Climate change in sub-Saharan Africa
The impacts and responses for women and girls

Context and Policy Research Questions

Projects to be supported under this initiative should produce evidence that will inform policies to:

- **Increase women's leadership in defining and implementing solutions to mitigate or adapt to climate change effects; and/or**
- **Mitigate the effects of climate change on gender equality.**

Only three countries in sub-Saharan Africa mention women and girls/children in their climate change management policies as populations in need of particular consideration. There is an urgent need for gender-sensitive evidence to inform policies in this area. For this, an in-depth and evidence-based analysis of women's roles in sectors affected by, and women's strategies for coping with, climate change is essential.

A gender-blind climate change approach to designing interventions will miss out on key constraints, opportunities and impacts. Additionally, if gender is a factor in how children are affected by climate change, this has consequences for the design of effective public interventions aiming to enhance resilience and long-term adaptation in communities affected by climate change. Research that investigates the gender dimensions of children's vulnerability to climate change is, therefore, vital.

Given the depth, scope and nature of the problem, there is a consensus that, at the national level, the climate change-related threat to individual livelihoods and social cohesion is best dealt with through collective action, both for redistributive and efficiency purposes. Indeed, as climate change intensifies, competition for resources, if left unregulated, may increase social exclusion, and fuel conflicts.

Although climate shocks do not discriminate, women often have lower capacity than men to respond and adapt to their effects and are particularly at risk of increased marginalization due to climate change-induced competition for resources (Eastin, 2018). This is mainly due to 1) historical inequalities; 2) greater dependence on, and responsibility for, sectors and resources that are set to experience intense shifts (e.g. water, agriculture, fuel wood); 3) limited access to economic and social resources (e.g. financing, technology, bargaining power, assets, social capital, medication, and information); and 4) insufficient representation in decision-making processes, including those related to climate change mitigation and adaptation.

By increasing competition for resources, climate shocks could further entrench the sociocultural norms of entitlement that subordinate women to men, by denying women the right to become a voice for inclusive actions. For example, owing to the gendered nature of entitlements, men, as fathers, can marry off their daughters at an earlier age (a phenomenon known as child marriage) as a mechanism for coping with the adverse effect of climate change (Corno, Hildebrandt and Voena, 2017). Such

action strips daughters of their individual agency, translating daughters' subordination to their fathers into subordination to their husbands (Parsons et al., 2015). Also, as women and girls in many developing countries are primarily responsible for food production, household water supply, and energy supply for cooking and heating, they are more dependent on livelihoods and resources that are put most at risk by climate change. As rainfed agriculture becomes more unpredictable because of climate change, women's ability to feed and provide for their families become compromised, presenting them with the challenge of finding alternative resources or sources of livelihoods.

The gendered nature of resource entitlements and division of labour may also compromise women's capacity to resort to specific adaptation or resilience strategies, such as migration – i.e. as the main caregivers of children and the elderly, women are less likely to relocate out of affected or at-risk communities successfully. In rural settings, gendered norms in the family sphere also tend to deprive women of the capacity to transit out of rainfed agriculture, by generating constraints on their geographic and sectoral mobility, or access to credit, which prevent them from pursuing off-farm activities (Doss, 2018).

At the same time, women are often uniquely situated to lead efforts to combat climate change. For example, despite its adverse effects, the gender division of labour within the household has put women at the forefront of household energy consumption decisions (Glemarec et al. 2016). Women could, therefore, play a prominent role in the transition towards 'clean' and sustainable sources of energy.

Indeed, according to the UN, these predicaments put a premium on women's voices and perspectives to inform policies and actions. Just like in the case of peace, human rights, justice, and development, without the equal participation of women in decision-making at both the national and international levels, resilience-building adaptation solutions to climate change can neither be fully explored nor implemented (UN-Women 2017). Yet, according to the same source, worldwide and at the national level, women continue to be underrepresented in all branches of government: on average, they only represent 23 per cent of parliament members and a mere 17 per cent of government ministers (UN-Women 2017). These figures hide wide regional disparities. In developing countries, women represent only ten per cent of parliamentary seats. In Africa, only Cape Verde has women holding at least 50 per cent of ministerial positions (UN-Women 2017).

A general review of the literature regarding gender-specific predicaments with regards to climate change suggests that effective policies to increase women's resilience to climate change effects could or should aim to:

1) Improve productivity in the agricultural sector (e.g., by improving the irrigation system and access to agricultural inputs);
2) Expand the range of economic opportunities to which women have access;
3) Invest in girls' education to enhance their individual agency and, so, their mobility;
4) Address cultural norms/constraints to mobility directly (through policy or media).

However, the effective mainstreaming of gender in the design and implementation of adaptation and resilience policy requires the systematic measurement of the gender gap in the impacts of such climate change-induced risks. Such an effort has not yet

been made satisfactorily in the literature. This task is important, but it is complicated for a number of reasons:

- First, it is not clear on what dimensions to base the analysis of gender differences in vulnerability to climate hazards. Some hazards only directly affect individual health (e.g., heat waves), others only affect economic activities (e.g., drought-induced loss of soil moisture), and some others may affect both health and production activities (seasonal monsoons, cyclones, but also droughts).
- Second, a gender comparison of the impacts of climate hazards is complicated by the presence of various potential sources of measured and unmeasured confounding variables, which would invalidate the estimation of the causal relationships.
- Third, the availability of longitudinal data may suffer from a high degree of attrition, due to climate hazard-induced displacements over time.
- Fourth, to aid policy, it is crucial to identify the mechanisms driving the impacts of climate hazards, at both the intensive and extensive margins. Addressing all these issues would fill an existing gap in the literature that is crucial to understanding the nature of factors that create gender disparities in vulnerability to climate hazards.

Climate hazards also contribute to exacerbating children's vulnerability. Although boys and girls can suffer from identical deprivations as a result of climate hazards, son-preference can lead resource-constrained households to invest disproportionately in the recovery of boys, at the expense of that of girls. Furthermore, in resource-scarce rural households, young girls tend to spend more time than boys fetching water and fuel wood as these resources become rarer due to climate change. Meanwhile, in communities where culture and tradition prescribe marriage payments, climate change-induced negative income shocks can lead to child marriage as households marry off their underage daughters (Corno, Hildebrandt and Voena, 2019). The bride-price paid to a girl's family, and having one less dependent, may help cash-constrained parents cope with financial hardships caused by climate change. However, child marriage affects a girl's mental and reproductive health negatively and deprives her of the education she needs to exercise individual agency later in life (UNICEF, 2014). Gender inequality at the childhood stage can translate into greater gender inequality at the adulthood stage. Furthermore, given that gender inequality is a barrier to development, if climate change enables gender inequality in households, then it may have long-term as well as short-term effects on development.

In sum, these issues call for research on how to put women and girls at the heart of climate resilience and adaptation strategies at either the community or national levels. If, as distinct social groups, men and women have unequal means and entitlements to respond to climate change adequately, leaving these issues unattended due to lack of sensitivity to gender equality could lead to a collective action failure.

Areas for and examples of (Policy) Research Questions

1. **Documenting gender inequality with respect to climate shocks:**
    a. With the occurrence of climate shocks, does culture make women:
        i. More vulnerable to infectious diseases like malaria?
        ii. Less able to diversify crop production?
        iii. Less productive in the agricultural sector?
        iv. Less (geographically) mobile?
    b. What are the effects of climate-change-induced climate shocks on intra-household wellbeing?
        i. Which dimensions of wellbeing are most affected (intra-household power; intra-household time allocation; resources' and activities' allocation; intra-household poverty; domestic violence; nutrition and health; etc.)?
        ii. Who are the most vulnerable demographic groups (age and gender-wise)?
        iii. Do existing gender-blind policies (e.g. social protection policies) mitigate or exacerbate the intra-household distributive impacts of climate shocks?
        iv. How should policies be designed to mitigate the impacts of climate shocks on vulnerable individuals/women within households?

2. **Understanding the barriers to adaptation to and identifying innovation tools that strengthen women's resilience to climate shocks:**
    a. Effective women-targeted land titling as a buffering mechanism (barriers to land titling, cultural differences);
    b. Understanding whether the existing policies and programs (e.g. extension programs) recognize the role of women. Do they facilitate or hinder women's role in agricultural adaptation? Are women more likely or less likely to adopt climate change resistant technologies?
    c. Investing in women's empowerment and transition to green economy (e.g., adoption of new low-cost energy technologies and green cookstove, through adequate marketing such as price incentives and learning-from-peers);
    d. Female members in parliament and women's resilience;
    e. Investing in infrastructure (irrigation system, electricity, transport, machinery) to improve women's resilience;

f. Investing in climate-resilient agriculture for both staple goods and internationally-traded agricultural products, combined with gender-sensitive training and access to inputs to women producers;

g. Policies that increase women's income diversification and employment opportunities to strengthen women's resilience;

h. Addressing cultural norms directly (through policy or media): What policy interventions can address intra-household bargaining power of vulnerable women and/or support other policies through addressing cultural norms (e.g. challenging cultural norms that prevent the use of childcare facilities)? Challenging cultural norms that make witch-killings possible? Challenging cultural norms on land use, women's labour supply, etc.? How can available data be used to evaluate the role of cultural norms on the gendered effects of climate change?

i. Investing in girls' education to strengthen women's agency and increase their economic and geographic mobility; what interventions are likely to be successful in keeping girls in school longer in the face of climate-change-induced adversity?

j. Promoting women's organizations to play a role in relaxing some of the constraints faced by women so they can engage in food supply chains fully (e.g., microcredit or microinsurance) and confront social norms that limit women's mobility outside the home (e.g., collective transportation to the marketplace, childcare services, access to safe sanitation facilities in these marketplaces).

k. Promoting community programs (e.g., awareness and information campaigns) aimed at preventing and mitigating the effects of climate change, and that actively involve women residents.

l. Investigating on the recovery actions limiting the disruptive effects on children's lives (e.g., school interruptions and disruption of community infrastructure).

m. Do climate shocks affect the supply and the quality of programs primarily targeted to women (e.g., vocational trainings; maternal and child health programs)?

n. How does climate change affect the value of assets? How does this influence the marriage market for girls? What interventions might mitigate the adverse influence of climate change in the marriage market?

o. What policies and programmes can directly address cultural norms that favour boys over girls in households' provision of nutrition and health? How can policies that increase the status of women be leveraged to improve gender equality in the treatment of sons and daughters?