
**REDUCING THE VULNERABILITY OF WOMEN TO CLIMATE CHANGE: A BRIEF
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E-mail-bankausta@yahoo.com****ABSTRACT**

Climate Change is a global phenomenon, with impacts that are already being experienced on a human level. It is recognized that it is those who are already the most vulnerable and marginalized who experience the greatest impacts, and are in the greatest need of adaptation strategies in the face of shifts in weather patterns and resulting environmental phenomena. Women make up a large number of the poor in communities that are highly dependent on local natural resources for their livelihood and are disproportionately vulnerable to and affected by climate change. Women's limited access to resources and decision-making processes increases their vulnerability to climate change. Women in rural areas in developing countries have the major responsibility for household water supply and energy, for cooking and heating, as well as for food security, and are negatively affected by drought, uncertain rainfall and deforestation. Because of their roles, unequal access to resources and limited mobility, women in many contexts are disproportionately affected by natural disasters, such as floods, fires and mudslides. Women are not only victims of climate change, but also effective agents of change in relation to both mitigation and adaptation strategies. Women's responsibilities in households and communities as stewards of natural resources has positioned them well for livelihood strategies adapted to changing environmental realities. It is therefore important to identify gender – sensitive strategies for responding to the environmental and humanitarian crises caused by climate change.

Keywords: Vulnerability, climate change, poverty, women, agriculture.

INTRODUCTION

Historical climate records show that Africa has already experienced a warming of 0.7⁰C with global models predicting a further increase at a rate of 0.2-0.5⁰C per decade (IPCC, 2001). There are also observed changes in rainfall distribution with decreased rainfall expected in the Sahel and an increase for central Africa. Further physical impacts include sea-level rise, changes in temperature extremes (such as heat waves) and an increase in the frequency and intensity of storms. Such physical impacts combined with a high dependence on natural resources and an over dependence on rain-fed agriculture means that many African countries face high vulnerability in the coming decades (CSW, 2008).

Indeed, it is widely recognized that climate change will pose a real and long-term threat for the Millennium Development Goals. The Millennium Development Goals recognize the need to promote gender equality and empower women to participate in all facets of economic and social life with the aim of achieving sustainable development. Climate change poses a significant challenge of the achievement of sustainable development for the rural poor, especially women, who will suffer disproportionately from its impacts. To date little has been done to mobilize and empower women and men particularly in African to address global environmental challenges such as climate change (UNDP, 2009).

Biological differences between men and women are obvious and acknowledged by all, however the difference in roles within communities, access to information, economic and social factors have to be analyzed for successful implementation of adaptation and mitigation measures. There is a need to differentiate between men and women as far as the climate change process is concerned because of the different roles the two sexes play in society today hence the different ways in which they will be affected by the climate change policies designed (CSW, 2008; CIDA, 2000; UNDP, 2009). Behavioural patterns of women and men, young and old, rich and poor differ greatly. The activities carried out by women and men differ significantly, and they both impact climate change differently. The social roles and responsibilities of women and men are different as well leading to the different degrees at which they depend on the natural resources within their communities which will be destroyed by the impacts of climate change.

VULNERABILITY

African's ability to adapt to climate change is dependent on resources at its disposal; financial and human. Africa is likely to suffer more from the impacts of climate change because of its lack of sufficient resources to adapt to change and its extreme vulnerability. It is widely acknowledged that the negative impacts of climate change will hit the poorest in the poorest countries hardest. The poor are most vulnerable to the impacts of climate change and variability, and women are over-represented amongst the poor. Approximately 70 percent of the world's poor are women and their vulnerability to natural disasters and environmental hazards is further accentuated by questions of race, ethnicity, and age (IUCN, 2007; Slater and Peskett, 2007).

The people most at risk from climate change are those living in affected areas, who are least able to avoid the direct or indirect impacts (as a result of having poor quality or poorly located housing), being physically more vulnerable, and least able to cope with the loss of income, livelihood assets, ill-health and injury. In low income populations, women's vulnerabilities in all of these respects tend to be more pronounced, in part because other limited access to and control over assets such as land expose them to all these risks (Satherthwalt *et al.*, 2006).

GENDER, POVERTY AND VULNERABILITIES

Poverty is one of the world's fundamental problems in Africa and different strategies have been designed to address it. Poverty can be conceptualized in a number of ways; for example in economic terms (an income of less than a dollar a day), in social terms (lack of access to adequate levels of energy, food, healthcare, education, shelter, sanitation and clothing). Poor women and men don't become poor in the same ways nor do they save moneys in the same ways. Within the household, women and men have different access to resources and goods. Data from households reveal hidden discrimination against women (Cannon 2002; Satterthwalte *et al.*, 2005; Slater *et al.*, 2007; Bartlett, 2008).

The largest concentration of poverty is found in sub-Saharan Africa, with women suffering most from the worst forms of poverty (UNDP/ENERGIA, 2004). Women represent the majority of low income earners, and have lower educational levels than men, more limited access to property rights, and limited representation in community decision-making. They face cultural discrimination which exacerbates their vulnerability. Women may as well be

constrained in fleeing rapidly from sudden onset disasters given their responsibilities for childcare or as a result of social norms. Loss of homes and home gardens can also have a major impact on women's livelihoods since women often tend to pursue home-based income earning activities. But despite women's greater ties to the home and its immediate environment, their legal and customary jurisdiction over these essential assets is highly restricted (Quan and Dyer, 2008).

A variety of forms of gender discrimination in access to land and property rights is one set of factors underlying women's greater vulnerability to the impacts of climate change. While women can lack access to formally recognized property rights because of entrenched legal and institutional discrimination, they also face discrimination in customary tenure systems, and are unable to inherit. Property and dependence on male relatives for access to land, (Quan and Dyer, 2008; Mitchell *et al*, 2007). The lack of secure property rights makes it more difficult for women to access sources of credit. The absence of jointly recognized property rights can restrict female spouse's access to resettlement or compensation for the loss of property. Women face discrimination in access to land registration systems and as a result female headed households, especially where women are poor and illiterate, are particularly vulnerable (WEDO, 2003).

AGRICULTURE

Agriculture represents 80 percent of African's GDP and climate change threatens the economy because it is highly dependent on agriculture. Food production in sub-Saharan Africa has not kept the pace with the growing population over the past 3 years and is susceptible to decrease, for example it is predicted that cereal crops yield will decline up to 50% by 2080. Women are the main producers of the world's staple crops up to 90% of the rural poor's food intake and producing 60-80% of food in Africa. Maize sorghum, millet and groundnut yields have a strong association with the year to year variability of El-Nino in Africa (Warren *et al*, 2006; CSW, 2008). As a result of changes in agricultural conditions engendered by temperature rises and rainfall variations resulting from climate change can have a pronounced effect on women's farm production, incomes and food scarcity (Parry *et al*, 2005)

FORESTRY

Forests and woodland occupy about 21% of the land area in Africa. Climate variability and change is predicted to cause increasing shift of 25-30km of the Sahel, sudden and Guinean vegetation zones. Since forest products account for as much as 6% of the economic product of several African countries, climate change is a critical threat (FAO, 2007). Women's livelihoods and social roles rely directly on forest resources to meet the nutritional, health and cultural needs of families and communities: forest resources are crucial to women's income generating capacities, while men are involved in timber extraction and the use of non-timber forest products for commercial purposes. Due to this division of labour, women living or near the forest are differently & disproportionately harmed by deforestation and have stronger interest in preservation. Access to supplementary food resources from the wild which can be critical to survival during drought or lean periods will become more and more important in a more variable climate, by the same token, availability of wild food resources is likely to become more restricted. Not only will warming trends affect the biodiversity and resource availability to women in

forest environments, but women in forest by exclusion from forest areas in carbon emissions, mitigation and tree planting projects (Masika, 2002).

WATER SCARCITY

As rainfall declines, the quality of water deteriorates because sewage and industrial effluent become more concentrated, thereby exacerbating water-borne diseases and reducing the quality and quantity of fresh water available for domestic use. River flow rates are predicted to decrease as well. The time consuming task of gathering and transporting water is usually the responsibility of the woman, as water becomes scarce the work overload increases drastically as they have to walk longer distances in search of water. It has been estimated that women in developing countries spend on average of 134 minutes a day collecting water for their households (Fisher, 2006; Khosla and Pearl, 2003; Brown *et al.*, 2007). This increases the rate of school dropouts for young women as they take on extra workloads, reducing the opportunities for women to participate in non traditional activities that would empower them. The cost of water even for urban women will increase, denying accessibility (Slater, *et al.*, 2007; UNDP/ENERGIA, 2004).

HEALTH

Africa is already vulnerable to climate sensitive disease. Increases in temperature will increase cholera bacteria and malaria incidences. Malaria will spread to dry areas where flooding will rise with climate change. Malaria is already reported to have increased in Rwanda and Tanzanian high lands as a result of temperature rise. In South Africa, Malaria susceptible area may double with 7.8 million people at risk by 2100. Rift valley fever which is associated with heavy rainfall events is also expected to rise with climate change. Because of their roles in relation with household water supply and domestic chores, women are particularly at risk. Children and pregnant women are particularly susceptible to water borne disease such as diarrhea and cholera and poor access to health care aggravates the situation (Davis *et al.*, 2005; CSW, 2008).

REFUGEES, MIGRATION AND CONFLICT

It is estimated that by 2050 there will be 250 million people who will be forced to flee their homes due to droughts, desertification and extreme weather events. In Africa, migration of the rural poor to rural or urban areas for work is a clear example of gender different in social and cultural roles. Men will move to other areas for work whilst women are left managing food production and household work. However there has been an increase in the number of women headed household a lot of work to do and few resources increasing their vulnerability and marginalizing the women and aggravating poverty (Hemmati, 2005; Christian Aid, 2007; Bridge, 2008).

EFFORTS TO ADDRESS VULNERABILITY

A growing interest in gender aspects of climate change has become evident in the climate policy processes, with more awareness rising, more learning and engaging in discussion. Platforms for voices and concerns of women in the climate change debate have been established. Several caucuses and forums are in place, allowing for the brainstorming and information sharing on best practices in mitigation and adaptation strategies amongst women and gender activists. The gender and climate change network, a global network has served at the several conferences of the parties (COPS) as an opportunity to interact and pave way on the gender dimension in climate protection. These avenues include

convention on the Elimination of the forms of discrimination against women (CEDAW), the Earth summit, United Nations Biological Diversity (CBD), United Nations Convention to Combat Desertification (UNCCD), amongst others. Other partners such as FAO, Women's Environmental Development Organization (WEDO), the Gender and Climate change network Africa and more serve as support for further advocacy and awareness raising for gender justice in the future climate regime.

In Africa, women are playing important roles in tropical forest preservation as an adaptation strategy. For example in Zimbabwe, women's groups (over half of 800,000 families living in communal areas are headed by women) manage forest resources and development projects through wood lot ownership, tree planting and nursery development. To address the scarcity of fuel wood and poverty of rural women, mama watoto's group was formed in Kenya. This scarcity had forced women to collect wood from food reserves thereby exposing them to legal penalties. In response, the women formed "Women made forests in sections in their farms. The afforestation programme improved soil fertility reduced illegal harvesting and increased the vegetation cover in the area that could sequester carbon (CSW, 2008).

To build a future climate regime that is effective, sustainable and just, gender sensitive mitigation and adaptation policies and measures should be designed and necessary resources provided for this.

Training women how to reduce and prevent forest fires and controlling agricultural burning is the most effective prevention measures in managing protected areas and wooded zones.

In Indonesia, Namibia, Central American and the Philippines, professional forest fire fighter brigades and squads have trained women who live in zones bordering protected areas and in zones of influence. Women can also help in the replacement of slash and burn agricultural practices, such as participation in mapping zones to control the risk of forest fires and agricultural burning and in equipping communities. Using a 'bottom-up' model when preparing plans and programmes to assess marginalized peoples knowledge, instead of applying a model that favours only opinions that come from above.

Basing climate change mitigation and adaptation strategies on gender strategies already practiced in agriculture, livestock raising water resource management, coastal zones management and disaster risk management will play a vital role in reducing vulnerability. Developing national and local government strategies to improve natural resources and to ensure women have access to and control of them; to create educational and training opportunities in areas related to climate change; to encourage the development of technologies that take women into accounts; and to foster the transfer of technology to women.

The principle implication of women's disproportionate vulnerability to climate change is the need for improved gender analysis and targeting in adaptation planning, at all levels. Reduction and eventual removal of discrimination in women's access to land and property has a key role to play in developing a more gendered approach to adaptation in both urban and rural areas.

Therefore, better more secure access to property rights and natural resources for women is fundamental to reducing women's vulnerability to climate change.

The risks of which women are exposed highlight the urgency of political and practical action to:

- Provide secure tenure arrangements for women over land and property rights, through individual and joint spousal titling and documentation of women's rights, this is particularly, but not only for female headed households.
- Combat gender discrimination in customary systems of land tenure and inheritance, and also provide legal literacy and practical support to women in gaining access to land and obtaining documentation of secure tenure.

CONCLUSION

Participation of women and gender experts in the climate process is crucial for developing just, effective and efficient measures of climate protection. Climate protection needs women's expertise, their perspective, their political support and their engagement as key agents of change. Women should be target for educational programme concerning climate change, for them to be adaptation to contribute to findings and implementation of climate change solutions that are more likely to be successful within a community. It is also important to recognize the diversity of women-young and old, rich and poor, urban and rural and so on, the importance of gender expertise, no one woman can do it alone.

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