Gender, Conflict and Climate change: Dissecting Gendered Vulnerabilities of small holder farmers due to climate change in the Eastern Province Sri Lanka

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ABSTRACT

Batticaloa district, which is situated in the Eastern coast of Sri Lanka is identified as one of the most climate vulnerable districts in Sri Lanka and one of the districts which were directly affected by the Sri Lankan armed conflict of 30 years. Agriculture being the main source of income generation in the district, increasing climate vulnerabilities such as droughts and frequent flooding make the livelihoods of small holder farmers uncertain and making them vulnerable to poverty. It is also imperative consider the alarming rate of irregular migration in the Eastern Province and the trend of farmers leaving their land behind in search of a stable employment both within and outside of the country. Furthermore, the impacts of the adverse methods to control COVID-19 and the ongoing economic crisis exacerbated the challenges faced by farmers of Batticaloa. As United Nations Sri Lanka along with World Food Programme identifies women and migrants as one of the most vulnerable groups for the ongoing economic crisis of Sri Lanka, women farmers in Batticaloa face multifaceted vulnerabilities than their male counter parts. This study proposes to analyze the gendered vulnerabilities of women small holder farmers in Batticaloa district in a post conflict climate change nexus, identify the social, structural and policy level restrictions women farmers have to face on a daily basis as and to come up with recommendations which can help them to mitigate their challenges.

Key words: women farmers, climate change impacts, gendered vulnerabilities

INTRODUCTION

Sri Lanka is highly vulnerable to the multiple impacts of climate change as its primary income generation source is agriculture. The country, along with its South Asian counterparts, is vulnerable to drought, flood, food shortages, and heat-related mortality (IPCC, 2014). The Climate Change Secretariat Sri Lanka (2016) confirmed that Sri Lanka has been going through severe shifts in its seasonal rainfall patterns, increased floods, and droughts in the last decade, which impact food security and the GDP of the country along with multiple other socio-economic challenges. In 2014, there were an estimated 5.2 million undernourished people in the country (Thibbotuwawa, 2015). DCS (2022) estimated that 80 percent of the poor live in rural areas and depend on agriculture for food and income. Despite the many efforts of the government and other stakeholders to support farmers, rural poverty, indebtedness, and vulnerability, 24 percent of youth unemployment (DCS, 2022), women's low participation in the labour force, and large scale migration are persistent in the country, indicating high inequality in growth and opportunity across provinces and districts.

This research paper will be focusing on the gendered impacts of climate change on women farmers in the Batticaloa district, which is situated in the Eastern province of Sri Lanka. As rice is the primary crop and a food staple, paddy farming remains the predominant crop cultivation in the district. According to the data

published by the Ministry of Defense and Urban Development (2014), the total extent of the paddy cultivation area in 2010 was 1838 acres, and it was irrigated by the 'Gal Oya' scheme. In addition to paddy, crop varieties such as cereals, pulses, yams, vegetables, and perennial crops are cultivated by farmers in Batticaloa (Ministry of Defense and Urban Development, 2014).

According to DCS (2018), Batticaloa is one of the 5 districts that have high 'extreme poverty' rates in the country, with 19.4 percent of its citizens currently living in extreme poverty. It is higher than the national average. In the 2010/11 Maha season, Batticaloa was ranked among the five districts with the lowest paddy yields. Considering paddy cultivation is the primary agricultural income generation activity, low agricultural productivity can be a major contributing factor for poverty in the district. UNHABITAT (2013) rated Batticaloa high in sensitivity and exposure to the impacts of climate change, with low adaptive capacity to offset its vulnerability to climate change.

It is also notable that the majority of the districts that were identified as having extreme poverty rates, including Batticaloa, are the districts that were directly affected by the armed conflict. Sri Lanka's prolonged armed conflict has left lasting impacts on Batticaloa district: people have been displaced; institutions have disintegrated; essential communal and public infrastructure has been damaged; the market network has been disrupted; and people have gone through a lot of psychological and socioeconomic challenges. Furthermore, the impacts of the adverse methods to control COVID-19 and the ongoing economic crisis have exacerbated the challenges faced by small rural farmers. The unique features and the background of the district prove that the district has significant challenges when it comes to climate change, which may not be similar to its counterparts in the country.

Even though climate change is a common challenge for men and women, global statistics show that the impacts of climate change on women and marginalised communities are significantly higher than those on men (UN Women, 2022). Global evidence also shows that women are more dependent on natural capital than men. However, due to cultural, legal, and policy challenges, they have less access to natural capital. The effects of climate change on women and girls are also not uniform and vary based on their intersectional differences. Women, girls from the LGBTQ+ community, persons with disabilities, rural areas, conflict and post-conflict areas, and disaster-risk areas are identified as being vulnerable to the impacts of climate change (UN Women, 2022). UN HABITAT (2013) recognised rural women of Batticaloa district as a high-risk group for the impacts of climate change, and recommended a detailed study to understand the gendered impacts of climate change on women.

Understanding and recognising the unique role women play in agriculture will make them key agents in combating climate change (UNFCCC, 2023). If climate resilience initiatives are developed with a gender lens, they will contribute to addressing gender inequality and promoting women's rights. Therefore, this study proposes to analyse the impacts of climate change on rural women smallholder farmers in Batticaloa district with a gender lens. Consequently, this study has the following aims: (1) Identify the challenges rural women farmers face from climate change; (2) analyse the root causes of those gendered vulnerabilities in the context of Batticaloa district (3) Come up with recommendations to better recognize women's role in agriculture and to make women farmers resilient to climate change.

METHODOLOGY

This study adapted a narrative literature review of carefully selected works on both scientific and practitioner literature. Both national and international knowledge materials, such as academic journals, periodicals, practitioner reports, and policy documents, were selected and reviewed according to the objectives of the research paper. Due to the lack of empirical data on the gendered vulnerabilities women farmers face due to climate change in a post-conflict context, this paper tried to draw insights from

international scientific and practitioner literature from similar contexts. As most of the climate change impact research conducted in Sri Lanka was not gender-sensitive, it was even more difficult to compare and contrast those results in a post-conflict context. Why are women impacted differently than men in Batticaloa district? How do the gender relations and power dynamics that exist in the community lead to gendered vulnerabilities? How do the existing socioeconomic and psychological burdens born by women make them more vulnerable? Is there any unique advantage women farmers in Batticaloa have in combating climate change? The need for gendered studies on climate change and gender-sensitive policies and programmes to better recognise women's role in agriculture and enhance their resilience are the research questions this paper aims to answer with the careful analysis of international and national knowledge materials. This paper also highlights the gaps in empirical data and the need for gender sensitive climate change adaptation solutions.

DISCUSSION OF FINDINGS

Background of the study area

? Batticaloa District is part of the Eastern Province of Sri Lanka. Its area is approximately 262,019 square kilometres, which makes up 3.8 percent of Sri Lanka's total land area. The lagoon that runs through the region extends for 73.5 km from Verugal (in the north) to Batticaloa city and also extends beyond Batticaloa city to 35.2 km to Thuraineelavanai (in the south). The district has various landforms such as islands, sandbars, marshlands, undulating plains and plateaus, hills, and valleys (Ministry of Defence and Urban Development, 2014).

The topography of the city is predominantly flat, and it is between 1.2 and 4.0 metres above mean sea level. With scrub jungle and mangroves bordering the northern side, the eastern and western sides of the city are sandy and a mix of sandy and grave, respectively. The major soil type of Batticaloa city is 'regosols, which is considered a weak mineral soil highly vulnerable to soil erosion. In January and December, the average monthly temperature in the city is 280 °C, and in May, June, July, and August, it is 340°C. According to 40 years of daily Batticaloa temperature records, temperatures increased by 0.4–0.5°C in the last two decades compared to the previous two decades. Between October and January, during the inter-monsoon period, Batticaloa receives intense rainfall. An analysis of rainfall data has revealed a rise in average monthly rainfall during the North-East monsoon, an extension of the monsoon season, and a rise in irregularities during the monsoon months. The non-monsoon months have also seen a decrease in rainfall. (UNHABITAT, 2013)

According to the Department of Census and Statistics (2010), the male-female ratio of the district is the same. The ethnic composition of the district can be classified as 91 percent Tamils, 5 percent Muslims, and 0.14 to 0.20 percent other ethnic groups, giving Batticaloa unique characteristics as it has the representation of all the ethnic groups of Sri Lanka, unlike the other districts. This feature could also impact the vulnerabilities of smallholder farmers. 10 years after the end of armed conflict, the still existing animosities and tensions among ethnic groups could weaken their social capital and marketing linkages. However, the empirical data on the ethnic composition of farming societies in Batticaloa and whether farmers' ethnic identities make any impact on agricultural productivity are not available.

The major sources of livelihood for the people of Batticaloa district are agriculture, wage labour, fishing, and livestock rearing. Government employment and remittances from individuals working in Middle Eastern countries make up the other sources of income. Being a part of Eastern Province, Batticaloa was directly impacted by the Sri Lankan armed conflict between the Sri Lankan government and the Liberation of Tamil Tigers for Eelam (LTTE) from the 1980s until 2009. Silva et al. (2018) identify that there was a major economic decline during the war in Eastern Province, and the war resulted in lots of livelihood issues

in Batticaloa such as less agricultural efficiency, poor fishing harvests, poor infrastructure facilities, the absence of infrastructure incentives, and the still abandoned cultivable lands. Poor road networks have hampered external market access, and the damaged irrigation canals and rural roads are yet to be renovated (Silva et al., 2018). Due to a lack of irrigation water, farmers only cultivate one season; originally, during the pre-World War II period, farmers used to cultivate two seasons.

UNHABITAT (2013) rated Batticaloa high in sensitivity and exposure to the impacts of climate change, with low adaptive capacity to offset its vulnerability to climate change. Frequent floods, droughts, irregular rainfall patterns, and soil erosion have been identified as the key indicators of climate change in Batticaloa. The irrigation requirements for paddy are predicted to increase in Sri Lanka by an average of 23 percent. However, the irrigation requirement in Batticaloa district is predicted to increase by 45 percent. In 2017, 24129 families were affected by the drought in Batticaloa (Disaster Management Centre, 2017); in 2014, 124,071 families were affected by the flood; and in both 2017 and 2014, 3,361 houses were fully damaged and 6,736 houses were partially damaged due to the flood (Disaster Management Centre, 2017).

The Department of Census and Statistics (2013) revealed that Batticaloa is among the three main pockets of poverty in Sri Lanka. Disrupted livelihoods due to conflict, adverse impacts of climate change, and low agricultural production could be a few of the reasons for this result. Furthermore, poverty leads people in the districts to other vulnerabilities such as negative coping mechanisms, indebtedness, irregular migration, and human trafficking. Integral Human Development (2022) revealed that there are two types of irregular migration happening in the country: climate-displaced people and asylum seekers due to conflict. The majority of the human trafficking victims come from Ampara, Batticaloa, and Nuwara Eliya. Therefore, it is timely for policy makers and development practitioners to come up with tailor-made solutions to address climate vulnerabilities in the Batticaloa district.

?Why are women farmers the most vulnerable to climate change in Batticaloa district?

It is proven that women and men experience the impacts of climate change differently because of their socially constructed roles and responsibilities (FAO, 2006). Similar to their South Asian counterparts, women of Batticaloa live in a patriarchal structure that influences their access to livelihood capital, agency, and participation in the labour force, which ultimately impacts their resilience to climate change. Under this section, this paper discusses three main themes: women's participation in the agricultural labour force and their 'invisibility' in agriculture; women's access to agricultural resources; and cultural and social barriers that prevent women's active participation in agriculture.

Women's participation in the agricultural labour force and their 'invisibility' in agriculture

Women who provide unpaid agricultural labour on family farms are often considered economically inactive and often identified as housewives in legal documents while their male counterparts are identified as farmers. This prevents women from recognising or identifying themselves as contributors to the economy (Baruwa & Najjar, 2022). In 2015, a higher number of women (33 percent) were formally employed in agriculture compared to men (27.4 percent) in Sri Lanka. The agriculture sector of the country's economy has 68 percent of "contributing family members". It was estimated that 71.8 percent of these contributing family workers were women. An unpaid contributing family worker is defined as "a person who works without any payment in an enterprise, which may be a business enterprise, a service undertaking, or a farm, operated by a member of the household" (Department of Census and Statistics, 2013). Furthermore, women's lack of legal recognition as farmers prevents them from accessing agricultural subsidies, resources, and training.

Understanding and recognising care work is crucial in a post-war context, as it could unfold in conditions such as extreme inequality, trauma, and a lack of resources and opportunities (Moosa, Ramani, &Webster,

2013). Social expectations of care work being a woman's responsibility can lead to their lack of participation in peace processes, political participation, education, or skill training. The physical and mental exhaustion may prevent women from exercising their fullest potential if the carework burden remains the same. Gunawardana (2018) states that the pressure to uphold traditional gender roles of Sri Lankan women as caretakers, respectable mothers and wives, and bearers of national culture after the end of the war, often weighs down women.

These ideologies will continue to trap women in disproportionate and unrecognised care work and limit their contribution to the economy.

Women's access to resources

A study conducted in 2004 revealed that 70 percent of the 'uncleared' land by state in Batticaloa district is owned by women after the end of war (Jayaweera *et al.,* 2004). It means women and their families have minimal access to land. However there won't be any legal ownership given to that land and the risk of encroachment is also high.

The land development ordinance of 1935 mandates agricultural lands to be given to srilankan citizens through state issued permits. However, the administrative process is very gender biased and favours men. Widow or woman loses the right of the land if she remarriages unless she named as a successor. If she is not named as a successor, it goes to male heirs. The lobbying of women rights activists hasn't been successful yet in amending the discriminatory practices of LDO.

The cultural practice of giving passing the productive land to male heirs, the returning of Internally Displaced Persons to their places of origin, Women of families of missing persons struggling to access their land due to lack death certificate and documents are few of the concerns which pause challenges to women in accessing and utilizing their cultivation lands.

Lower wage for women agricultural labourers than their male counterparts is a characteristic which prevails all over the country. Rural credit systems and bank loans for farmers come with stringent requirements (Sarvananthan, 2003). These requirements are nearly impossible for a lot of farming women to fully fill as they already struggle with lack of legal recognition as farmers, lack of documentation due to post conflict implications and lack of networks which could warrant for them. FAO (2006) states that there has been no inclusive and ethical solution identified for the decades –long problem of indebtedness.

Poor conditions of access roads, lack of transport facilities, housing issues affect women negatively and prevent them from accessing resources and services thereby leading to low agricultural productivity.

Cultural and social barriers

Gunawardana (2018) reveals that many participants of the survey reported that they did the same amount of work and tasks after marriage as their male counterparts. From planning, land preparation, seeding, and applying pesticides and fertilisers, they have been involved in all the stages of cultivation. However, none of the women participants reported that they had operated heavy machinery such as tractors or harvesting machines. As handling heavy machinery is traditionally associated with men, it is evident that a gender-specific labour division still exists among farming communities. Married women are often frowned upon when they interact with stranger men in the absence of their family members or husbands, and this cultural norm can prevent women who are involved in unpaid agricultural work from reaching out to male agricultural in-service officers and government officials.

It was also noted that gender norms and the pressure of upholding respect and family honour were imposed

on women across all Sri Lankan racial and religious communities. However, after the end of the war, it was observed that there was a lack of public economic participation by Muslim women in Eastern Province and that they were largely constricted within their homes (Gunawardana, 2018). Similarly, women's dependence on kinship was increased post-war as they relied on kinship networks, neighbours, and elders for information and access rather than directly obtaining it from official sources out of fear of abduction and harassment during the war. However, there was a significant shift in the participation of Tamil women in paid work (in Akkaraipattu) and in Sinhalese paddy cultivation (in Panama) over the last two decades (Gunawardana, 2018).

As Batticaloa being one of the districts where all the intersections of the Sri Lankan population cohabit, it is crucial to do a holistic analysis to understand how multiple cultural and religious aspects enable or prevent women from actively participating in agricultural livelihood.

Recommendations to better recognize women's role in agriculture and to make women farmers resilient to climate change

The climate change policy of the government of Sri Lanka acknowledges that '*by increasing opportunities for women, a diversified role for women in agricultural activities expands, thereby promoting opportunities for women's entrepreneurship and transformational change'.* As women are imperative to climate change adaptation strategies, it is also equally important not to reduce their role to that of victims or beneficiaries. UNDP (2018) states that women undertake adaptive measures as a part of their daily lives through farming, disaster recovery and preparation. By recognizing and utilizing these skills they will influence from a household to a community and national level, leadership and decision-making capacities and opportunities increase. However, without understanding the root causes of the context-specific challenges and barriers that weigh them down, investing in women to be the agents for climate change adaptation strategies will further exacerbate their vulnerabilities. Especially, in a post conflict context such as Baticaloa, there can be unique challenges such as ambiguous trauma of women due to missing family members, documentation challenges regarding personal identification and properties and land ownership complications. Therefore, it is imperative to study the phenomena in detail and develop a gender-sensitive integrated National Plan to promote gender equality, rural livelihoods and sustainable agriculture.

- Understanding women as not a homogenous group: Their intersectional differences such as local context, ethnicity, caste and their life course makes up reflect on their resilience to climate change
- The exclusive focus on women headed households: The recent researches, policies and development programmes target women headed households exclusively as it is a significant phenomenon in the aftermath of war. Since higher number of 'contributing family workers' engage in agriculture, It is crucial to study and support women in male headed households as well.
- Gender sensitive data on women's unpaid family agricultural work need to be developed
- Inclusive development of climate adaptation strategies in consideration with rural communities and civil societies and other key stakeholders
- Accessible and affordable care facilities such as public child care facilities and elderly people care centers
- Strategies to legally recognize women's unpaid agricultural labour in their family lands
- As micro credit alone has not brought women out of poverty, credit should be combined with services, and larger scale up operations should be addressed.

CONCLUSION

This paper focused on the gendered vulnerabilities of the women farmers of Batticaloa district, Eastern Province, Sri Lanka. Batticaloa is currently reconstructed from the adverse impacts of Sri Lankan armed

conflict, one of the major three poverty pockets in Sri Lanka and it has been identified as a district with high vulnerability to climate change. As the district frequently experiences floods, drought, irregular rainfall patterns, the primary income generation activity of the district is severed and resulted in low agricultural productivity. Women farmers who have been going through the ongoing psycho social, socio economic challenges due the conflict have been affected disproportionately more than their male counterparts. Women's participation as unpaid 'contributing family labour', their access to social, economic, natural and human capitals and the cultural and religious barriers which prevent their active participation in agriculture are some of the aspects this study discussed with the support of academic and practitioner literature. To overcome climate vulnerabilities in agriculture it is imperative to gender-sensitive integrated National Plan to promote gender equality, rural livelihoods and sustainable agriculture.

LIMITATIONS

The lack of empirical data on gendered vulnerabilities of women farmers in Eastern province of Sri Lanka or a Sri Lankan dry zone district of similar nature was the main challenge of this study. There are a lot of questions which need to be answered with research. For example, the existence of peer support mechanisms for women, the current best practices adapted by women to combat with the adverse impacts of climate change, cultural or religious factors which may enable women farmers in dealing with the impacts of climate change were not identified from the existing literature.

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