not, has resulted in some members of the community choosing river water over tap water, especially for drinking.

Tap water is simply not reliable and is sometimes further from homesteads (considering the difficulty of carrying the water container) than the river is,

so a lot of households still depend on the river for their water needs anyway. The river is the only reliable source of water available as the river is permanently flowing, yet access to this source is becoming more difficult due to safety challenges such as wild animals at the river, especially during the dry season when competition peaks. Because the river is said to be receding over the years, women have to walk longer distances to collect water. Men usually only engage in water collection when they are using some form of transport, usually a donkey cart, to collect water from a standpipe in large quantities. Sharing of water is sometimes done during times of scarcity. For instance, a male adult would collect water from a distance with a donkey cart and share a 20 litre container with his relative, or neighbour, in most cases female.

A few households in Seronga have taps connected in their yards, for which they pay a monthly water bill, usually low in rural areas compared to urban areas. The initial connection to the main supply system is often costly, and often the main deterrent to accessing this service. This water source is also as unreliable as the communal tap, but makes a lot of difference in terms of the reduced time and distance spent on collecting water either from a communal tap in the village, or the river. When women and children do not have to travel to collect water, they spend more time at home attending to other household responsibilities and resting.

For both Seronga and Chobokwane, the burden of collecting water for washing, cooking, drinking, hygiene and watering of backyard gardens (if available) falls on women and children, particularly the girl child. An observation made in Seronga is that unlike most parts of Botswana, people do not use wheelbarrows as a way of carrying and lightening the load, because the terrain is extremely sandy in most parts. The load is therefore often carried on the head, shoulders, or with hands, often over distances exceeding 200m and sometimes a kilometre away (and often more than once in one day), depending on one's proximity to the next communal tap or the river. In the case for Chobokwane, groundwater is the only source of water. There is a

reticulation system, with communal pipes around the settlement. However, these communal pipes are very far and not accessible by all. As a result, water in Chobokwane is bought from those that have private connections. Water that is collected from a communal tap is usually time consuming, labour intensive and usually done by women. It is expected that these challenges of water collection, where women have to walk longer distances to collect water from a river, will become even greater with climate change.

**6.2.4 Gender and energy**

As a sphere related to technology, energy is a highly male dominated issue, however, rural women are still largely responsible for gathering and securing energy for cooking and heating. It is widely recognized that improving access to affordable energy services is a prerequisite to achieving economic growth and poverty reduction.

In 2006, with the support of the International Network on Gender and Sustainable Energy (ENERGIA) and Botswana Technology Centre (BOTECH), a gender audit of energy policies and programmes was conducted. The study revealed that female-headed households have lower incomes than their male counterparts in both rural and urban areas. There are more female headed households that are living below the poverty datum line than male-headed ones. On energy supply, females

are most involved in fuel wood collection and they spend over 3 hours a day on average collecting fuel wood. This adds to their drudgery and insecurity and deprives them of time they could be using to better their lives, through studying or generating income. Time spent collecting firewood is expected to increase as resources become scarcer; this is a possible impact of climate change.

Available statistics, though not adequate, also show that more male households than female households are connected to electricity. On the demand side however, there are similar proportions of male and female households cooking with fuel wood and other modern energy sources (although males are slightly higher). There are however, more female households using a mix of fuels for cooking. Using a mix of fuels is often associated with instability in incomes.

On decision-making, the study also showed that more males were involved in taking loans for both PV systems and grid electricity connections than their female-counterparts. Females were however; more involved in deciding to collect fuel wood and also make decisions where they are involved in the collection. The little data that is available suggests that women can adopt energy efficient technologies especially if these technologies can assist to reduce labour intensive household chores.

An average family in Seronga uses firewood as a

**Table 4: Household statistics, poverty and energy**

	<b>FEMALE HEADED</b>	<b>MALE HEADED</b>
Households below poverty line	41%	34%
Households in lowest income bracket in urban areas (P1500)	56	32
Households in lowest income bracket in rural areas (P500)	78	70
Households connected to electricity supplies in rural areas	8%	15%
Households that took a loan to buy a solar PV system	N/A	62

Source: CSO 2001 and Gender Audit Botswana

source of fuel for cooking and heating while candle and paraffin lamps are used for lighting. This is acquired either through collection by the users or purchased from those who collect and sell (usually men). There are a few dealers in the village, most of which are small enterprises operated from the household. Firewood collection is a time consuming activity as collectors have to travel long distances to collect wood that is becoming less and less available. The areas where firewood is collected are also located where wildlife is present. Seronga is located in an area of the Okavango Delta that has been officially declared a 'human-elephant conflict area'. The interactions between humans and wildlife, especially elephants, but also other potentially dangerous animals such as buffalo, hippo and leopard are high, especially during the dry season when the elephants use the river more. Climate change will then impact on women by travelling longer distances to collect firewood, and getting exposed to dangerous wildlife and putting their lives at risk.

Households are not electrified in Seronga, but a few Government institutional buildings are provided with generator-powered electricity. A few households use Liquid Petroleum Gas (LPG) for cooking and powering refrigerators, but this option is extremely expensive as a 90kg gas bottle costs about P1000.00 (US\$166) and lasts an average of 3 months. An average household in Seronga therefore uses firewood for cooking and heating all year round.

When a household is unable to afford purchasing firewood, the burden usually falls on women and/or children to collect firewood. Children usually carry out this activity after school hours, mostly at weekends. Without transportation, this activity is labour intensive and time consuming with low results as the women and children can only carry so much weight on the back or shoulders. When done by women and girl children, this activity is usually combined with gathering of wild fruits, and if closer to the river, floodplain fishing (a seasonal activity). Men sometimes collect firewood, but this activity is mostly when men have transport (such as a vehicle

or donkey cart) and sometimes when they sell it to other female headed households that are unable to collect the firewood for themselves. Collection of firewood is therefore mostly an income generating activity for men, but for women, firewood is collected to provide for cooking and heating for the family.

### **6.2.5 Gender and employment**

Formal employment for locals in Seronga is mostly in the tourism industry, followed by Government institutions. Mostly men have access to formal employment in the community based tourism sector. Okavango Polers Trust (OPT) employs men (and a handful of women) as 'polers' (i.e. they power wooden boats with long sticks along the floodplains) for tourists to experience viewing wildlife in close proximity. The Okavango Community Trust (OCT) also employs both men and women, but mostly men. Most women working in formal employment are employed by Government institutions such as the Land Board, clinic, schools and Tribal Administration institutions. Usually these jobs are low-paying unskilled labour such as cleaning offices and clerical work. Men on the other hand have access to better paying jobs (e.g. generator operator or driver).

Natural resource based employment is in the small-scale commercial fishing industry, accessible only to men. Most of the men involved in the fishing industry also have other formal jobs, and are often times involved in farming (agro-pastoral) as well. Most women can only engage in one formal job at a time as their household responsibilities remain even upon taking up formal employment. Women are mostly involved in informal employment through self-employment in the craft making (mostly baskets) sector. A considerable number of women in Seronga are also engaged in traditional beer brewing.

There are two community trusts in Seronga engaged in tourism activities in 3 wildlife utilisation land sites in close proximity to the village. These are rented from the Government (through the Land Board) on a 15 year lease. Usually the community

signs a joint venture agreement with a safari tour operator who takes over use of the land and pays rent to the community trust. These Trusts have engaged locals in all the non-managerial positions of their job portfolios, and have also agreed with the external business partners to employ locals in their tourist business initiatives such as lodges and camps. Most opportunities still favour men over women, with women only accessing lower paid jobs.

Government is the highest employer in the Ghanzi District and the country as a whole. Elementary occupations and agricultural employment are the common areas of employment. Unemployment in the district is high; mostly affecting the youth. This unemployment has resulted in many residents moving from the settlement areas of Ghanzi district to Ghanzi Township, Charles Hill and even to other districts in search of employment opportunities. Among the youth, boys showed eagerness to move outside of settlement in search of 'greener pastures', while girls showed less desire to move from home because of the 'mothering' role they have taken up.

Other forms of employment in Chobokwane are with the community trusts, such as Chobokwane Campsites. This is a project that is supported by Komku Trust, a member of the Kuru family of organizations. Chobokwane campsites have created employment for the unemployed youth. Visits to the field have revealed that the Chobokwane campsite employees are only men. The reasons for this have not been established. The project however is facing stiff competition from well funded establishments.

It is expected that with climate change, natural resource based livelihood options will be reduced, causing more people to look for employment in order to supplement their income/livelihood. In many cases, particularly in Seronga, men are more likely to be employed in a village setting, as the women end up staying at home taking care of the



Figure 5: Chobokwane campsite

family- reproductive role. The situation is slightly different in Chobokwane, where there are very little agricultural activities taking place and both men and women look for employment in local Community Based Organizations (CBOs).

### 6.2.6 Gender and health

Malaria, HIV/AIDS and cholera are the existing health challenges faced in Botswana. These affect men, women and children, but especially children and those that have a compromised immune system such as HIV positive people. Residents alongside a river are more exposed to malaria-carrying mosquitoes and it has been reported that a few of those residents have contracted malaria. Staff at the clinic in Seronga has reported noticing a different strain of malaria in the recent past. The disease is relatively under control, but there are still isolated cases of infections amongst both the young and old. It is expected that with increased temperatures due to climate change, the prevalence of malaria-carrying mosquitoes will increase.

Average temperatures in the Okavango Delta are also extremely high (and can exceed 40 degrees Celsius), especially in the summer months. Children under the age of five and the elderly are among the most affected by heat stress (Brody et al, 2008).

Performing manual labour like tilling the fields in the heat can increase the chances of over-exposure to direct sunlight and heat.

Dehydration is also an issue of concern in Seronga, especially among children. It has however been observed that drinking water is not part of people's culture in the rural areas, and that people only drink when they feel thirsty. It has also been observed that children only drink when they are told to do so, or when they see an elder person drinking water. There have been a few cases of children being admitted at the clinic because of dehydration. Often people avoid drinking water when it is not 'clean', for instance, in the case of rusty water from the tap. In fact it has been observed that people would rather drink river water than rusty-looking tap water that the water supplier (District Council) insists is of good quality and drinkable. This increasingly exposes people, especially the children, and already ill adults, to water-borne diseases.

Hydrologists and water chemists working on water quality issues in the Okavango Delta have conducted research that indicates that the quality of water in the Okavango Delta is of good quality and perfectly drinkable. It has however been observed that there are possible cases of localised pollution from animals grazing and human defecating in the river, soap and other detergents from washing laundry. The provision of potable tap water is also unreliable and can be unavailable for a week at a time, forcing women and children to travel to the river to collect water for household use. Water collected from far is only used for the important household needs such as cooking and drinking. It is clear that people have no information and awareness on basic hygiene, and that most of the infections and diseases they contract (especially children) are avoidable.

Malnutrition is currently being addressed through social safety nets that provide supplementary feeding for vulnerable groups and primary school children, provision of food to orphans and delivery of food packages to the very poor.

HIV/AIDS poses the biggest challenge in both Seronga and Chobokwane, as more time and

financial resources are being allocated to caring for oneself, or the sick, and therefore being less productive economically. The Seronga clinic provides no AIDS treatment so the sick have to travel to another village about 200kms away to get medication. There is also currently no doctor in the Seronga clinic but only nurses who can only refer patient to a specialist doctor in another village or town. In Chobokwane, there is only one health post with no ARV treatment. This introduces additional costs for accessing otherwise 'free' medical services. The Home Based Care (HBC) program that consists of volunteer carers provides care for the terminally ill HIV/AIDS patients in the community. This group is only composed of women.

### **6.2.7 Gender and domestic violence**

The health of the community is mostly threatened by infections such as HIV and malaria, and exacerbated by irresponsible behaviour such as alcohol consumption and abuse by patients already undergoing medication such as anti-retroviral or TB drugs. Men are reported by the health officers to be less interested/ willing in testing for HIV/AIDS and seeking medication. Often these men infect their wives and partners without knowing. A women requesting or encouraging a partner or husband to test for HIV/AIDS may be subjected to abuse such as battering. This has resulted in women staying in situations where their health is compromised because the male partner is not interested in knowing their HIV status.

Many cases of domestic abuse have been reported by women in Chobokwane. The main cause of domestic violence in Chobokwane is excessive drinking by men, and they end up abusing their partners/wives. Due to the history of that area, the roles of women have changed slightly and women are beginning to look for formal employment. Traditionally, the Basarwa are hunter gathers, but due to the introduction of policies and hunting regulations, Basarwa women are beginning to look for employment as an alternative livelihood strategy. This change in roles for the women in the public sphere has not affected the private sphere and

women are still expected by their spouses to take care of the children and cook for the family as they did in the past. These differing expectations have created violence in the households, particularly from men, when the expectations are not met.

### **6.2.8 Gender and access to credit and extension services**

Access to credit for small scale businesses is increasingly gaining importance in Botswana as a strategy by the Government to improve rural development and promote income generation. Most women are engaged in the utilisation of veldt products as a source of not only food but income generation. They are therefore most vulnerable to climate change related impacts on natural resources.

There needs to be a comprehensive assessment on the income and employment generating potential of veldt products. Focused financial assistance and skills development can then be provided to assist those members of the community (especially women) who have opportunities to benefit from these activities. Markets are either highly undeveloped or non-existent. This disadvantages women the most as they are the ones that are mostly engaged in the informal employment sector, engage in climate sensitive income generating and activities and therefore highly vulnerable to the impacts of climate change.

Women in Seronga depend on vegetation ecosystem resources for small scale income generation, and any decline in access can exacerbate their vulnerability. Women in Chobokwane have immense potential in the craft making industry.

The skills development initiatives currently provided by the Government of Botswana include the Local Enterprise Agency (LEA) and the Citizen Entrepreneurship Development Agency (CEDA) through which financial assistance in the form of loans can be provided at subsidised interest rates. CEDA also provides entrepreneurship training and mentoring programs and provides technical assistance to enterprises. LEA is specifically focused on improving the business skills and competence of Small Medium and Micro Entrepreneurs (SMMEs) through the provision of training and advisory services in entrepreneurship development, technology, marketing and appropriate mentoring services.

The main challenges with the implementation of these programmes is that they are hardly available in rural areas, such that locals have to travel far to request these services. Women hardly have spare time to travel away from the home for days to seek this assistance. These initiatives therefore tend to only benefit those in urban areas, or men who have fewer responsibilities at home and can therefore travel away from the village to access these services. The prerequisites and processes for accessing these initiatives are sometimes exclusive and therefore exclude certain members of society from accessing them. Most locally available initiatives are biased towards the agricultural sector (e.g. CEDA Young Farmers Fund in the case for Seronga and the Economic Promotion Fund (EPF), which younger women do not engage much in because of a number of reasons including lack of ownership of land or no skills or interest in farming.

## 7. Analysis

There are many causes for the differences in the impact of climate change being experienced by men and women. These range from physiological, political, economic and societal differences. In the case of arable agriculture, subsistence arable agriculture is the single most important livelihood activity in Seronga. It is a source of household food security and is an expression of local culture, and also tied to land ownership and status. Most subsistence arable farmers, however, are women who farm to improve their household food security. Men also farm, but in most cases only if they invest time and money in this activity and if they are able to farm an average of about 4 hectares or more. This decision is usually based on the availability of land and draught power, which is mostly owned by men.

Despite their increased role in agricultural production, most women do not have control over land, and lack access to agricultural extensions and credit. Most of women's work is 'unpaid work' in subsistence production, part-time, seasonal, all of which are not high income generating activities. The numerous pressures of the HIV/AIDS pandemic have contributed to the limited access to productive resources, services and skills. All these factors make women particularly vulnerable to the impacts of climate change.

Another cause for the differences experienced is the introduction of policies and regulations that control the access and use of natural resources that most communities have been totally dependent on. The river system around Seronga is permanent and supports a lot of fauna and flora, which people have historically depended on for livelihoods. They used to hunt the wildlife around the Delta and harvest wild fruits and fish in the river. However, access to most of these resources, wildlife in particular, has over time become scarcer. In the early 1980s, the Botswana Government introduced a ban on hunting and adopted a focus on

conservation of wildlife resources for tourism development. Limited access has been facilitated through Community Based Natural Resource Management (CBNRM) programs which were introduced to institutionalise benefit-sharing to those communities residing alongside the resource. The results have been mixed with the general conclusion that most communities do not benefit from participation in conservation and management of the resources around them. This has among others, been blamed on the lack of capacity of Community Based Organisations (CBOs) to manage projects.

A number of other programs have been put in place to regulate the use of natural resources in the Okavango Delta area. The 2008 Fishing Regulations are a case in point. These regulations introduced a licensing system to control access and use with the objective of conserving fish. These regulations have also been received differently by community members around the Delta, with some claiming that the licensing system will completely result in them being unable to fish, and therefore jeopardising their household food security as fish forms an important part of the households diet. This has direct implication on households that have fewer options and are already vulnerable to small gradual environmental changes, such as women.

In the case of Chobokwane, Basarwa have faced progressive dispossession from land they call their own. The TGLP promoted the creation of large ranches on communal land that were allocated and leased out at P0.04t per hectare per annum to individual farmers (Taylor, 2003). The ranch owners were given exclusive rights to land, wildlife and plant resources. This further disadvantaged Basarwa, particularly the more vulnerable group, such as women and children, as they not able to carry out hunting and gathering, as was traditionally their livelihood strategy.

People in rural areas have experienced climatic

changes for many years. By adopting short term coping strategies, communities have been able to temporarily deal with the effects of climate variability. An example is given below of a coping strategy employed by the people of Seronga in order to deal with unreliable and erratic rainfall in arable farming.

Rainfall availability is an important factor in arable farming as dry land farming has increasingly replaced floodplain agriculture in Seronga, which was used as a diversification strategy. To adapt to variability and unreliability of rainfall, farmers use different farming methods like intercropping and planting of different seed varieties. The planting of millet (lebelebele) as opposed to, or together with sorghum is worth noting. According to the farmers, millet grows faster, with less rain, and can withstand heat than sorghum. Planting this crop therefore guarantees a better harvest than planting sorghum alone. Both these cereal crops are also better than maize crops, because it is highly vulnerable to drought and water intensive. According to Chipanshi et. al., (2003), climate change leads to desiccation, shortening of crop growing period and reductions in crop yields. Chipanshi et. al. (2003) has shown that sorghum can withstand extreme dry conditions when compared to maize; making it economical to grow sorghum in extreme dry conditions. Maize is however still an important crop for farmers as it is in higher demand in the market than millet and sorghum.

Adaptation to climate change challenges traditional coping mechanisms. Traditional risk-sharing mechanisms, based on kin and social groups, are not adequate, since the whole region is affected. If the natural resource base is degraded to the point of being insufficient to support the livelihoods of the current population, drastic measures are implemented, such as selling off of assets, and in the case for Seronga and Chobokwane, brewing and selling

beer, which have associated social ills, particularly on women. .

In Seronga a number of women farmers reported that they have reduced the land under cultivation because it is much more difficult to farm for a number of reasons including; low physical strength due to reduced health; lack of draught power (especially cattle); unavailability of seeds; and most importantly, crop destruction by elephants and other wild animals. Farmers also complained of unavailability of agricultural extension services in their area, therefore they have little or no assistance on how to deal with challenges to farming such as crop diseases and skills to better manage their crops, among others.

Other Government programmes that provide farmers with inputs should be intensified. The use of fertilisers is not common in Seronga, but this is expected to change when the Government starts the implementation of the new ISPAAD. This new programme, implementation of which starts in the 2008/09 cropping season, will provide the following packages:

- Cluster fencing (goat proof fencing to protect crops from damage by livestock and wild animals; electric fence will be provided to farmers in areas prone to elephants)



Figure 6: Drought resistant millet, planted during drought

- Provision of potable water (drilling/equipment for boreholes). This is for domestic use by the households of the farmers.
- Provision of seeds (enough free seeds to plant a maximum of 16 hectares, 50% subsidy for seeds for use beyond 16 hectares; seeds will be of open pollinated and hybrids of major food grains including sorghum, maize, millet and cowpeas). This package is for all rain-fed farmers.
- Provision of fertilisers (free fertilisers to rain-fed farmers for up to a maximum of 5 hectares, 50% subsidy will be provided to cover up to 16 hectares beyond the free 5 hectares)
- Facilitation of access to credit (seasonal loans through the National Development Bank)

As a Government intervention, the Remote Area Dweller's Programme (RADP) introduced a livestock scheme in an effort to encourage Basarwa to diversify their livelihood strategies. This programme, where households receive approximately 6 cattle, has faced many challenges, including (i) livestock farming is not a traditional activity of the Basarwa, as a result, the beneficiaries of the livestock scheme lack commitment to the programme; (ii) the establishment of commercial ranches in Ghanzi district has led to the reduction of communal grazing land that is left for the subsistence farmer; (iii) there is increased wildlife-livestock conflict in the area due to the high wildlife population in the neighbouring national parks and (iv) severe water scarcity in the area.

Needless to say, the RADP has not been well received and considered a failed Government programme by many policy analysts. The Economic Promotion Fund (EPF), which is the mechanism used by the RADP to support income generation and employment projects provides investment funding and infrastructure for a range of different project

activities. These include tanneries, livestock, handi-crafts and poultry. It also funds training activities for people to upgrade their skills, and assists them to access other enterprise development funds (such as CEDA). Although the people in remote areas are supposed to be involved in initiating the EPF projects, the fund has been criticised for replicating the same project activities across all of the communities, regardless of different local circumstances. Due to insufficient consultation, the EPF has tended to disregard local circumstances, and its projects are not always appropriate. The EPF projects are characterised by a lack of commitment from the beneficiaries and a culture of dependence; hence many of them fail. The study recommends an in-depth need assessment of programmes that factor in people's culture and way of life.

The provision of markets for locally produced natural resources products is another possible intervention. Lack of a reliable market for fish catch is cited by fishermen and the officials from the Government department of fishing as the primary challenge for the rural fishing sector. Inaccessibility of Seronga from potential markets disadvantages the sector from performing well. Most of the catch is lost to rotting if it is not sold, or ends up being consumed at the household level. This increases the amount of time for return on investments made in purchasing fishing equipment. The lack of a reliable market is also a challenge for the people of Chobokwane. The women have no access to markets and this is seen as the greatest challenge. The study recommends the formation of groups/associations that will then partner with Kuru Development Trust or other CBOs in the area, to establish a market for the crafts. Once established, capacity building activities, targeted at women in craft making, can then be sourced.

## 8. Conclusions & recommendations

The study has shown that women and men, because of their differential productive and reproductive roles and limited control over productive resources are likely to experience the impact of climate change differently. Additionally, their limited access to common coping mechanisms such as formal credit facilities and limited representation in decision-making institutions increases their vulnerability to climate change. Adaptation is therefore a crucial response to climate change in Southern Africa. It is a key component of an integrated and balanced response to climate variability and change.

As a general recommendation, Governments should be encouraged to mainstream gender perspectives into their national policies, action plans and other measures on sustainable development and climate change, through carrying out systematic gender analysis, collecting and utilizing sex-disaggregated data, establishing gender-sensitive indicators and benchmarks and developing practical tools to support increased attention to gender perspectives. Consultation with and participation of women in climate change initiatives must be ensured and the role of women's groups and networks strengthened. Below is a list of issue specific recommendations:

### **Arable farming**

Climate status however remains the single most important determining factor for arable rain-fed agriculture. Programmes that address arable farming should therefore go beyond provision of inputs and integrate adaptation and coping strategies, with local indigenous technical knowledge already possessed by farmers to ensure that new agricultural support programmes like Integrated Support Programme for Arable Agriculture Development (ISPAAD) do benefit local farmers, especially women, who are the most active in arable farming and the most vulnerable to food insecurity. Farming systems should be improved or changed to better deal with the extreme

weather patterns (extended droughts and excessive rainfall) that destroy crops. Programmes should include aspects focusing on mainstream other cross cutting issues such as gender and HIV/AIDS. Women and youth should particularly be targeted through focused programmes such as provision of draught power to women and the needy. Single women should be especially targeted as beneficiaries of agricultural programs as the responsibility for household food security rests mostly with them.

### **Energy**

Women are the major users and collectors of household energy fuels which predispose them to environmental problems brought on by exposure to traditional fuels, including indoor pollution. There is need for integration of women and gender issues into all facets of the energy service provision process. There is limited available survey data to clearly expose the disparity between female and male energy needs, use and how the gender groups are performing in terms of accessing modern energy sources/fuels. It is recommended that research/surveys in this area be conducted to inform energy related policies.

### **Water**

Water supply services need to be improved to provide reliable access to clean, potable water for basic needs that can also be used for productive purposes. This will significantly reduce the amount of time used by women to collect/ fetch water and it will increase the amount of time spent with the family.

### **Biodiversity and ecosystems**

The need for skills among women to engage in economically productive activities such as basket weaving and commercial fishing is high among rural villages such as Seronga where a significant number of young women have identified an opportunity for income generation. Programmes geared

at training and capacity building on all areas of business (such as marketing and book-keeping) as well as the development of the skills of those interested in learning weaving and fishing skills is needed. The development of reliable markets for local produce would go a long way in making local economic activities such as fishing and basket making economically viable. This could also be done by supporting women's groups to share experiences and exchange lessons in what they engage in (e.g. basket making and jewellery making) would go a long way in transferring knowledge and skills to the younger generation which is increasingly losing interest in these cultural activities.

Local-level biodiversity is maintained through knowledge and know-how of both women and men. Failure to target both sexes in biodiversity conservation results in the loss of indigenous knowledge systems and weaken international responses to climate change. It also results in producing a gender bias in policies and programmes. Women's biodiversity knowledge should be documented and integrated into national policy documents. Failure to do so will impact on household-level food security and nutrition.

## **Health**

There needs to be public awareness exercises on the simple benefits of drinking adequate amounts of water, especially during hot conditions. Other neglected areas include basic hygiene to prevent infections such as ringworms on children, dehydration and other water-related infections such as cholera, which are often fatal.

The clinics need to be equipped with specialist doctors to avoid the need to travel long distances to get specialist healthcare, and particularly to improve access to AIDS medication.

Subsidised provision of mosquito nets (coupled with public awareness) to every household is required in order to reduce the infection of Malaria especially by children (some with HIV) who do not fully understand the importance of protection themselves against mosquito bites. Women are the care givers in a household and this would impact women the most.

Programmes targeted at raising awareness among men to encourage testing for and seeking treatment for HIV/AIDS would help reduce the number of cases where women are infected, or re-infected by their partners. Programmes on domestic violence on women should be encouraged.

## **Employment**

Programmes need to be put in place at policy level that are geared at safeguarding the rights of women to equal pay and access to male dominated professions in order for them to benefit equally.

## **Access to credit**

Business skills and entrepreneurship development initiatives should be made more accessible to rural areas, and target women. In Seronga there is a significant gap in access to credit and business loans and skills development for younger women and men who are interested in starting their own businesses. Marketing opportunities for local produce should be tied to implementation of these initiatives, as opposed to being a condition for provision of assistance.

The local women's craft making skills is a potentially lucrative activity and needs to be promoted in order to improve the income of women and provide employment opportunities. This would also help retain the younger generation in rural villages and reduce rural to urban migration in search of employment.

Financing mechanisms must be flexible enough to reflect women's priorities and needs. The active participation of women in the development of funding criteria and allocation of resources for climate change initiatives is critical, particularly at local levels. Women should also have equal access to training, credit and skills-development programmes to ensure their full participation in climate change initiatives.

Gender analysis of all budget lines and financial instruments for climate change is needed to ensure gender-sensitive investments in programs for adaptation, mitigation, technology transfer and capacity building.

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# 10. Annex 1

Table5: Gender based activity profile

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
<b>FISHING</b> (This is an important livelihood activity for people living in Seronga) and other parts of the Okavango Delta. Fish forms an important part of the everyday diet and is eaten fresh or dried and processed. People fish for commercial, subsistence and recreational purposes. In contrast, there is no fishing in Chobokwane.	Seronga	Men use sophisticated methods like hook and line, gillnet and boats. Mostly men fish at a larger scale compared to women and engage in fishing for small-scale commercial purposes. This activity is engaged in all year round.	For women this is a seasonal activity carried out in the floodplains when the floods recede around October, usually done alongside other activities such as washing laundry at the river, digging for water lily tubers or collecting water for the household. Methods used include traditional reed fishing baskets, cloths or line by children, mostly male. Fishing is therefore not a core activity for women in Seronga, and has no commercial value for them.	Methods of fishing have changed over time due to the introduction of modern fishing gear/ equipment. New fishing regulations introduced in May 2008 require the purchase of a fishing licence /permit for commercial fishing (defined as fishing that involves the use of modern commercial fishing gear such as gillnets and boats).	To conserve fish, the Government has introduced new fishing regulations to introduce licensing of the fishing sector for commercial fishing. This regulation however does not affect the subsistence fishing sector, which is a seasonal activity or many women. A 'closed' season has also been introduced for two months out of the year (Jan and February).
	Chobokwane	There is no fishing in Chobokwane			
<b>ARABLE FARMING</b> This activity is a source of household food security but also a symbol of land ownership and status.	Seronga	Men engage in arable farming and use cattle and donkeys as draft power. If they do not own any livestock they use a hoe and cultivate small pieces of land (e.g. 1 or 2 hectares if using a hoe and as much as 8 hectares if using cattle/donkeys). Donkeys are however much slower than cows. The use of tractor services for ploughing is either minimal (and only used by big farmers/syndicates) or non-existent in the study area.	Women engage in arable farming a lot more than men. They use the same methods as men and how much land is ploughed is determined by ownership of both land and draught power in the form of cattle and/or donkeys. Using a hoe is labour intensive and requires physical strength which most women do not possess. Most women own little or no land to plough.	Access to farming land and draught power are the two most important factors shaping arable farming in the Okavango Delta. There is no use of modern farming implements/ machinery in the study area, partly due to inaccessibility.	Arable agricultural sector has benefitted from a number of Government programs most of which were subsidies to improve agricultural productivity. Recently (2008) the Government has introduced another program to support the arable agriculture sector with the objective of improving Botswana's food security, especially in rural Botswana where people depend on subsistence agriculture for food security. The latest program, the 2008 Integrated Support Program for Arable

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
					Agriculture Development (ISPAAD) is a modified version of all the previous programs to address challenges facing farmers, mostly to help farmers acquire farming inputs.
	Chobokwane	Arable farming is largely a 'Tswana' activity, not traditionally practiced by the Basarwa; which are traditionally hunter-gathers. Furthermore, the potential for rainfed agriculture in Chobokwane is very low, due to the sporadic rainfall patterns of the area. There are however, small isolated pockets of arable farming in the Kalahari, mostly encouraged by programs such as RADP and ISPAAD, but the harvest is usually insignificant.			
<b>LIVESTOCK FARMING</b> Livestock farming, like in other parts of Botswana is an important livelihood activity/strategy in the Okavango.	Seronga	Both men and women keep cattle but herding cattle and tending to it is predominately a male activity. Cattle are kept for both commercial and subsistence purposes. Cattle ownership is still one of the most important symbols of status in all of Botswana, and most Batswana keep cattle as a form of wealth store and status symbol.	Women from female headed households are faced with the responsibility of herding their cattle if they own them, but most poor female headed households own no cattle. Those women with male partners engage less in herding of cattle because this activity is taken over by men and male children. Female cattle owners without partners often face bigger challenges in retaining their cattle as they often get stolen or get lost when wandering and/or get killed by predators, especially if they travel far from the homestead or the river. Women with no cattle also face other challenges such as lack of draught power during the ploughing season. They therefore either have to hire draught power or use other labour intensive ploughing methods (e.g. hoeing)	Before 1995 cattle ownership in the study area was substantial. The CBPP outbreak in 1995 resulted in the annihilation of over 230 thousand herds of cattle by the Government, with the objective of protecting Botswana beef's excellent reputation in the EU beef market. Competition for water and grazing is severe and always getting worse in the dry season between the livestock and wildlife sector.	Over the years since pre-independence, Botswana has invested heavily in cattle production as an income generation and poverty reduction strategy. Beef from Botswana has also got a secure market in the EU, the exportation of which contributes a small percentage to Botswana's GDP. Currently the sector is recovering from the 1995/96 CBPP outbreak but is increasingly being threatened by numerous outbreaks of the Foot and Mouth Disease (FMD) that results in the suspension of the movement of cloven and hooved animals and their products. This prevents beef from the Okavango Delta region from reaching the Botswana Meat Commission abattoirs in Francistown (North East) and Gaborone (South East). The most recent FMD outbreak occurred on October 12, 2007.

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
	Chobokwane	Livestock farming is not an activity that is particularly of interest to the Basarwa in Chobokwane. Just like arable farming, livestock farming is not a traditional activity for the Basarwa. The Remote Area Dweller's Program has introduced a livestock scheme in an effort to encourage Basarwa to diversify their livelihood strategies. As part of the program, households receive approximately 6 cattle. It is not known what criterion is used for selecting the beneficiaries of the livestock scheme, but it is clear that the program has no gender focus.			
<b>GRASS/REED COLLECTION</b> The Okavango Delta riverine and flooded areas have an abundance of grass and reeds that are not found anywhere else in Botswana. People living in this area have always used these vegetation resources for a wide variety of uses especially for construction of shelter. These resources are found on the floodplains, islands and edges of the Okavango River. This activity is not done in Chobokwane.	Seronga	Men do not engage in this activity and those that do engage in it minimally through helping with providing transport and accompanying their wives when they go and camp out in islands for the duration of the cutting and collection process.	A predominantly female activity, grass and reed cutting and collection are labour intensive activities and require a lot of time from those who engage in it. Women use reeds and grass to build houses, fence courtyards, and they make different types of fish catching equipment.	These resources are increasingly becoming harder to find and women have to travel further away from the villages to collect them. Often women travel in parties of 10 or so and camp out in the wild (wild animal infested islands) for an average of 10 days. Transporting back the grass and reeds across the river is a challenge as these have to be carried in boats, which most women do not own. Those without boats hire boats (usually owned and operated by men) to transport their reeds and grass and often pay for this service with some of their collection.	In 2006 the Agricultural Resources Board of the Ministry of Agriculture introduced regulations to control the harvesting of some vegetation resources, including thatching grass. These were later lifted a year later, though no public notification has been given to make users aware of these changes.
<b>CRAFT MAKING</b> <b>1. BASKETRY</b> Basket weaving is a female activity all over the Okavango Delta, especially along the Okavango Panhandle where the river is permanent. Baskets are woven using a variety of plants for weaving and colour treating the materials. Basket products are sold and also used in the household for a variety of uses including as containers for farm produce. Basketry is not an activity of the people of Chobokwane	Seronga	Men do not engage in this activity at all, nor do they help with the collection of the materials.	This is one of the activities that only women engage in. Basket weaving is a potentially lucrative economic activity because the products are very popular are very popular with international tourists and can be sold at a significantly high price. Most women engage in it mostly for these reasons. It is however a skills-based activity that requires training & labour commitment. Access to markets is probably one of the main challenges.	Materials used for making baskets are sourced from a number of plants including Mokola (Fan Palm) tree, grass and the Motlhakola tree. Women report that these materials (especially Mokola plant leaves) are becoming scarce to find such that they have to travel to other villages where they are readily available.	Between December 2006 and December 2007, there were restrictions on the amount of Mokola (Palm) one could harvest. This was restricted to 10 bundles (maximum diameter 20cm) per household per month. These restrictions were lifted in December 2007, but interviews revealed that a formal announcement had not been made by the responsible institution to make the community aware of the changes in regulations.
<b>2. JEWELLERY FROM OSTRICH EGGS</b>	Chobokwane	This is not an activity for men in Chobokwane	Women collect Ostrich eggs to make jewellery, mostly to decorate (beautify) themselves.	Ostrich eggs are regulated by the Department of Wildlife and National Parks.	

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
			Over the years, the ostrich egg jewellery has become very popular, mostly among tourists.		
<b>BEER BREWING (LOCAL TRADE)</b> This is an adaptation strategy that women engaged in, post 1995/96 CBPP cattle killings for Seronga. Similarly for Chobokwane, beer brewing became a livelihood strategy post the relocation and the introduction of regulations on hunting and gathering. Beer is made from relatively cheap ingredients such as wild berries, sugar, a small amount of sorghum meal and water.	Seronga & Chobokwane	Men are not involved in the preparation of the beer; however, men are probably the biggest consumers of this product.	This is solely a women's activity. Usually women who are single and own no land for farming engage in this activity to survive.	This is a relatively cheap livelihood activity to engage in and the product is available cheaply to the consumers. A 500ml cup costs about P1.00 (US\$0.16).	This is posing a social development challenge (health) as more and more people are engaging in beer drinking and 'waste' money on this. Other social ills associated with beer drinking include unplanned and unsafe sexual activities that result in unplanned pregnancies as well as HIV infections.
<b>GATHERING OF WILD FRUITS/VELDT PRODUCTS</b> Wild fruits comprise a very important part of rural activity, and this is predominantly a women and girl child activity	Seronga	Men hardly, if ever, engage in this activity at all. Sometimes male children collect wild fruits if they happen to be with their female counterparts.	Mostly only women and female children engage in this activity. Mostly the fruits are for processing and consuming at the household level or in very few occasions sold for a small fee, and the money is used to buy food for the household. Usually these are dried and eaten as a snack. During drought, the fruits are pounded into powder and cooked like porridge and eaten as a complete meal.	As other natural resources, access to this activity is determined by safety issues as one could encounter wild animals while gathering. Wild animals (especially elephants) also feed on wild fruits and have been reported to be 'finishing' the resources and sometimes destroying trees. Community members in Seronga have reported that the wild fruits are becoming scarce due to this competition and the fact that the elephants are either eating them or destroying them. Community members therefore either have to travel longer distances to find these or no longer collect them.	
	Chobokwane	As in Seronga, men do not collect veldt products. This is strictly women's activity.	Basarwa are traditionally hunter-gatherers. In the past, men would go hunting and women would gather wild	The collection of Sengaparile, a medicinal plant; and ostrich eggs, are now regulated by the Government.	

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
			fruits/berries, roots, bark and even seeds. In addition, there are insects, which are eaten, e.g. locusts. There are also ostrich eggs which are used for decoration on body and storing water at home. It is reported that many of the veldt products have been/ are getting depleted.		
<b>FORMAL EMPLOYMENT</b> The two main formal employers in Seronga and Chobokwane are community-based tourism and the Government through the drought relief program and the labour intensive public works program, both designed to create short term employment opportunities as a poverty reduction initiative.	Seronga	Mostly men have access to formal employment in the community based tourism sector. The Okavango Polers Trust (OPT) employs men (and a handful of women) as 'polers' (i.e. they power wooden boats with long sticks along the floodplains) for tourists to experience a viewing wildlife in close proximity to the wildlife. The Okavango Community Trust (OCT).	Most women working in formal employment are employed by Government institutions such as Land Board, clinics, schools and Tribal Administration institution. Usually these jobs are low-paying unskilled labour such as cleaning offices and clerical work.	The benefits of community-based tourism include formal employment as Polers and professional guides. Other benefits include funeral assistance and provision of transport by the Trust to community members at a subsidised cost for household uses such as collection and transportation of firewood or grass or reeds.	The Government has recently published a policy on Community-Based Natural Resource Management (CBNRM) which will introduce an allocation of up to 65% of the profits to CBOs to a central fund that promotes conservation initiatives. The new laws were introduced partly to curb the increasing mismanagement of funds by CBOs in the tourism sector. This management has resulted with more and more communities benefiting less and less from their natural resources.
	Chobokwane	The Government is the largest employer in Chobokwane, and in Botswana as a whole. This is followed by the agricultural sector, where the majority of men work on the farms. The third largest employer is the CBOs.	Very few women get employment through the labour intensive public works program, which is a Government initiative to create employment. There existed a vegetable garden, managed by Permaculture trust, which employed a few women. But this vegetable garden has		

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
			<p>since stopped running for reasons not known to the community. Most suspect it is a project, initiated by people that have not understood the norms and culture of Basarwa and as a result, have failed due to lack of commitment. The Majority of women in Chobokwane are unemployed.</p>		
<p><b>GOVERNMENT WELFARE ASSISTANCE (SOCIAL SAFETY NETS)</b>  A number of social protection programs have been introduced to target the most poor and vulnerable groups, most of which are rural areas. These include the drought affected, the elderly, orphans, people with disabilities, the destitute and Remote Area Dwellers (RADs) include the delivery of food packages to the very poor; supplementary feeding programs for vulnerable groups and primary school children; entitlement programs, such as the old age pension scheme and World War II veteran grants; provision of food. Clothing, education, and protection to orphans; assisting the terminally ill through home-based care; and labour-based drought relief programs</p>	<p>Seronga</p>	<p>Most men receiving this assistance are the elderly who cannot engage in physically-intensive work for a living. The only program that only men qualify for is the World War II veteran grants.</p>	<p>Most female-headed households receive this assistance as they often have more individuals to care for, usually orphaned children, the terminally ill and the elderly. Nationally, about 54% and 46% of the population were male-headed and female-headed, respectively. 95% of the households who received Government transfers through social safety nets were female-headed, and the remaining 5% were male-headed.</p>	<p>This service is relatively universally accessible to those who qualify and have been registered. There are however cases where household members or individuals have no access to these services because they have not been registered. These cases usually come about because the potential beneficiary does not possess official national identification to prove that they indeed qualify for this service (in the case of the elderly). The old age pension is paid out as cash and sometimes this does not benefit the household as it is sometimes spent on other items, apart from food. Beneficiaries of this service complain that it is very low, and can barely cover the costs of basic food.</p>	<p>The Government saw the need to ensure access to basic amenities of life such as health care, clean water supplies, access to communal land for undertaking productive activities and shelter and basic education. The key areas of development under the National Strategy for Poverty Reduction (NSPR) introduced in 2003 included the enhancement of human capabilities, enhancement of participation in programs by beneficiaries, and strengthening of local Government institutions. Post 1995/96 cattle killing, most households were not able to recover as some no longer has access to draught power and therefore unable to produce any food. More households registered to receive food rations provided by the Government through the social and community development program.</p>

ACTIVITY	VILLAGE	MEN	WOMEN	ACCESS AND CONTROL ISSUES	POLICY INTERVENTIONS
	Chobokwane	<p>The RAD program is probably the only source of income and livelihood for the people of Chobokwane. Both men and women qualify for either of the specific programs:</p> <ul style="list-style-type: none"> <li>• Destitute program</li> <li>• Livestock scheme</li> <li>• World War II veterans</li> <li>• Orphans program</li> <li>• Terminally ill program</li> </ul> <p>It should be noted that the program only considers children and the terminally ill as vulnerable. The program has no specific focus on women and as such, both men and women are considered for the programs on equal merit.</p>			
<p><b>REMITTANCES</b> Most young people travel away from home to find jobs and support their relatives in the rural areas as they help to stabilise irregular incomes and build human social capital.</p>	Seronga & Chobokwane	<p>Men who do not have jobs at the village level nor are involved in farming (especially livestock farming) usually travel away from the village in search of employment. Men that remain in the village and depend on remittances from their children usually invest the money in livestock farming for Seronga and construction of better housing for Chobokwane. This however, is not common in Chobokwane, as most children end up remaining in the settlement, mostly unemployed.</p>	<p>Most women who depend on remittances from their children usually spend the money on day to day household expenses like food and clothing. Usually children send money home to their parents so that they can care for the grandchildren, and often the elderly. This money is hardly ever invested in economic activities such as livestock farming because usually the women are already struggling to make ends meet.</p>	<p>The main challenge to the economically productive sector of society (usually males and females between the ages of 29-40) is HIV and AIDS infection. This usually results in more money being spent on medical care for the ill, and therefore the rural household losing the benefits from remittances and often having to reallocate more money away from other household activities to caring for the sick.</p>	



# HEINRICH BÖLL STIFTUNG

## Heinrich Böll Foundation – Regional Office Southern Africa

The Heinrich Böll Foundation, associated with the German Green Party, is a legally autonomous and intellectually open political foundation.

Our foremost task is civic education in Germany and abroad with the aim of promoting informed democratic opinion, socio-political commitment and mutual understanding. In addition the Heinrich Böll Foundation supports artistic and cultural as well as scholarly projects, and co-operation in the development field. The political values of ecology, democracy, gender democracy, solidarity and non-violence are our chief points of reference. Heinrich Böll's belief in and promotion of citizen participation in politics is the model for the foundation's work.

Our programme areas in Southern Africa are:

- Democracy
- Sustainable Development
- Human Rights
- International Politics & Dialogue

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