Article

Women's Participation in Community-Based Adaptation to Climate Change (CBACC): An Intersectional Analysis

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Abstract: This study explores which women participate in community-based adaptation (CBA) from an intersectional perspective. This study followed in-depth interviews (IDIs) and key informant interviews (KIIs) methods for data collection in Latachapli, Bangladesh. It explores women from different ethnic and religious identities participating in community-based adaptation (CBA) activities. The diversity among women leads to varying levels of participation. Three main areas—sense of insecurity, support from family members, and women's literacy—and the NGO's administrative bias have been seen to influence different levels of women's participation in CBA. All these findings suggest that women's intersectional challenges when participating in activities must be considered. The problem with the NGOs that implement the CBA activities is that they focus on marginalized communities (Rakhine) and women in general without taking into consideration the cultural, religious, and historical barriers that these different women face.

Keywords: women; community-based adaptation (CBA); participation; intersectionality

1. Introduction

Community-based adaptation (CBA) to climate change and disaster management is significant for reducing vulnerabilities to climate change and developing appropriate adaptation planning for the affected people. "Community-based adaptation to climate change is a community-led process based on communities' priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change" (Reid 2009, p. 13). This approach identifies that adaptation to climate change must be generated through a participatory process and encourages the participation of local stakeholders' knowledge and solutions to climate vulnerability contexts (Ayers and Forsyth 2009). It recognizes women as significant actors and beneficiaries (Patnaik 2021). In the adaptation process, men and women have different perceptions regarding climate change, and their positions within households, demands, roles, access, and utilization of resources are different (Vincent et al. 2010). In addition, women are not only the victims of climate change but also have knowledge and experience from their daily lives (Bee 2013; Kaijser and Kronsell 2014), and their situated knowledge contributes to adaptation strategies (UN Women Watch 2009). Women's knowledge and participation in CBA are significant in developing effective adaptation strategies to secure sustainable livelihoods in the face of climate change (Djoudi and Brockhaus 2011; Ngigi et al. 2017; Patnaik 2021).

However, there is a tendency to engage women in a broader category of community. Studies on women's participation in community forestry and natural resource management argue that women are excluded from actively participating and influencing community decisions due to sociocultural and gender-specific barriers (Agarwal 2000; Patnaik 2021), and women are often token participants (Agarwal 2001, 2010; Das 2014; Evans et al. 2019). Existing studies of CBA focus on different levels of participation of women. Still, they tend to focus on women's participation and do not differentiate between different women.

In contrast, the intersectional analysis of differences among women regarding religion, ethnicity, and gender is needed when developing adaptation policies in CBA. Therefore, it is necessary to ask which women are able to participate in CBA on climate change and disaster management from an intersectional perspective.

Different studies on climate change and disaster management explore the difference between men and women in access to and decision-making in CBA due to gender relations, sociocultural practices, norms, and beliefs (Aryal et al. 2014; Mcleod et al. 2018; Clarke et al. 2019). Recent work on CBA explores women's social capital, networks, and community-level recognition of women's role in income generation and identifies that favorable intrahousehold power dynamics were instrumental in encouraging women's active and empowered participation in CBA (Patnaik 2021). Moreover, women are considered and included as key actors and beneficiaries in CBA, but the gender analysis of CBA in relation to climate change is limited (Patnaik 2021). Some studies tried to identify factors shaping women's participation in climate change adaptation (Kaijser and Kronsell 2014; Ravera et al. 2016; Djoudi et al. 2016). However, most of these studies analyzed participation by comparing women and men, giving little or no attention to power and social and political relations between and among them (Djoudi et al. 2016). Such a lack of analysis of power relations in different social contexts is what feminist political ecologists question (Ravera et al. 2016). They pointed out that analysis needs to change from the discourse of women as passive victims of climate change towards women as agents of adaptation, considering women's multiple identities (Ravera et al. 2016). The work of Thompson-Hall et al. (2016) advocates for the framing of gender analysis with diverse categories including gender, age, seniority, ethnicity, marital status, and livelihood in the contexts of agrarian settings in the global South for a better understanding of adaptive capacities in the communities. The study of Van Aelst and Holvoet (2016) focuses on the interconnection of gender and marital status, arguing that women's access to adaptive strategies depends on their marital status, while this is less in the case of men. The study by Erwin et al. (2021) focuses on how intersectionality helps analyze the adaptation capacity of women and men with multiple identities such as education, income opportunities, migration status, economic condition, land ownership status, age, language, and livelihood categories. These factors constrain or support access to resources and decision-making in private and public adaptation spaces. However, these studies are exceptions, and still, in the discussion of CBA in relation to climate change and disaster management, there is a tendency to engage women as a homogenous category without considering their differences in religion, ethnicity, and generational experiences.

Women's participation in community adaptation decision-making is significant, considering that women play a significant role in sustaining livelihoods and managing environmental resources, e.g., water and fuel for daily living (Patnaik 2021). However, sociocultural and gender-specific barriers hinder women from actively participating and influencing community decisions (Agarwal 2000; Etuk et al. 2019; Patnaik 2021). Communities are diverse and multi-faceted, with different individuals having different needs, priorities, and capacities, which calls for an intersectional analysis across age, gender, class, religion, etc. (Kirkby et al. 2018; Thompson-Hall et al. 2016; Patnaik 2021). The concept of intersectionality has evolved within feminist theory and is grounded in a feminist understanding of power and knowledge production (Kaijser and Kronsell 2014). The term intersectionality was coined by Crenshaw in 1989 (Hankivsky 2014). Crenshaw (2013) used the term intersectionality to challenge essentialist assumptions about race, class, and gender differences and how different identities intersect and create multiple forms of discrimination and dimensions of disadvantage. According to Davis (2008, p. 68), "intersectionality refers to the interaction between gender, race, and other categories of difference in individual lives, social practices, institutional arrangements, and cultural ideologies and the outcomes of these interactions in terms of power". The intersectional perspective of climate change gives us the insight to question how different people are vulnerable in different ways, making them adopt adaptation and mitigation strategies differently (Hankivsky 2014). This

paper aims to fill the gap in the literature by using intersectionality to analyze women's participation in climate change adaptation projects. Understanding women's nature of participation is significant for the future design of effective CBA for women in the adaptation to climate change.

To understand women's participation, the 'typology of participation' (Agarwal 2001) has guided this paper (Table 1). Participation can be conceptualized as a simple membership in a group as nominal participation, or it can be considered a dynamic and interactive process where people can have a voice and influence the decision (Agarwal 2001). We followed this participation categorization to assess the nature of women's participation in CBA.

Table 1. Typology of Participation.

Form/Level of Participation	Characteristic Features
Nominal participation	Membership in the group.
Passive participation	Being informed of decisions *ex post facto*; or attending meetings and listening in on decision-making, without speaking up.
Consultative participation	Being asked for an opinion on specific matters without guarantee of influencing decisions.
Activity-specific participation	Being asked to (or volunteering to) undertake specific tasks.
Active participation	Expressing opinions, whether or not solicited, or taking initiatives of other sorts.
Interactive (empowering) participation	Having voice and influence in group decision-making.

Source: Agarwal (2001, p. 1624).

2. Study Area: Climate Change and CBA Contexts

The study was conducted in Latachapli Union Parishad (unit of local government) of Kalapara Upazila (sub-district), Patuakhali district, Bangladesh. The study area is a southern coastal belt area known for its climate vulnerability and disaster incidences. The union has 27,195 people, including 7740 women, 7958 men, 6017 boys, and 5480 girls (WCB 2019). According to the recent Population and Housing survey, there are 93.59% of the population are Muslims, 6.22% are Hindus, and 0.88% are Buddhists Rakhine (BBS 2023). The number of Buddhist Rakhine people living in the selected union is 486 (Caritas Bangladesh 2021. Muslim, Hindu, and Buddhist Rakhine minority people are living together. Every year, the area faces tidal surges, cyclones, saline intrusion, sea-level rise, flooding, and river erosion, which also affect the livelihood of the communities. The study area has been selected considering the adaptation programs of Non-Governmental Organizations (NGOs) working in this area and the ethnic and religious diversities among people.

Community-based adaptation (CBA) to climate change is primarily operated through NGOs and CBOs working at the grassroots levels based on the national strategy to manage climate change adaptation and mitigation in Bangladesh (Ayers and Forsyth 2009). CBA operates as an NGO project intervention and is sometimes integrated with government-led programs and policies (Kirkby et al. 2018). In this study, four NGOs were selected, considering their focus on community-based adaptation to climate change (CBACC) and disaster risk reduction (DRR) within the union. NGOs are working on projects/programs related to CBACC and DRR. They have similar operational methodologies, activities, and adaptation benefits for women. Due to these factors, this study did not differentiate between NGOs.

They focus on four areas: capacity building, sustainable (climate/disaster resilient) livelihoods, community leadership, and networking. CBA activities of NGOs start with group formation in the community—through consultation with the local representatives

and villagers to form groups to implement climate adaptive technologies in the community. Depending on the organization, the groups are called farmer field schools (FFS), the Ward Disaster Management Committee (DMC), village groups, and volunteer groups. However, in all of them, women are targeted as priority groups. This study focused on women from women-only village groups. Most of the village groups are women's groups. Women are considered vital agents for change in society. They are targeted in the project to transform their households into climate-smart households through their improved farming and off-farming activities. For capacity building, NGOs organize training for women on DRR and CCA issues and invite different government officers to be speakers. Sometimes, the women, mainly the group leaders, are sent to the local union parishad or Upazila level for further training. NGOs discuss gender-based violence (such as dowry) and child rights issues (such as child marriage) to create awareness among women.

For sustainable livelihood, NGOs introduce climate-resilient crops/hazard-tolerant seeds and provide support such as providing training on agriculture, sewing machines, business management (how they will run their shop or money for a shop), livestock raising (training and money for buying chickens, ducks, goats, or cows), earth warm/vermicompost (training, vermin, and clay pots), bookkeeping, and account management to the women. These adaptation supports/activities are synonymously referred to as "benefits" in this study. Women can select one adaptation option to work on and share their experiences with NGOs and other group members. NGOs organize monthly learning-sharing meetings with group members to monitor the CBA activities. The facilitators and other members visit group members' houses to observe the CBA activities. NGOs also help women collectively market their production for sustainable livelihood and empowerment by using different adaptive technologies. Aside from that, members deposit a specific amount of money for emergencies, which the group members manage. The group members democratically select group leaders. NGOs organize leadership training for women and assign local women as group leaders to manage the CBA. They encourage women to discuss their CBA activities and share their experiences with the donors.

National partners and international donors primarily fund the projects/programs. The projects also provide a holistic approach to the communities and experts to plan the adaptation actions (CARE International 2024), as the CBA process begins with assessing the underlying vulnerabilities to climate change and existing capacities to adapt (Kirkby et al. 2018). The NGOs have official guidelines to prioritize women from hardcore poor households[1], widows, ethnic women, and female-headed households, and think that women are the most vulnerable group because of their gender identity and patriarchal social norms in the community.

3. Methodology

This study follows a feminist intersectional approach. The approach permits the identification of multiple dimensions of identities (including gender) that intersect with power relations to shape situation-specific interactions (Ravera et al. 2016). This study has developed the research design considering the intersectional methodological attributes, including rationality, complexity, context, comparison, and deconstruction (Misra et al. 2021). The guidelines for interviews have been developed considering the intersectional factors of religion, ethnicity, and gender and how those are related to the study's objectives was kept in mind.

For data collection, this study followed qualitative research methods using in-depth interviews and observations of CBA activities and meetings. This study conducted in-depth interviews with 26 women from the Bengali community (among 14 Muslim women and 12 Hindu women) and 20 Buddhist women from the Rakhine community who are already engaged in CBA groups. The selection of respondents was made to make sure that there are diversities in terms of ethnicity (Bengali and Rakhine), religion (Muslim, Hindu, and Buddhist), and age (18–35 and 36–55). In qualitative research, the sample size is not central but rather depends on 'redundancy' and 'saturation' where "redundancy is the process of

sequentially conducting interviews until all concepts are repeated multiple times without emerging new concepts or themes" (Trotter 2012, p. 399 in Cleary et al. 2014, p. 473). Saturation " is reached when all questions have been thoroughly explored in detail (and) no new concepts or themes emerge in subsequent interviews' (Totter 2012, p. 399 in Cleary et al. 2014, pp. 473–74). Even though the number of Rakhine women is lower than that of Bengali women, in this study, Rakhine women were interviewed more than Hindu and Muslim Bengali women to reach saturation. Because older Rakhine women have difficulty in the Bangla language, it was more challenging to collect information from them.

From five villages, 46 Muslim, Hindu, and Buddhist Rakhine women from different groups of CBAs have been selected for interviews to understand the diversity of their experiences. The term 'community' is used to understand the ethnic differences within a village (i.e., e-Rakhine community and Bengali community). The selected women respondents have been categorized into five groups to represent a mixture of religion and community. Groups are: (1) Rakhine-Muslim women's group from village 1, (2) Rakhine women's group where all women are Buddhist and from the Rakhine community from village 2, (3) Hindu-Muslim mixed women's group of the Bengali community from village 3, (4) Hindu women's group from the Hindu community from village 4, and (5) Muslim women's group from the Muslim fishing community in village 5. Table 2 shows the details of the respondents to the study.

Table 2. Details of the respondents.

Religion	Groups	Villages	Respondents	Young Age (18–35)	Middle-Aged (36–55)
Buddhist (20)	Group 1	Village 1	Rakhine-Muslim mixed women's group	4	4
	Group 2	Village 2	Rakhine women's group	6	6
Hindu (12)	Group 3	Village 3	Hindu-Muslim mixed women's group	3	3
	Group 4	Village 4	Hindu women's group	3	3
Muslim (14)	Group 1	Village 1	Rakhine-Muslim mixed women's group	2	2
	Group 3	Village 3	Hindu-Muslim mixed women's group	3	3
	Group 5	Village 5	Muslim women's group	2	2

Key informant interviews (KII) were conducted with 12 people, including from both local and national NGO officials, to learn about the policy and practice of the CBA regarding climate change and disaster management for women. A content analysis has been conducted to review the project-related documents of NGOs. Fieldwork took place from December 2021 to February 2022. For data analysis, a thematic analysis of intersectional factors was conducted. McCall's (2005) intra-categorical approach for intersectional analysis, focusing on differences within one category where different social categories produce different types of knowledge, has been adopted. This study obtained informed consent, and the anonymity of respondents as well as confidentiality were assured to all respondents. Utmost care was given so that respondents would not be affected in any way by participating in the research. Researchers also got the Research Ethical Review Committee's certificate from the institute. All the names of the respondents are pseudonyms.

There are some ethical dilemmas in the study. The interviewer is a young Muslim woman from Dhaka city, and the social position difference between the respondents was evident during the interview. The researcher exercised reflexivity with care to handle the effects that the status differences might cause, obtain insights into insider/outsider perspectives, and identify and appreciate the significance of the knowledge, experience,

and values of the respondents. Such a critical view of putting the researcher as the target of investigation and analysis, together with the respondents, has been extended not only during data collection but also during data analysis (Attia and Edge 2017). One way to overcome the positionality and personal biases of the researchers was to use 'caring reflexivity' (Ross 2017 in Abrams et al. 2020), where researchers have an open dialogue regarding power imbalances in the community. This helped to enhance trust and build rapport with the respondents. As all of them are engaged in NGOs, they are familiar with talking to outsiders, which also helped respondents accept the researcher and share their experiences.

4. A Brief Description of the Respondents

4.1. The Buddhist Rakhine Women

The Rakhine people are an ethnic and religious minority living in the area. They migrated from Arakan (modern-day Rakhine State in Myanmar) in the late 18th century. They settled by clearing the deep forest of the coastal region long before Bangladesh came into existence (Hossain 2023) and held the land title (The Daily Star 2010, 2015). The Rakhine people in the study area are all Buddhists. After the Cyclone in 1970, many Rakhine people died, and many of them migrated to another place and sold their land or were obliged to sell their land and were evicted from it (The Daily Star 2010, 2015; New Age 2023). The number of Rakhine villages declined to 46 in 2004 from 237 in 1900, as many Rakhine do not feel safe due to assaults to grab their land (Hossain 2023). Historically, religious clashes between Buddhists and the majority Muslim population have been rare, but discrimination, violence, and displacement against Rakhine people are related to the ongoing tensions over land issues (Minority Rights Group International 2016). A survey of Caritas Bangladesh in 2019 pointed out that 228 cases are still pending in the court, and Caritas helped to settle 123 cases to regain 74,362 decimals of land in the Patuakhali region (district of the study area) (Caritas Bangladesh 2021). Both land grabbing and climate change impact Rakhine women's livelihood decisions (CJ-FPAR 2018).

Rakhine culture gives equal rights to sons and daughters on inheritance of ancestral wealth and to decide with whom they want to marry and where to stay after marriage (Islam 2022). Traditionally, women were the heads of households and could hold the land title. However, the head of household in many houses is changing by following the Bengali culture and the land-holding pattern (Islam 2022). The occupations of Rakhine women are trading, shopkeeping, and weaving, while men are engaged in fishing and agriculture. Due to the salinity and land-grabbing threats, their livelihood does not depend much on land (CJ-FPAR 2018). As a result of the land grab, many formally Rakhine-only villages are now mixed ethnic villages with Bengali people. There are two Rakhine markets in the study area where women have shops to sell their traditional clothes, ornaments, foods, and souvenirs. Rakhine women are the victims of discrimination, and they struggle with dire poverty, a lack of connection with the administration, language barriers, and deprivation and harassment by greedy land grabbers (The Daily Star 2010). For living, they are obliged to go outside the house. However, their mobility is limited to the Rakhine market and within the community since they fear teasing because of their dress patterns and language. During the field visit, respondents shared that they were not required to wear a scarf earlier, but now they put on an *orna* (scarf on their chest) to avoid nasty comments from other ethnic people.

The educational qualifications of the Rakhine women are low because they speak their language, 'Arakan', while education is provided in Bangla or English. Most middle-aged women in the Rakhine community do not have mainstream schooling experience and can only read the Rakhine language. Most young women in the Rakhine community studied in mainstream Bangla medium schools. Some passed their primary education, a few passed their lower secondary, and even fewer passed their higher secondary education. These young Rakhine women can speak, read, and write the Bangla language along with their Rakhine language.

4.2. The Hindu Women from the Bengali Community

In the study area, the Hindu women are the religious minority group after the Rakhine women and live in a cluster with their kin along with other religious groups in the villages. However, as a minority in the area, they live in fear because, in 'any political events such as national elections, Hindus are targeted for communal attacks' (Minority Rights Group International 2016, p. 8). Bangladesh's historical context also indicates the incidence of insecurity in the Hindu community. Most women take care of the household and do farming, but they are considered to be their husbands' helpers. During the data collection, many of them were busy with plantations. Still, women from the Hindu community work less than Hindu men outside the home to make a living. Only the widow or woman with no one to support goes outside their house to make a living. Hindu women are required to wear an *orna* around their chests to leave their houses. During the field visit, many Hindu women shared that they had never been to Mohipur (marketplace and office of different NGOs) before engaging the NGOs. In addition, the education level of middle-aged Hindu women is low since they were married at an early age, their school was far away from their home, or their family did not allow them to continue. Moreover, Hindu women are married off at a young age to relieve the social pressure of their parents because parents need to pay less dowry for their daughters. Early marriage for young women is still a problem, but the practice is changing gradually, and the education level of young Hindu women is higher than earlier generations. Young women have more access to education and face fewer mobility problems when going outside in rural areas.

4.3. The Muslim Women from the Bengali Community

Muslim women are the majority group in the study area. Muslim women live in every village in the union. The religious conservatism among Muslims is acute and greater than that of other religious communities. Women are strongly discouraged from going outside their houses or talking to men. They are not allowed to work outside like the Rakhine women. If they want to go outside or to public places, they have to cover their heads and dress appropriately so that their body is not visible to others. Many women are engaged in homestead gardening and livestock rearing to provide families with food. Most middle-aged women did not attend school and could only write their names. Middle-aged women married early because of the unavailability of secondary schools in their locality and purdah. The issue of purdah still significantly affects younger Muslim women's education and leads to early marriages. Like Hindu women, Muslim women also do not hold the title of land.

5. Women's Participation in Community-Based Adaptation to Climate Change (CBACC)

This paper explores which women are participating in CBA activities at which level in terms of meeting attendance, performing CBACC activities, holding positions, and decision-making in CBA (selection of group members and leaders, fixing the time for meetings, adaptation activity selection, and distribution), taking into consideration their differences in religion and ethnicity. Findings suggest different women's levels of participation in CBA activities.

5.1. Nominal Participation of Women

This level of participation is when women are considered a target group and are asked to attend the meeting (Agarwal 2001). All the respondents of this study are members of the CBA programs, since the programs consciously target women. All women respondents in the study were invited to meetings. Only in the Bengali Muslim community do women need permission from their husbands to attend the meeting due to religious conservatism. If their husbands allow it, they become members. Sonia, a Muslim woman from a Hindu-Muslim mixed women's group, age 34, said, "I need to ask my husband before participating in the NGOs".

5.2. Passive Participation of Women

Passive participation is where participants attend the meetings but do not speak up in the meetings. Some Buddhist Rakhine women said they were called for the meetings but could not attend due to their work for a living, so they could not even achieve this level of participation. Some Buddhist Rakhine women can attend the meeting but do not want to speak because their Bangla speaking skills are not good. They attend, but they are "only the listener" (Oenche—a Buddhist woman from the Rakhine women's group, age 35). Most middle-aged Rakhine women cannot communicate much with the facilitators, so the young women interpret for them. However, the reasons why they do not speak up are not only because of language but also because of their ethnic practice. Some Buddhist Rakhine women do not speak, even when all the other members are Rakhine and can speak in Arakan. They prefer to follow their group leader. "If 20 to 30 women sit for the meeting, only five people will speak" (Jema, a Buddhist woman from the Rakhine women's group, age 21). In the mixed ethnic group, Rakhine women are requested to "sit in the front for group pictures" (Lanew, a Buddhist woman from the Rakhine-Muslim mixed women's group, age 50) so that NGOs can show donors that they have Rakhine women participating in the meetings. Some of them do not like to sit in front, but they abide by the decisions of their group leader and NGOs and remain silent in the meeting.

Some Hindu women from the Bengali community prefer to listen to the meeting. Some middle-aged Hindu women do not feel confident speaking up and prefer to remain silent, thinking that their words would go unnoticed anyway and that it would not be appropriate to speak up in front of their elders. Some young Hindu women hesitate to speak in front of male family members, even when the meeting is with people in the same village and the same religion. This is even more the case when they are in front of their in-laws. It is culturally not acceptable for the daughter-in-law to speak out in front of the in-laws.

Due to religious conservatism, some women in the Bengali Muslim community can only passively participate. During meetings, Muslim women do not want to sit in the front or speak in front of many people. The facilitators of NGOs said, "It is difficult to work with Muslim women because they are conservative, and they do not want to sit in the front" (KII3, female, field facilitator of organization C). The meeting is with the members, but since the meeting takes place in a public place, other people stand around to observe and listen. This makes women feel more cautious about what they say in meetings.

5.3. Consultative Participation

This level of participation refers to when women's opinions are asked (but not necessarily followed) or they are asked to raise their hands to support decisions such as group leader selection, adaptative technology selection, and distribution of benefits in the meetings. Women are asked to form a group on their own and to vote for group leaders. The selection of the CBA group leader in the Rakhine community is decided by vote. Still, the voting is ceremonial since the leaders are pre-selected, as they need to be those who can read and write the Bangla language.

The group leader selection in the Hindu-only women's group is similar in that NGOs propose a name considering her household position and communication skills, and members agree with the decision. Sima said, "A da (facilitator) asked me to be the group leader, and later, other members approved" (a Hindu woman from a Hindu women's group, age 31). Regarding the decision-making in the group, Dola (a Hindu woman from the Hindu women's group, age 28) said that-

> "Boudi (group leader) decides who will get what by consulting the secretary and cashier of the group and discussing it with the facilitator (NGO). Then, in the meeting, we all say that it is okay".

The leader selection process for Muslim women is also the same. They tend to agree with the NGO facilitators when selecting their group leaders.

5.4. Activity-Specific Participation

Activity-specific participation means being asked to undertake or volunteer for a specific task (Agarwal 2001). Under the project, NGOs provided technical guidance and funding support for various activities such as homestead gardening, vermicompost, support for alternative livelihoods, and cattle rearing, which women undertake. Many Hindu women from the Bengali community can participate in these activities. Nomita (a Hindu woman from a Hindu-Muslim mixed women's group, age 27) is able to do these activities but only speaks when the facilitator asks about the activity. "Why do I need to talk so much unnecessarily? If they ask, I reply". The young Hindu women from the Bengali community can perform the activities NGOs have assigned and demonstrate their activities to the donors. Middle-aged Hindu women can also carry out climate change adaptation activities, which NGOs assign to them. Those who participate in activity-specific activities feel more comfortable in the meetings since they can undertake the tasks for CBA activities.

The same situation applies to Muslim women. They can participate in activities following the instructions of the NGOs, and their family members also do not oppose such activity-specific participation.

The activity-specific participation of Rakhine women is low, except for support for shops and weaving. Among the technical/financial support the NGOs introduced, Rakhine women can take up only off-farm activities (retail shops and weaving). Many Rakhine women do not have land or cattle, so they cannot do vermicomposting, chicken rearing, or other activities that require land. The NGOs do not consider suitable and contextually appropriate strategies for these women and distribute benefits homogenously. As a result, in capacity-building meetings, Rakhine women do not feel confident enough to share their experiences related to these activities. Therefore, some of their participation is minimal compared to the activity-specific participation of CBA.

5.5. Active Participation

Active participation means expressing an opinion, whether or not solicited, or taking initiative of other sorts (Agarwal 2010). NGOs identified women who can speak Bangla, are literate, and have articulation skills as group leaders. These women can suggest to NGOs who should get the benefit. They work as communication facilitators between group members and the organizations. Some women are responsible for forming the groups, distributing the adaptation benefits among group members, and fixing the timing for the meeting. This is the same regardless of the religion of the women.

According to Sima (a Hindu woman from the Hindu women's group, age 31)

"Being a group leader, if I say anything, other members listen to me. If I propose someone's name for the benefits, A (facilitator) and other members support me".

According to Mayen, a Buddhist Rakhine woman from the Rakhine-Bengali Mixed women's group, age 55)

"I am leading the group, and there are 10 Rakhine women. If NGO people ask me—"Didi, who will get it?" I share my opinion, and they listen to me. I never take anything before giving it to others."

However, these women leaders are only able to make active decisions regarding benefit distribution and rarely on other issues, such as the content of the support. Some women leaders are able to suggest other women for leadership positions.

"We need an educated woman to write the meeting resolution. I have already proposed one secretary as the previous one cannot write." (Konika, a Hindu woman and group leader from the Hindu-Muslim Mixed women's group, age 50).

In order to be in this leadership position, women not only need to be able to read and write Bangla and have good relations and personal networks with the facilitators in CBA, but they also need to be mobile to attend training and meetings. Some of the young Hindu women and many Muslim women cannot actively participate since their family members

restrict their mobility. Dola (a Hindu woman from the Hindu women's group, age 28) said, "I am not interested in holding a position in the group. The group leader has responsibilities and needs to go to many places in the village, sub-district, and join training".

5.6. Interactive Participation

Women's interactive participation is minimal in CBA. Few women are actively working with different NGOs. However, they cannot influence organizational decisions about CBA adaptation activities/strategies because the adaptation activities are initiated by the NGOs, considering the good practices of CBA in different contexts. According to the KII 4, male field officer of organization C

"Our organization is trying to teach women modern technologies like—pot agriculture, sack agriculture, pit method of agriculture, bed farming, and mulching considering the good practices of CBA."

Under the CBA activities, NGOs introduced activities that involve new technologies that have proven successful in other places. In the process of CBA activities, women do not influence the organization's decisions, nor do they facilitate local discussions to identify the needs of their women members. Women have limited options to influence CBA decisions. The participatory project design approach allows women to be the recipients of the benefits rather than encouraging their active/interactive participation in CBA activities. One woman from the Muslim community shared that 'if a woman tends to oppose the decision, like the proposed benefits, and argue with the group members or facilitators, the facilitator tries to solve and, if not solved, terminates the woman from the group.' Any woman who dares to oppose any decision of the CBA is excluded by NGOs, which contradicts the objective of the CBA project.

Table 3 summarizes the level of participation by religion and age. As can be seen in the Table, older Rakhine women participate less than younger Rakhine women, and less when they are in a mixed group with Muslims. Among Muslim and Hindu women, there are not many age differences. The level of participation seems to be highest among Hindu women, despite the fact that in terms of intra-community social position, Rakhine women are higher than Hindu women.

Table 3. Number of respondents who have shown participation in CBA by type of participation, age, and religion.

Women's Participation	Age = 18–35 (23)							Age = 36–55 (23)						Total (46)
	Muslim Women			Hindu Women		Rakhine Buddhist Women		Muslim Women		Hindu Women		Rakhine Buddhist Women		
	MWG	HMM WG	RMM WG	HW G	HMM WG	RW G	RMM WG	MW G	RMM WG	HW	HW MG	RW G	RMM WG	
Nominal Participation	1	3	2	4	2	6	4	2	5	2	4	6	4	46
Passive Participation	-	1	1	-	-	4	4	1	2	1	1	4	4	23
Consultative Participation	1	3	2	4	2	-	1	2	5	2	3	2	1	28
Activity-specific participation	1	2	1	4	2	4	-	1	4	2	3	1	3	28
Active participation	-	1		2	1	-	-	1	1	-	3	-	1	10
Interactive participation	-	-		0	-	-	-	-	-		0	-	0	0
Total (unique)	1	3	2	4	2	6	4	2	5	2	4	6	4	46

MWG—Muslim women's group; RMMWG—Rakhine-Muslim mixed women's group; HMMWG—Hindu-Muslim mixed women's group; HWG—Hindu women's group; RWG—Rakhine women's group. Source: Respondents of this study.

6. Factors That Determine Differences in Women's Participation in CBA

We have analyzed how different women participate differently in CBA. Their different levels of participation depend on three large areas: sense of insecurity, support from family, women's literacy, and NGOs' administrative bias considering the religious, ethnic, and gender identity of women.

6.1. Sense of Insecurity

One of the reasons why Rakhine women's participation is lower than that of Hindus and Muslims is because of their sense of insecurity (feeling or lack of confidence). Lanew, a Buddhist woman from the Rakhine-Muslim mixed women's group, age 50, said,

> "We are the minority people living here. If anything happens to us, nobody will know that. Besides, we do not have any power of hello (upper-level connection)!"

The insecurity due to ethnic identity impacts Buddhist Rakhine women's participation, even at a nominal level, because of continuous harassment and land grabs and the reduction of Rakhine populations as a result. They feel excluded from the Bengali majority communities, and the lack of administrative linkages makes them more insecure. The ethnic minority issue is so ingrained that Rakhine women think it is not possible to solve it, and they try to keep silent. Because of cultural, ethnic, and religious differences, the relationship with the other ethnic (Bengali) community women is not good, which creates insecurity in the Rakhine community. Mayen, a Buddhist Rakhine woman from the Rakhine-Muslim mixed women's group, age 55, said,

> "There were many differences between the Rakhine and non-Rakhine communities. The differences are decreasing day by day. We always try to live together in peace and harmony. However, Muslim people do not want to see us in the same way we do."

The traditional leadership patterns in the Rakhine community also affect their confidence in participation. When the NGOs come to their villages to provide support, the *mattobor* (Rakhine leader who is a woman) in the Rakhine community informs other members to engage in CBA activities. Initially, their *mattobor* talks to the NGOs' personnel, becomes the CBA activity group leader, and informs the Rakhine community members about their work. Lanew (a Buddhist woman from the Rakhine-Muslim mixed women's group, age 50) said,

> "We have a leader in our Rakhine community who talks to the NGOs and engages us."

Only with the blessing of *mattobor* can Rakhine women participate in CBA groups. Rakhine women leave decisions to *mattobor* and are afraid to make decisions on their own. According to Nema, aged 34, she said that

> "We have a leader in our community, and she does what is good for us."

They also feel that sharing something in a mixed meeting may create a problem for their community. Modhu, a Buddhist woman from the Rakhine women's group, age 40 said,

> "Rakhine are always afraid because we are a minority people and do not want to talk to avoid any problem."

NGOs are also keen to engage Rakhine women since they are the minority. However, Rakhine women do not have much trust in the NGOs since they feel that NGOs are using their ethnic identity as an instrument to ensure their organizational benefits. Oenche, a Buddhist woman from the Rakhine women's group, age 35, said,

> "We heard that NGOs will get more donations from abroad if NGOs work with Rakhine."

They feel that they do not have the need or the encouragement to participate actively in NGO activities except for getting some benefits.

The sense of insecurity also drives Hindu women's participation in NGOs, which slightly differs from that of Rakhine women. Hindu women, even though they can be a minority like the Rakhine women, do not suffer from the same kind of insecurity because of harassment. However, widows or those separated from their husbands feel less secure because of the stigma attached to those without husbands in the Hindu community. Topa, a middle-aged Hindu woman from the Hindu-Muslim mixed women's group, age 39, said,

> "We do not face any difficulties because of our identity as Hindu, but the Hindu people, especially those who are widowed and divorced, try to keep silent."

Being a minority in the community, Hindus have a sense of insecurity. Therefore, family members of Hindu women tell the women not to talk too much during meetings. Their family members are concerned that their wives say something wrong (which can create problems in the community) in front of other members, especially in mixed women's group meetings. Kolpona, a Hindu woman, Hindu-Muslim mixed women's group, age 24, said,

> "My husband told me not to talk too much in the meetings to avoid a slip of the tongue. He warned me to avoid any trouble".

In the cases of Muslim women, their sense of insecurity comes from restricted mobility due to religious conservatism. Muslim women need to observe purdah, their family members do not allow them to attend meetings or talk to men (NGO facilitators are often men), and if they do, they need to cover their faces and keep their profile low. Mayen, a Buddhist woman from Rakhine-Muslim mixed women's group, age 55, said,

> "Muslim women do not want to sit in the front of the meetings."

Muslim women do not feel encouraged either, even though they are the majority since they feel that the NGOs prioritize the Rakhine women more than them. Feroza Begum, a Muslim woman from the Rakhine-Muslim mixed women's group, age 40, said,

> "Rakhine women are always selected for the support. They already got benefits for house building, water tanks, and cash. We, Muslim women, are deprived of the benefits. Even meetings are held in their *para* (living area); we need to go there".

To ensure Rakhine women's participation, meetings are always conducted in the Rakhine community, and Muslim women need to go to the Rakhine community. Going far away from their own house makes it difficult for Muslim women because of purdah.

6.2. Support from Family Members

Family support is essential for all women, regardless of the group, to participate in CBA activities. Women must manage their care responsibilities alongside CBA activities, so family support is needed. Women usually get support only when they are not challenging traditional gender norms, roles, and responsibilities.

For Muslim women's engagement in NGOs, their husbands' support and encouragement play a significant role. Initially, most husbands of Muslim women do not feel interested in the work of NGOs or women's involvement. After observing the benefits of NGOs, some Muslim women's husbands encourage them to participate, allowing Muslim women to attend the meetings. They need their husbands' approval to start CBA activities such as raising chickens, ducks, goats, cows, homestead gardening, and vermicompost. In such cases, when they do not have their husbands' help to manage some part of the work, they cannot do the activity. KII 3 (female, Hindu, field facilitator, organization C) shared,

> "I told 'x' (a Muslim woman) to separate the coops for chickens and ducks, but she told me her husband is busy, so she cannot do it alone."

However, in the Muslim community, where men are engaged in fishing, men allow their wives/daughters/sisters to be the leaders and members of the CBA since they are not around. Most men are busy fishing, and they cannot give adequate time to NGOs. NGOs also prefer women to be their members. Since these Muslim women are free from

their men's supervision, they hold leadership positions in CBA activities. Jesmin Akter, a Muslim woman from the Muslim women's group, age 26, said,

> "My father was the group leader but could not give his time, and NGOs prefer women. My father suggested my name for the secretary."

Lili Begum, a Muslim woman from the Muslim women's group, age 44, also said,

> "My brother was the group leader before. He told me to be the group leader. He cannot give time because he must go fishing in the sea."

Even though these Muslim women can take on leadership roles, they are constrained by their household responsibilities. They are allowed to participate as long as it does not affect their roles in the household. When they cannot finish their household work or when their husbands come back home earlier from fishing, they face problems attending the meetings, even when they are the ones who fixed the meeting date and time. Jahanur, a Muslim woman from the Muslim women's group, age 45, said,

> "It becomes difficult to attend sometimes because our men return from fishing earlier. He becomes very angry if I cannot finish cooking before his return."

In the cases of Hindu women, it seems that their family members are more supportive of them participating in CBA activities, especially since, as a minority group in the village, they find external support necessary for their security. Their husbands' support helps them hold positions in the CBA group and participate actively. Sometimes, their husbands help these women with CBA activities. Sima, a Hindu woman from the Hindu women's group, age 31, said,

> "I got a call from the office in the evening, and they asked me to deliver the vermicompost to their office at Mohipur. Then, I have to inform other members who are doing vermicompost. I collected all, then sent my husband to their office to deliver the vermicompost."

Although Hindu women get better family support than Muslim women, attending training and workshops far away from their villages still needs permission from their family members, which is often not given. The training and workshops are conducted in different training centers far from their living places. Hindus do not follow purdah, but family members are worried that if women are absent from home for a long time, the household work will be left undone. Konika (a Hindu woman from the Hindu-Muslim Mixed women's group, age 50) has worked in the community for over ten years. However, she cannot participate in further capacity-building training due to a lack of family support. According to her,

> "The office told me to go to Gazipur for training, but I could not. My daughter is an adult now. I cannot go wherever I like [since it is not culturally appropriate to have an adult unmarried woman at home alone]. My husband died because of COVID. I had no one to take care of her."

Rakhine women do not face restrictions from family members, like in the cases of Hindu and Muslim women. Their problem is that they are responsible for both productive and reproductive work and are too busy to participate. The social expectations for Rakhine women are such that women are supposed to do all the work, so they get little support from their men. Therefore, they miss many CBA meetings, and since they are not regulars in meetings, they talk and participate less in meetings. They cannot implement CBA activities at home because they do not have time, and other family members do not help her. Machanchin, a Buddhist woman from the Rakhine women's group, age 35, said, "I do not have time to collect dung for compost as I work outside. My husband cannot help me because of his physical condition".

6.3. Women's Literacy and NGOs Administrative Bias

The NGOs are also responsible for choosing who should participate and how much. They select women who are literate and have a good ability to communicate with them,

and they also have houses that are located in places where it is easy to access so that their work becomes more manageable. Even though, in form, other group members choose women leaders, it is, in fact, chosen prior to the meeting by the NGO facilitators. The NGO facilitators need women leaders who can organize group members and meetings, write meeting minutes, communicate with NGOs, perform adaptation activities, and share their opinions about the benefit distribution.

The education level of some Hindu women helps women participate in CBA more actively. Konika was the only educated woman her age. Because of her education, she was selected as the group leader for CBA activities. According to Konika, a Hindu woman from the Hindu-Muslim mixed women's group, aged 50

> "I was the only educated woman in my village among the women my age, which helped me to work with different NGOs more than others."

Like Konika, a few middle-aged and young-aged Hindu women from the Bengali community are educated and can hold a position in the group. Educated women, especially young women, tend to be more confident during activity-specific participation and take up more CBA activities. Younger women are better educated, so they are more likely to participate at a higher level. With education, women can speak publicly and can take part in managing the CBA group. Sima (a Hindu woman from the Hindu women's group, age 31) said, "As a group leader, I have to speak up in the meeting about what I learned from A dada (facilitator) and share with other members". Her quality of public speaking also distinguishes her from other women in CBA in terms of her active participation. Women without formal education hesitate to speak in front of others and are not confident enough to talk in meetings. A Bengali Hindu woman, Arunbala, age 50, said she got married young, could not go to school, and had difficulty memorizing what was taught in the group.

Similarly, among Muslim women, middle-aged and older women cannot read and write. Lili Begum (a Muslim woman from the Muslim women's group, age 44) is without formal education, and she does not feel confident enough to speak in meetings, thinking that she "might be wrong and cannot organize". Such a lack of confidence affects their level of participation in the CBA.

For Rakhine women, this pattern of education and ability to communicate is even more evident. There are very few women who can communicate well in the Bangla language. Young Rakhine women can, but they are busy with their livelihood activities, so they are not regular, and when they come, they will just sit and listen. Most Rakhine middle-aged women are not able to keep up with the content discussed in meetings and training in the Bangla language. Therefore, all attention goes to those women who can communicate in Bangla. Mayen (a Buddhist woman from Rakhine-Muslim mixed women's group, age 55) is one such woman:

> "I have attended many meetings and trainings in the last ten years, and I have learned many things... The NGOs also trust me and know that they can get support from me."

While the other Rakhine women hardly get above passive participation, Mayen is at the level of active participation—leading the group and discussing with NGOs. Such a gap, which is created by NGOs, can be problematic in promoting more broad-based participation among women.

7. Discussion and Conclusions

This study addressed which women participate in CBA activities from an intersectional perspective. The findings explore women's different levels of participation in CBACC. In this study, women's different levels of 'participation' (Agarwal 2001) depend on three broad areas: sense of insecurity, support from family, and women's literacy and NGOs' administrative bias. Though NGOs have a strong intention to work with women, the way they implement the participatory approach is creating a wider disparity among women in terms of participation.

Our intersectional approach has clarified how insecurity is experienced differently by different women. The Rakhines are an oppressed group, and hence, their sense of insecurity is high. That makes women even more afraid to participate and hide behind their leader. The Hindus are also a minority in this area but did not experience harsh oppression like the Rakhine. However, still, with that, they are more careful about how to participate. It is indeed a pity since Rakhine women and Hindu women enjoy better social positions and freedom in their own communities compared to Muslims, and they could have been able to participate better if it were not for their threatened status.

The intersectional approach also unearthed how family support differs between women. Rakhine women are given the freedom but little support to manage all the work they are supposed to do, and as a result, they do not have time to participate in CBA. Hindu women get better support, but only to the extent that it does not interfere with their household work responsibilities. Muslim women get the least support, having to get approval for each step of participation.

The required level of literacy and communication skills also differentiates between the young and the old, the educated and the uneducated, those who can speak Bangla and those who cannot.

These findings suggest that the intersectional challenges that women face in participating in activities must be considered. The problem with the NGOs that implement the CBA activities is that they focus on marginalized communities (Rakhine) and women categorically without taking into consideration the different cultural, religious, and historical barriers that these women face.

This study extends the studies on women's participation, focusing on the determinants of women's participation from an intersectional perspective. This study also extends the existing studies on the framing of gender in CBA, which compare women and men as a uniform group and give little or no attention to power and social and political relations between and within groups (Aryal et al. 2014; Mcleod et al. 2018; Clarke et al. 2019; Wright et al. 2014; Ravera et al. 2016; Patnaik 2021; Van Aelst and Holvoet 2016; Erwin et al. 2021). The intersectional approach needs a nuanced understanding of the community and household, and needs to go beyond simply comparing women and men. Differences among women are crucial in the intersectional approach, and as the studies have shown, organizing women-only groups is insufficient to ensure women's participation (Dohmwirth and Hanisch 2019). Women sitting in meetings and voicing opinions do not ensure influencing decisions (Nightingale 2002), and simply having women in meetings in the participatory planning process is insufficient to transform power relations (Cornwall 2003). This study argues that even when all the "correct" measures were taken—organizing women's groups, focusing on marginalized ethnic groups, providing leadership training for women—it did not improve women's participation level, and what is needed is an in-depth intersectional understanding and contextualized approach to facilitate different women's participation. It is well-researched how women's participation is crucial for CBAs (Wright et al. 2014; Patnaik 2021). The adaptation policy and governance cannot be adequately implemented without addressing the intersectional aspects of promoting women's participation. This study only focused on women from one geographical region. Hence, the findings might not be generalized to other locations with different climatic experiences and forms of CBA experiences.

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Notes

[1]   Hardcore poor households are defined as those with land holdings between 5 and 50 decimals, a monthly income not more than BDT 5000 (approximately USD 46), food insecurity (insecurity period 2/3 months), and living in vulnerable places (Project document of Organization CO).

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