

GENDER ANALYSIS: WOMEN'S INVOLVEMENT IN ACHIEVING FAMILY FOOD SECURITY THROUGH CLIMATE CHANGE ADAPTATION IN THE COASTAL AREAS OF PADANG CITY

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Abstract

This study analyzes women's involvement in ensuring family food security through climate change adaptation in the coastal areas of Padang City. Climate change significantly impacts food security, particularly for women who often play a frontline role in providing food for their families. Through urban farming practices, women can reduce their vulnerability to climate change by utilizing limited urban land to increase family food production. The study employs qualitative methods with a case study approach, including interviews, Focus Group Discussions (FGDs), and participatory observations to identify women's roles in climate change adaptation. The findings reveal that women's involvement in urban farming enhances family food security, strengthens the local economy, and improves community social networks. Urban farming training programs equip women with practical skills in sustainable agriculture, thereby reinforcing their roles in family food management. The study also emphasizes the importance of policies that integrate gender perspectives into climate change adaptation and food security strategies.

Keywords: Adaptation, Food Security, Women, Climate Change, Urban Farming.

A. INTRODUCTION

Climate change poses a significant global challenge, with impacts felt across various sectors, including agriculture and food security. In Indonesia, coastal areas such as Padang City face high risks from climate change, which can affect food production and the community's access to nutritious food. Food security, as defined by the Food and Agriculture Organization (FAO), refers to a condition where all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs (FAO, 2011). This issue has become increasingly critical in the context of climate change.

Climate change also significantly impacts women, increasing their vulnerability to climate-related risks. In many regions, women often serve as the primary providers of food for their families but face greater barriers in accessing the resources and technology needed to enhance food security. Adger, Shardul Agrawala, & M. Monirul Qader Mirza (1976) observed that women frequently experience limitations in access, control, and utilization of resources compared to men, heightening their vulnerability to climate change. When food production is disrupted or food prices rise due to climate change, women often bear the

greatest burden, both economically and socially, given their dominant role in managing household food supplies.

Urban agriculture has emerged as an innovative solution to improving food security in urban areas affected by climate change. This practice not only provides easier access to fresh food but also supports increased income, waste reduction, and raises public awareness about the importance of food security and sustainability (Alkire et al., 2013). In this context, urban agriculture can serve as a tool for women to strengthen food security for their families and communities while reducing their vulnerability to the impacts of climate change.

Based on this background, this study aims to analyze the connection between gender, food security, and climate change adaptation in the coastal areas of Padang City. By promoting urban agriculture practices, this research aims to enhance community capacity, particularly among women, to address the challenges of climate change. Additionally, the study seeks to provide recommendations to policymakers regarding the importance of integrating gender perspectives into food security and climate change adaptation strategies. This approach aims to create more inclusive and effective policies to protect vulnerable communities, especially women, from future climate threats.

B. LITERATURE REVIEW

Food Security Crisis

Widianingrum et al. (2023) describe a food security crisis as a situation where the ability of a community, country, or region to provide sufficient, safe, nutritious, and affordable food for its population is significantly disrupted. Such crises can lead to increased hunger, malnutrition, and socio-economic vulnerability. The main causes of food security crises include: 1) Climate change: Disasters such as droughts, floods, or storms can damage agricultural production; 2) Conflict and war: Instability hinders food access and disrupts supply chains; 3) Economic disruptions: Rising food prices or widespread poverty reduce people's purchasing power; 4) Pandemics or diseases: Public health crises and food distribution interruptions exacerbate the problem; 5) Environmental degradation: Declines in soil quality, water availability, or ecosystems reduce agricultural productivity.

A food security crisis has severe consequences for public health, particularly for vulnerable groups such as children, pregnant women, and the elderly, and it can trigger social and political instability. Efforts to address this crisis involve increasing food production, ensuring fair distribution, mitigating climate change, and implementing policies that support the sustainability of food systems. Food security crises are identified through indicators that measure the level of vulnerability in a given region, including:

1. Food availability
2. Access to food
3. Food utilization
4. Food stability
5. Welfare indicators

Agriculture

Dahria et al. (2023) explain that agriculture is a human activity involving the use of natural resources to produce food, industrial raw materials, and other products beneficial to life. Broadly, agriculture encompasses various sub-sectors such as crop cultivation, livestock, fisheries, forestry, and agro-tourism. The primary objectives of agriculture are to meet human food needs, provide livelihoods for farmers, and supply raw materials for food, textiles, and medicine.

Agriculture is assessed through several indicators, including:

1. Production and Productivity
2. Economy
3. Food Security
4. Natural Resources (SDA)
5. Environmental Sustainability
6. Infrastructure and Technology
7. Labor and Social Aspects

C. RESEARCH METHODOLOGY

The research method used in this study is qualitative with a case study approach. The research was conducted in several coastal locations in Padang City known for urban farming practices involving women. The steps in this research include

Data Collection:

a. Interviews

Interviews were conducted with women involved in urban farming practices, community leaders, and relevant stakeholders. These interviews aimed to gain a deeper understanding of the experiences and challenges faced by women in urban farming.

b. Focus Group Discussion (FGD)

FGD Held with stakeholders, including government representatives, non-governmental organizations, and the community, to discuss gender mainstreaming policies and the role of women in urban farming.

c. Participatory Observation

The researchers conducted direct observations of urban farming activities carried out by women to understand the practices and social interactions within the community.

Data Analysis

The collected data is analyzed using a thematic analysis approach. The researcher identifies key themes that emerge from the interviews and FGDs, and notes patterns and relationships between women's involvement, policies, and urban farming practices. A gender analysis is conducted using two main frameworks:

a. Social Relation Approach

This framework is used to analyze the social relationships between genders and how social structures influence women's roles and participation in urban farming. This approach takes into account factors such as cultural norms, power, and access to resources.

b. Gender Analysis Pathway (GAP)

GAP is used to identify and analyze the needs, challenges, and opportunities faced by women in the context of urban farming. Through GAP, researchers can evaluate how existing policies and programs can be optimized to empower women and enhance their participation in decision-making related to food security.

c. Strengthening Data Validity

To ensure data validity, triangulation is conducted by comparing information from various sources and data collection methods.

This research method is expected to provide comprehensive insights into women's involvement in fulfilling family food security and adapting to climate change, as well as provide recommendations for the development of more inclusive policies.

D. RESULTS AND DISCUSSION

Stakeholder Involvement

The Focus Group Discussion (FGD) meeting held discussed gender mainstreaming policies within the context of urban farming programs. In this meeting, women's involvement was recognized as an important change agent in climate change adaptation and mitigation. Stakeholders acknowledged the strategic role of women in supporting policies and achieving family resilience through the urban farming approach.

The in-depth discussion on women's roles covered various aspects, such as enhancing knowledge about sustainable farming practices, strengthening women's capacity in natural resource management, and the importance of active women's participation in decision-making related to disaster risk reduction. All stakeholders agreed that women's involvement not only benefits families but also has a positive impact on society as a whole.

In this context, gender mainstreaming is crucial to optimize women's contributions, which have historically been marginalized in decision-making processes related to policies or decision-makers (Alam, Afsana, Shakil, Medicine, & Clara, 2015). This aligns with the views of Roy, Tandukar, & Bhattarai (2022), who emphasize the importance of women's participation in decision-making processes to create sustainable change.

Socialization with stakeholders is an important advocacy strategy to gain support through policies and budgets. Strengthening stakeholders through socialization can be carried out by village governments, neighborhood associations (RT/RW), as a larger unit than the family. Furthermore, it is expected that positive impacts on policies and family strengthening in the community related to disaster risk reduction (DRR) can be realized. Support in budget allocation is also necessary to strengthen programs and as a strategy for sustainability.

Throughout the project, the level of active participation from stakeholders was relatively high. This can be seen in the following image:

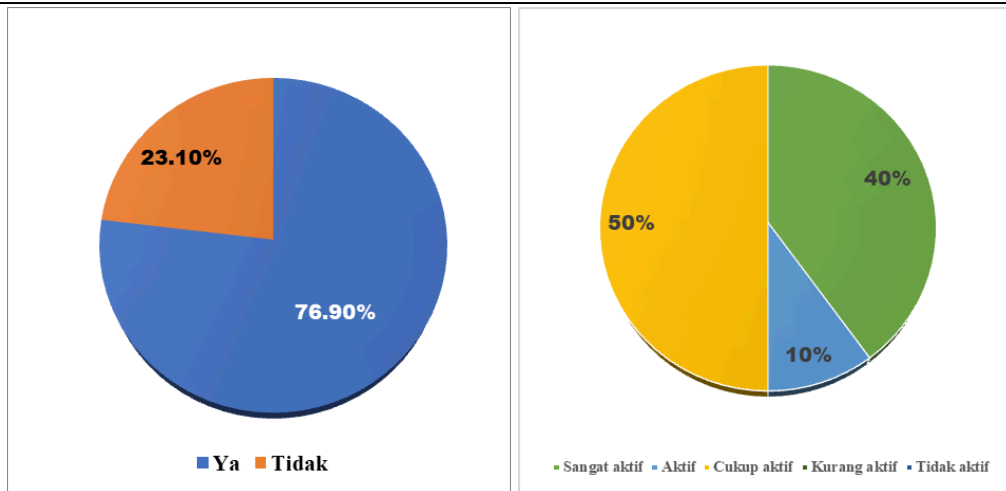


Figure 1. Level of Active Stakeholder Involvement

Figure 2. Level of Activeness

The data shows that the level of active participation of stakeholders in this project reached 76.9%, with 40% of them being highly active participants. This figure indicates a high level of awareness and commitment from all parties towards the urban farming program involving women. It reflects support for the Gender Analysis Pathway (GAP) approach, which emphasizes the importance of social relations between genders and how social structures influence the roles and participation of women (Westermann, Ashby, & Pretty, 2005; Asher, 2014).

Women's Involvement in Urban Farming Practices as a Solution for Food Security

Women's involvement in urban farming practices plays a crucial role in efforts to provide food for families and communities. As the primary managers of household gardens, women's participation not only contributes to family food security but also impacts the overall food security of the community. Research shows that women possess unique abilities to adapt sustainable and innovative farming practices, which can enhance productivity and food diversity (Md et al., 2022; Essue et al., 2024).

In the urban farming training held, women were not only participants but also drivers of change. They became role models for their families and local communities in applying environmentally friendly farming techniques. Women's involvement in urban farming creates spaces for collaboration and knowledge-sharing on agriculture, the selection of superior seeds, and healthy food processing techniques.

Interviews with participants revealed that women involved in urban farming training experienced increased self-confidence and a better understanding of sustainable agriculture. They reported improvements in practical skills, such as selecting and caring for plants, using organic fertilizers, and managing water resources. Many began utilizing their home yards for cultivation, thus meeting family food needs and reducing dependency on the market. The participants' skills improved from 0% to 42.20% after completing the training, demonstrating the effectiveness of the training program in building women's capacity. This aligns with findings from Husna (2021), which show that increasing women's knowledge and skills contributes to greater productivity and food diversity.

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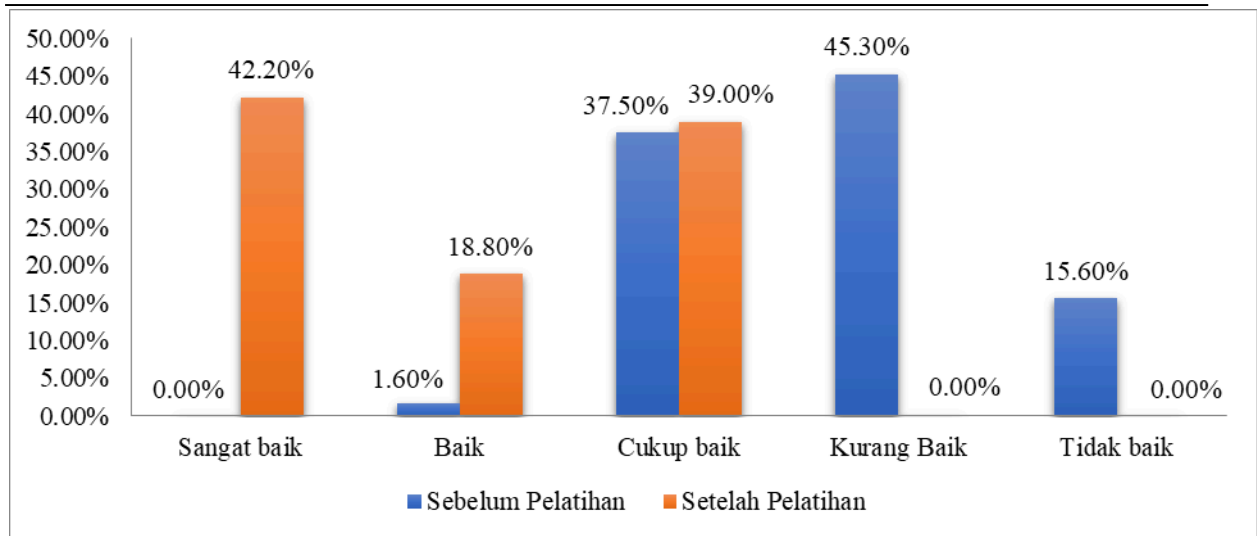


Figure 3. Participant skill levels before and after attending urban farming training.

The involvement of women in urban farming not only enhances household food security but also contributes to the local economy. Surplus harvests can be marketed, providing additional income for families. Moreover, communication within families improves as members support each other in managing the gardens. This phenomenon fosters a collaborative environment that encourages knowledge and skill-sharing, ultimately strengthening social networks within the community. These findings align with research by Sharma (2013), which demonstrates that empowering women in agriculture can enhance household economic welfare and overall food security.

Urban farming initiatives led by women often prioritize environmentally friendly agricultural practices, such as the use of organic fertilizers and integrated pest management techniques. These practices not only promote public health but also contribute to environmental sustainability. Thus, women's involvement in urban farming is pivotal in creating sustainable food security and improving socio-economic welfare in the community.

Through urban farming training, individual capacities are enhanced, and social networks are strengthened, contributing to food security at both the household and community levels. Women's participation in urban farming programs significantly impacts family food security and the local economy. By adopting an inclusive gender approach, these initiatives empower women while fostering more sustainable and equitable communities. Empowering women through urban farming practices is a strategic step toward achieving improved food security and socio-economic well-being in society.

E. CONCLUSION

This study highlights the significant role of women's involvement in urban farming practices in the coastal areas of Padang City in enhancing family food security and the local economy. Women, as the primary drivers of urban farming, have demonstrated adaptability to climate change, strengthened family well-being, and built stronger social networks within their communities. Moreover, through urban farming training, women have successfully improved their skills and knowledge in sustainable agricultural practices, contributing to food

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sustainability and reducing environmental impact. Women's roles in food security underscore the importance of gender mainstreaming approaches, where inclusive policies can provide women with better access and control over resources and involve them in decision-making processes. This can maximize their contributions to addressing climate change challenges and achieving sustainable food security in coastal regions.

Governments and stakeholders must develop more inclusive and gender-sensitive policies in agriculture and food security, particularly in areas vulnerable to climate change. These policies should offer broader access for women to manage resources and actively participate in decision-making. Urban farming training and sustainable agricultural practices should be continually expanded and facilitated to enhance women's capacity to address the impacts of climate change. Comprehensive training programs could include techniques in crop cultivation, water resource management, and organic fertilizer use to strengthen household food security.

Collaboration among governments, NGOs, academics, and local communities is crucial in optimizing women's roles in food security and climate change adaptation. Cross-sector support should include funding, technical guidance, and policy support to ensure the sustainability of urban farming programs.

REFERENCE

- Adger, W. N., Shardul Agrawala, & M. Monirul Qader Mirza. (1976). *Assessment of adaptation practices, options, constraints and capacity. Climate Change 2007: Impacts, Adaptation and Vulnerability*. England. https://doi.org/10.1007/978-1-349-02250-2_5
- Alam, M. A., Afsana, N. A., Shakil, N., Medicine, S., & Clara, A. A. (2015). Household Food Security of Coastal Women in Climate Change Adaptation. *Journal of Preventive and Social Medicine (JOPSOM)*, (September). <https://doi.org/10.13140/RG.2.2.20497.97125>
- Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G., & Vaz, A. (2013). The Women's Empowerment in Agriculture Index. *World Development*, 52, 71–91. <https://doi.org/10.1016/j.worlddev.2013.06.007>
- Asher, K. (2014). Gender and Green Governance: The Political Economy of Women's Presence Within and Beyond Community Forestry. *Conservation and Society*, 12(1), 107. <https://doi.org/10.4103/0972-4923.132135>
- Dahria, M., Kustini, R., Gunawan, R., Hutasuhut, M., & Purwadi, P. (2023). Sistem Pakar Mendiagnosa Definisi Nutrisi Pada Tanaman Hidroponik Dengan Metode Certainty Factor. *Jurnal Teknologi Sistem Informasi Dan Sistem Komputer TGD*, 6(1), 216-226.
- Essue, B. M., Kafiriri, L., Mohamud, H., Veléz, M. C., & Kiwanuka, S. (2024). Planning with a gender lens: A gender analysis of pandemic preparedness plans from eight countries in Africa. *Health Policy OPEN*, 6(February 2023). <https://doi.org/10.1016/j.hpopen.2023.100113>
- FAO. (2011). *The state of food and agriculture 2010-2011 Closing the gender gap for development*. Lancet (Vol. 2). Italy: Food and Agriculture Organization of the United Nations.
- Husna, I. M. (2021). Gender analysis in empowering women-headed family in Mojosoong Village, Surakarta. *Gender Equality: International Journal of Child and Gender*

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- Studies*, 7(2), 198. <https://doi.org/10.22373/equality.v7i2.10237>
- Md, A., Gomes, C., Dias, J. M., & Cerdà, A. (2022). Exploring Gender and Climate Change Nexus, and Empowering Women in the South Western Coastal Region of Bangladesh for Adaptation and Mitigation. *Climate*, 10(11). <https://doi.org/10.3390/cli10110172>
- Roy, S., Tandukar, S., & Bhattarai, U. (2022). Gender, Climate Change Adaptation, and Cultural Sustainability: Insights From Bangladesh. *Frontiers in Climate*, 4(May). <https://doi.org/10.3389/fclim.2022.841488>
- Sharma, K. (2013). Gender and Green Governance: The Political Economy of Women's Presence within and beyond Community Forestry. *Journal of Human Development and Capabilities*, 14(2), 314–316. <https://doi.org/10.1080/19452829.2013.785219>
- Westermann, O., Ashby, J., & Pretty, J. (2005). Gender and social capital: The importance of gender differences for the maturity and effectiveness of natural resource management groups. *World Development*, 33(11), 1783–1799. <https://doi.org/10.1016/j.worlddev.2005.04.018>
- Widianingrum, A. R., Windiani, R., & Wahyudi, F. E. (2023). PERAN FOOD AND AGRICULTURE ORGANIZATION (FAO) DALAM MENINGKATKAN KETAHANAN PANGAN SEBAGAI UPAYA UNTUK MENANGANI KRISIS KELAPARAN DI SAHEL TAHUN 2013-2015. *Journal of International Relations Diponegoro*, 9(1), 85-101.