

Gender and Climate change: Botswana Case Study

Executive Summary

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1. Introduction

a) Country Situation

Botswana is a landlocked country in Southern Africa, bordered by Namibia to the west, Zambia to the north, Zimbabwe to the east and South Africa to the south. Out of the country's population of 1,6 million people, almost 50% resides in rural areas. Female headed households constitute approximately 45% of households nationally.

Available climate change projections and impact studies suggest that Botswana is highly vulnerable to the impacts of climate change. The variable nature of the country's rainfall frequency and magnitude make Botswana particularly vulnerable. A variety of climate simulation models predict that temperatures in Botswana will on average rise by 1-3o^c by the year 2050. Drought is a recurring feature of Botswana's climate, and desertification is a national concern.

According to the 2006 Stern Review, developing countries are geographically vulnerable, located where climate change is likely to have the most damaging impacts and are least likely to have the capacity to adapt to these changes due to underdevelopment, poverty and other challenges. The most affected will be the more vulnerable groups, such as 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 have the least capacity to adapt to climate change and climate variability. The disadvantaged position of women in society means they have greater difficulty in coping with disasters, environmental change and climate variability. Gendered divisions of labour often result in more women participating in the agricultural and informal sectors, which are more vulnerable to climate variability and climate change. Women in general are also responsible for reproductive tasks such as the provision of food and energy for the household as well as many care-giving tasks, such as caring for children, the 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.

b) Description of Study Areas

The study was carried out in Botswana and the objective 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 gender sensitive mitigation and adaptation policies.

Two villages in rural Botswana were selected for the research. For the interest of comparison, the study chose two villages based on 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). The Okavango Delta is a swamp with permanent and seasonally flooded areas and supports abundant biodiversity, although the soils are not very suitable for agriculture. Seronga is an agro-pastoral community that also relies heavily on fishing and is inhabited by mostly the Bayei tribe, but also has a large number of the Ham-bukushu tribe.

Chobokwane: Located in the extremely arid environment of the Kalahari in the western part of the country. With the exception of veldt products, the people of Chobokwane derive little goods and services from the Kalahari system where conditions are dry, with sandy soils that have low agricultural potential. The inhabitants of the settlement are predominantly San who are traditionally hunter-gathers. Due to modern conservation policies, the San now engage in little or no hunting, but have instead been encouraged to engage in livelihood activities that are not traditionally San, such as agro-pastoral farming.

2. Methodology

The methodology used included structured and semi-structured interviews, focus 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.



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3. Key Findings

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 farmers. The rainy season (the time of the year that most of the rain is expected to fall) 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 with extreme drought in some years. All these changes, perceived or real, have led to reduced agricultural yield, particularly in Seronga where the majority of the people are engaged in agricultural activities. Women are most affected by reduced rainfall and agricultural yields as arable farming is predominantly a female activity.

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 as opposed to, or together with sorghum is worth noting. According to the farmers, millet grows faster, with less rain, and can withstand heat more than sorghum. Planting this crop therefore guarantees a better harvest than planting sorghum alone. Both these cereal crops are also better than maize crops, which

are highly vulnerable to drought and are water intensive. The ability of women in rural areas like Seronga to adapt to climate change will depend on the availability and affordability of different seed varieties. This is especially so since more than 50% of households in rural Botswana are headed by females. One of the most frequently cited adaptation strategies is the intensification of agriculture to ensure increased yields. It was however found that female headed households in Seronga rarely have access to draught power or tractors which would severely hamper their ability to intensify agriculture.

In the case of Chobokwane, increased temperatures and reduced rainfall have been blamed for the few and isolated cases of cattle death in the village. Climate change 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 populations, and patterns of migration impacting on what remains of their hunter-gatherer lifestyle.

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.

Women use reeds and grass to build houses, fence courtyards, make different types of fishing equipment and for income generation. Harvesting reeds is a time consuming activity, with a harvester (usually only women harvest reeds) spending on average 8 hours a day during reed harvesting season on this task. These resources are however becoming increasingly 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 were very close to the village. 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, as a potential consequence of climate change, these challenges will become even more apparent. For example, if the predictions of reduced rainfall in the Southern African region occur, then the amount and distribution of reeds and grass available for harvesting will be affected, thus negatively affecting the women who rely on this resource to supplement their livelihoods.

Women in Seronga also engage in basketry for income generation. Materials used for making baskets are sourced from a number of plants including the Mokola tree (Fan Palm – *Hyphaene petersiana*), grass and the roots of the *Euclea divinorum* (Motlhakola) tree. Women report that these materials (especially Mokola 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 these natural resources. It is however expected that climate change will likely exacerbate the existing challenges, due to reduced rainfall and change in weather patterns. Thus, the women of Seronga would be negatively impacted as a source of additional income would either be severely diminished or entirely wipe out.

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 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 children, elderly and the sick.

In Seronga, households still depend on the river for their drinking and cooking water. Tap water is simply not reliable and is sometimes further from homesteads (considering the difficulty of carrying the water container) than the river. The river is the only reliable source of water as the river flows permanently, yet access to this source is becoming more difficult due to safety challenges such as the presence of wild animals

at the river, especially during the dry season when human-wildlife competition peaks. The women stated that they had to walk longer distances to collect water because the river has been receding over the years. 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. As such, men are not affected as much by climate variability. As mentioned above, most female headed households do not have access to draught power or donkey carts, therefore the increasing scarcity of water has a negative impact on the women.

Malaria, HIV/AIDS and cholera are some of the biggest 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, there is evidence that as women get poorer they may attempt to cope through prostitution in order to sustain their families. This leads to increase in HIV/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.

The supply of household energy is considered to be the responsibility of women. Since the primary form of energy in rural areas is firewood, most women are engaged in fuel wood collection and they spend over 3 hours a day on average on this task. 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 reported to have increased as resources become scarcer; this was reported by many respondents in both Chobokwane and Seronga.

Despite their increasing 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.

4. Conclusion & Recommendations

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/AIDS. Women and youth should particularly be targeted 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 with existing income. However, the prerequisites and processes for accessing these credit initiatives are sometimes exclusive and therefore leave out 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 train-

ing, 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 development 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

“ There is evidence that as women get poorer they may attempt to cope through prostitution to in order to sustain their families. ”

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