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The Climate-Gender Nexus: A Deep Dive into the Egyptian Women's Agricultural Sector

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Abstract

Climate change has a significant detrimental impact on the global community, and one that is gendered. The "climate-gender nexus" is particularly evident in Egypt's agricultural sector. While they play key roles in food security and agricultural production, women farmers in Egypt are limited in their ability to adapt to adverse climate impacts as a result of their restricted access to extension services and rural finance, seasonal employment within the sector, and lack of productive assets. To mitigate this issue, policymakers should enhance women's capacities and meaningful participation within the climate paradigm, utilize gender-disaggregated data, and utilize climate-smart agriculture.

Introduction and Background

Climate change has a detrimental impact on societies the world over, exacerbating poverty and undermining agricultural production (Smith et al., 2021). Moreover, such detriments have a distinct, though often understated, gendered dimension. Climate change both reflects and magnifies discriminatory gender norms and the unequal socio-economic status of women (Eastin, 2018, p.298). For example, women in developing countries often rely on natural resources as primary means of sustenance and income for their selves and for their families. Yet despite their role as the main suppliers and gatherers of such natural resources, women are often subject to inequities in the rights of ownership and control of land and property, amongst other assets (Smith et. al., 2021, p.1). It is therefore important to consider the gendered impacts of climate change within socio-economic and cultural paradigms (Pearse, 2017).

The nexus between climate change and gender has significant implications for Egypt's agriculture sector. The ability of Egyptian women farmers to adapt and counter the impacts of climate change is limited compared to men, largely as a result of restricted access to productive assets, information, technology, and financial services, as well as the high(er) rates of illiteracy and limited mobility among women (Kandeel, 2017). The objective of this policy brief is to discuss the relevance and gravity of the climate-gender nexus in the Egyptian context, to identify the main challenges and opportunities associated with tackling this nexus, and to put forth several related policy recommendations.

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Relevance of the Problem

Climate change represents a pressing, existential threat for communities and groups around the world. This threat is especially pronounced for the impoverished, marginalized, and vulnerable. While the global climate crisis has gained momentum in recent years, the gendered effects of climate change have been largely understated, if not neglected all together, in global narratives and paradigms. This muted response to the gendered impact of climate change, or the "climate-gender nexus," is concerning on multiple levels. When a gendered lens to climate change is sidelined, prevailing gendered inequalities that amplify the adverse impacts of the climate crisis are overlooked, and thereby perpetuated.

Egypt is one of the most vulnerable countries to the detrimental impacts of climate change, with a large and growing population, the heavily populated Nile Delta, and water scarcity that is exacerbated by the climate crisis (Morsy, 2021; UNDP, 2021). This vulnerability extends to the agricultural sector and the country's food security by extension, including adverse impacts on crop production, changes in land use, and expected increases in crop water requirements (Mahmoud, 2017). In 2021, heat waves hit the mango crop in Ismailia and the olive crop in the coastal city of Marsa Matrouh and the New Valley in the Western desert (Enterprise, 2021; Tapper, 2021). Farmers in those governorates, who depend on cultivation for income generation, lost almost 80% of their yearly harvest (Enterprise, 2021), hurting their livelihoods. Moreover, the impacts of agricultural deterioration on men and women farmers as a result of climate change are not equal. As men and women face different day-to-day experiences and dynamics, the degree and nature of climate change vulnerability faced by men and women also differ. Women are more vulnerable than men to the adverse environmental effects of climate change because of the inherent and systematic inequalities they confront. As Eastin (2018) argued, gender disparities in climate change vulnerability not only reflect pre-existing gender inequalities, but also reinforce them.

The Status Quo of Women in Agriculture

Climate change has a serious impact on the millions of Egyptian women farmers who depend on agriculture for their livelihoods. The agriculture sector is a key contributor to women's employment in Egypt. About 45% of Egyptian women in the labor force are employed in the agriculture sector (FAO, 2022b), and women are active in most agricultural sub-sectors, including crops, livestock, and fisheries. While specific patterns and shares of involvement differ across rural areas, there is an overall high rate of participation of women across all stages

of the agricultural cycle. Women plough, irrigate, cultivate, and fertilize the land (FAO, 2022a). They also engage in harvesting and post-harvesting activities. Nevertheless, while rural women in Egypt play a key role in the country's food security, agricultural production, and income generation, their contributions remain largely invisible, and women enjoy limited agency at both the household and the community level (Najjar et al., 2017). This neglect serves to undermine rural women's bargaining power as well as their social and economic empowerment. As millions of rural Egyptian women working in agriculture suffer from poverty and depend on agriculture – a sector known for its low and unstable earnings – for income generation (Kandeel, 2017), their situation is further exacerbated and their vulnerability worsened by climate change (Daoud, 2021).

Much of the problem stems from the status quo of women farmers, which undermines their socio-economic capacities in the face of climate crises. Examples of disabling factors include women's seasonality of employment and the wage gap, limited ownership of land and access to productive assets, and limited access to training, extension services, and rural finance, which are all results of persistent gender social norms.

- **Seasonality of employment and wage gap:** While men in the agricultural sector are mostly employed as full-time workers, women are commonly employed as part-time or seasonal workers. Rural wage laborers are among the most disadvantaged workers as they tend to be from poor families, with few assets, and are also affected by the seasonality of work and unregulated working conditions (Najjar et al., 2017). The consequence is a gender wage gap, whereby women workers are paid less than $5–8 which is the average daily wage for a seasonal farm worker in Egypt (Kandeel, 2017). In fact, a recent study by the International Labor Organization (ILO) on Egypt's agribusiness sector reported agriculture to be one of the six lowest paying sectors for women (ILO, 2020).

- **Limited access to productive assets:** Only 5.2% of the total agricultural land is owned by women, according to the Food and Agriculture Organization (FAO, 2022a). Furthermore, patterns of women's land ownership differ in the Old and New Lands[2]. The percentage of female ownership of land is higher in the New Lands (almost 20%) than in the Old Lands (2–6%; Najjar et al., 2019). The lack of land ownership undermines women farmers' agency as individuals and in the community and undermines their contributions in agricultural production. This lack of agency is manifested, for example, in limited membership in agricultural cooperatives and water user associations (Barnes, 2013; Najjar et al., 2019).

[2]The Old Lands refer to agricultural lands within the Nile Valley and the Delta, while the New Lands refer to agricultural land reclaimed since the 1970 High Dam construction (FAO, 2016).

While not the sole driver of empowerment, land ownership provides social status, opportunities to participate in public life, access to credit, and a stable source of income and food security.

- **Limited access to extension services and rural finance**: Women's access to agricultural support services is very limited, and, if provided, services are minimally tailored to rural women's specific needs. According to the FAO (2022b), these limitations stem from the lack of recognition of women's role in agricultural production, as women are generally perceived as helpers, not primary workers (FAO, 2022b; Najjar et al., 2017) and the domination of men in the extension services sector, which systematically excludes women from training and extension services and consequently from the associated benefits. The dichotomy between the Old Lands and the New Lands is also reflected in women's access to training. Most women in the New Lands participate in rigorous training on irrigation and agricultural management, while in the Old Lands, women receive basic training on issues such as residential use of water and basic farming principles (Barnes, 2013; Najjar et al., 2019). On the finance front, rural women are also structurally excluded from access to credit and microcredit opportunities, as financial institutions rely on land or property as a collateral in loan contracts (FAO, 2022b).

Policy Takeaways for the Climate-Gender Nexus

In light of increased global mobilization to address climate change and the transition to greener economies, a gendered lens to climate action cannot be overlooked. A just transition can address both the gender-climate nexus and broader issues of gender equality. While there is a scarcity of data on the climate-gender nexus in the Egyptian context, there are clear linkages that warrant policy consideration and action. Furthermore, Egypt's Presidency of COP27 offers ample opportunity for gendered initiatives and reform under climate change adaptation and mitigation measures. Opportunities to tackle the climate-gender nexus in Egypt include the following:

Enhancing Capacity and Participation: Prevailing gender inequities, particularly in rural areas, should be addressed through increased awareness and capacity training modalities to offset discriminatory norms and practices that hinder women's economic empowerment and agency and through strengthening social support mechanisms and their coverage. The voices of women from the bottom up should also take a central role in shaping climate adaptation and mitigation policy measures in order to hedge against unwanted repercussions that could ultimately serve to the detriment of women. Such inclusion can be achieved by promoting the leadership of women and reducing barriers to their meaningful participation (Smith et al., 2021), integrating a gender

analysis within projects that are designed to identify climate vulnerabilities, and specifically targeting the needs of women in initiatives designed to reduce vulnerability (Eastin, 2018).

Utilizing Gender-Disaggregated Data: More research is necessary to comprehend climate-gender dynamics in Egypt. This knowledge gap can be narrowed through collecting gender-disaggregated data within communities affected by climate change, increasing the scope and depth of diverse case studies of women-led efforts to address issues of conflict and insecurity influenced by climate change, and facilitating the contribution of local women to the knowledge base through participatory processes and methods (Smith et al., 2021).

Leveraging Climate-Smart Agriculture (CSA): On the agriculture-climate front and in line with the efforts to transition to net-zero agriculture, climate-smart agriculture (CSA) is an inclusive approach to sustainable agriculture that guides action to transform agri-food systems towards green and climate-resilient practices (FAO, n.d.). A gender-responsive approach to CSA recognizes the gendered implications of climate change and addresses the patterns and dynamics of the gender-climate nexus. Huyer and Nelson (2015) states that framing a sustainable pathway to gender-responsive, climate-smart agricultural development entails building the resilience of women farmers; improving their access to productive assets, information, and technology, which can increase their revenues and reduce their workload; promoting gender-equitable regulatory changes and financial tools and incentives for improved access to credit; facilitating opportunities for women farmers to participate and advance in sustainable agricultural value chains; and ensuring small-scale women farmers are represented in policy making. In short, integrating a strong gender focus in agricultural adaptation initiatives has the potential to produce multiple benefits. Given the prominent role of women in agriculture, improving their resilience to climate shocks can contribute to boosting productivity across the agricultural sector (Huyer and Nelson, 2015).

Conclusion

Women are central agents of change for a sustainable and just green transition. Integrating gender into green policy making and climate action is a must, not merely a “good to have.” The gravity of the climate-gender nexus is particularly evident within the Egyptian agricultural sector; as rural women play a central role in Egypt’s food security and agricultural production yet are faced with deeply rooted socio-economic challenges and inequities. Moving forward, the government of Egypt must enhance women’s capacities and meaningful participation across all levels in shaping climate adaption and mitigation measures, utilize gender-disaggregated data to design better

informed policies, and leverage CSA that builds the resilience of female farmers against climate shocks. In this regard, the Egyptian government's latest National Climate Change Strategy 2050 and the Sustainable Development Agenda 2030 – along with its emphasis on the gendered differences in mitigation and adaptation programs, the importance of gender equality in providing access to credit and capacity building, and the usage of gender-disaggregated data – mark a valuable opportunity to effectively tackle the climate-gender nexus within the country.

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