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Community perception of climate events as a security issue: the case of Hatiya Island, Bangladesh

This study delves into the multifaceted dynamics linking climate change and conflict on Hatiya Island, Bangladesh. Examining perceptions and responses to climate-induced stress, insecurity and potential conflicts, our research draws insights from literature reviews and focus group discussions. Despite the heightened stress resulting from unpredictable climate events, islanders perceive recent improvements in food security. They continue to struggle with periodic shortages and inaccessible health care and education. Many are entrapped in a cycle of poverty, debt and political marginalisation, further compounded by exploitative economic relations, power dynamics and government policies that intensify grievances. Climate change impacts are not perceived locally as an (immediate) threat: other issues seem to have more priority. Our findings emphasise the importance of prioritising social and political dynamics, alongside structural constraints, in understanding the climate–conflict nexus. This should not be taken to mean that climate change is irrelevant, though, as it has an impact on the bedrock of long-term poverty and distress.

Keywords: Bangladesh, perceptions, coastal communities, climate, food insecurity, conflict

Introduction

Recent research has advanced our understanding of the climate–conflict nexus but also highlights the pitfalls of attributing simple causality between climate and conflict and the need for more nuanced analyses. There is a widespread consensus among both academics and policymakers that the consequences of climate change will disproportionately affect individuals and communities who have limited adaptive capacity or who experience marginalisation and vulnerability (Ide et al., 2022; Koubi, 2019; Schleussner et al., 2016; von Uexkull et al., 2016; Schapendonk et al., 2023). However, not everyone perceives themselves as vulnerable to climate impacts, or vulnerable at all (Heijmans, 2015) and individuals and communities may

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have a different understanding and perception (possibly culturally conditioned) of climate security risks (Nelson et al., 2023). Understanding people's perceptions of climate change and its impacts on their lives is crucial because those perceptions shape their attitudes, behaviours and decisions when faced with climate events. For example, those who perceive themselves as vulnerable may take proactive measures to adapt to climate change and prevent or mitigate potential conflicts (Botzen et al., 2013; Brink and Wamsler, 2019; Kabir et al., 2020; Xie et al., 2019). Conversely, individuals who do not perceive themselves as vulnerable to climate change may not take protective measures (Kellstedt et al., 2008; Whitmarsh, 2008). Furthermore, perception-based research can help identify and address the root causes of conflicts related to climate change, such as resource scarcity, competition, grievances and inequality. Bangladesh is highlighted in the literature as an important candidate for climate-induced conflict given its exposure to both climate hazards and conflicts (Saha, 2012), limited resources and vulnerability to the impacts of climate change (Nishat and Mukherjee, 2013).

Past events such as cyclones and floods have often been associated with food insecurity, and this in turn is frequently predicted to lead to uprisings, protests and violence in future events (Hendrix and Brinkman, 2013; Liebig et al., 2022; Johnstone and Mazo, 2011). As there is still little on-the-ground evidence in the literature for these scenarios, a focus on climate may obscure other social and political conflicts (Hossain and Jahan, 2014). Most of the evidence is based on the statistical correlation between climate and conflict without delving into the mechanism and how the affected population perceives mechanisms leading to conflict on the ground. We zoomed in on a cyclone and erosion-prone island to highlight lived experiences and perceptions of climate stress, food insecurity and conflict involving vulnerable groups.

The aim of this paper, then, is to investigate how local people, in their own perception, are coping with climate stress, human insecurity and conflict potential on Hatiya Island, a sandbar in the Noakhali district on the coast of Bangladesh. Based on extensive fieldwork, including focus group discussions, interviews and participatory observation in various localities on the island in 2022 and 2023, this study focuses on local perceptions of climate change impacts, food insecurity and conflict potential. In the following section, we provide a background to the study by reviewing different potential pathways towards conflict. We then describe the research methodology employed in the study. Afterward, we present and analyse the outcomes and discourses that highlight climate security risks recognised by the community in focus group discussions. Finally, we discuss the research limitations and implications and draw conclusions.

Background of the study

Over the past decade, numerous publications have predicted that climate change will likely increase the risk of conflict (Buhaug, 2015; Koubi, 2019). The reasoning behind this climate–conflict perspective is that climate change intensifies abundance as well as scarcity (Theisen et al., 2013) and extreme climate events (e.g. cyclones, storm surges, floods). It may also provoke migration and economic instability and therefore can be a key factor for the onset of conflicts. Various quantitative studies have generally found a statistically positive correlation between climate change and conflict, particularly in regions that are already experiencing high levels of political instability and weak governance (Hsiang et al., 2013; Raleigh et al., 2010). For instance, climate-related disasters can increase the risk of inter-group conflicts, particularly in countries that are ethnically fractionalised and have pre-existing tensions (Schleussner et al., 2016). Temperature fluctuations can also lead to conflict across different regions and periods (Hsiang et al., 2013). Civil conflicts are more likely to occur during periods of drought in the growing season, suggesting that climate change may contribute to conflict in certain contexts (von Uexkull et al., 2016). Qualitative studies, on the other hand, highlight the importance of local context and the need to consider a wide range of factors that contribute to conflict, including social, economic and political dynamics. For example, in Northern Kenya, climate change is just one of many factors contributing to conflicts between pastoralists, and addressing this conflict requires a more holistic approach that considers political and economic factors (Schilling et al., 2011).

The interaction between climate, insecurity and conflict has been explored through a range of pathways. A prevailing argument among researchers posits that climate shocks can intensify violent conflict by amplifying human insecurities across multiple dimensions, including livelihood and food security, physical and health well-being and communal stability. Among these pathways, the most widely acknowledged one involves food insecurity stemming from adverse climatic conditions, which, in turn, leads to surging food prices as crop yields plummet and food supplies dwindle (Gitz et al., 2015). This scenario effectively diminishes the purchasing power of impoverished populations, heightening their grievances and consequently elevating the likelihood of conflict.

Livelihoods that are heavily reliant on natural resources are particularly susceptible to the impacts of climate change. In accordance with the climate–livelihood insecurity pathway, income derived from climate-sensitive natural resources may be substantially affected by climate events, resulting in a significant decline in agricultural productivity and a looming threat to food security (Vivekananda, 2022). In times of heightened stress induced by food and livelihood insecurity, individuals may also be compelled to migrate, either voluntarily or due to external pressures. The body of literature on this subject underscores the highly intricate and deeply intertwined nature of the pathways connecting climate change to violent conflict. It is evident

that these pathways are heavily influenced by complex social and political dynamics. Notably, climate change does not stand as a necessary or sufficient condition for conflict, and often, it is not even the most predominant driver in exacerbating violence (Ide and Scheffran, 2013). Yet, climate-related shocks may create crucial conditions that interact with pre-existing vulnerabilities. These conditions encompass resource scarcity and competition, social inequality and tensions, forced displacement, and migration, and the destabilisation of institutions, potentially providing individuals with both the means and motivations for engaging in conflicts (Schaar, 2018).

Conversely, climatic circumstances could foster cooperation among affected groups for collective benefits, contingent upon personal decisions and priorities (Scheffran et al., 2009). Individual and societal responses to heightened competition may not only lead to conflict but also drive the adoption of alternative coping mechanisms, including migration, technological innovation and collaborative efforts. In short, resource optimists argue that agricultural land scarcity caused by high population density may be a driving factor behind economic development, thus causing peace in a long-term perspective (Urdal, 2005). This environmental peace perspective suggests that environmental problems exacerbated by climate change are opportunities and even catalysts for cooperation between individuals and groups (Ide et al., 2016). Even hostile parties may work together if they face a common threat of resource scarcity, hydro-meteorological disasters or environmental degradation affecting the well-being of each party. This cooperation can prevent the outbreak of hostilities and even increase mutual trust, eventually transforming the (adverse) identities of the groups involved (Ide and Scheffran, 2013).

A recent study by Dutta Gupta et al. (2023) examined inequality (both within and between countries) as both a driver and an outcome of the climate–security nexus, expressed in differential climate adaptation opportunities and capacities and development efforts that are also relevant to Bangladesh. Several studies also demonstrate the importance of understanding community perceptions to explore the complex relationship between climate change and conflict. Perceptions can influence how individuals and communities respond to climate change, which can have implications for pathways leading toward conflict or cooperation. Climate risk perceptions are a critical component as they give a clear indication of what risks local people perceive while living in climate-exposed locations which can be completely different than when observed from a distance (Grothmann and Reusswig, 2006; Tvinnereim et al., 2020). However, community perceptions of climate risk and security are yet to receive much attention. One of the studies on climate security risks perception was carried out in 2022 by the United Nations Interregional Crime and Justice Research Institute with local communities in Chad. This study found that the effects of climate change impact communities' everyday survival. Competition for ever-shrinking resources led to increased conflict and deadly violence within and between communities, causing

a rupture in social cohesion (Brunero et al., 2022). The perspectives represented in the literature are mainly derived from expert opinions and expert-focused studies and lack evidence from communities directly experiencing the impacts of climate change and its security implications. Harvesting community views permits insights into the perceived immediate and localised effects that may not be captured in broader expert assessments. Our findings reflect the views of local community members of social inequalities and frustrations that may (or may not) tip a community over into violent action.

A focus on local knowledge and perceptions of climate change is indispensable to understanding possible directions for local mitigation and adaptation strategies, and for understanding how the connection between climate change and conflict may play out on the ground (Petzold et al., 2020). In this context, Wachinger et al. (2013, 1409) observe a salient risk perception paradox in that 'it is assumed that a high risk perception will lead to personal preparedness and, in the next step, to risk mitigation behavior. This is, however, not necessarily the observed response', because people often lack the means and the social and political position to make meaningful change. Protection motivation theory explains that people are only motivated to protect themselves against risks if they not only appreciate the risk but also believe they can do something about it (Bubeck et al., 2018; Gumasing et al., 2022). Under increasing stress, a range of coping strategies is deployed, out of which mitigation behaviour and resorting to violence are only two extreme scenarios. It is therefore helpful to consider people's own assessment of their situation and any constraints they may perceive in social and political relations with others because this can help us predict future decisions and conflict dynamics.

Climate change and extreme weather events have had a significant impact on human security in Bangladesh, especially food and economic security, and displacement. Several studies on farmers' perceptions reveal that increasing temperature along with decreasing precipitation may worsen water scarcity, resulting in droughts that will affect crop production and food security (Akanda and Howlader, 2015; Uddin et al., 2017). Some perception studies on climate change and human health found that people think that with changes in climate such as heatwaves, their health expenditure has increased (Biswas et al., 2021; Kabir et al., 2016). There is a growing concern that Bangladesh's extreme vulnerability to the environmental effects of climate change and extreme weather events may create conditions that put it at risk of greater insecurity and possible (violent) conflict. Research conducted in Bangladesh revealed that most people prioritise poverty, employment, food security, and health over concerns about insecurity and violence (Dalrymple et al., 2009). Like elsewhere, it is not only climate that may create insecurity and conflict, but other factors like political instability, maladaptation, (poor) governance, (lack of) access to public services, and infrastructures may interact with each other and create conflict potential. It would therefore

be interesting to know how local people indeed perceive the connection (if any at all) between climate factors and other concerns they have in their struggle to sustain their livelihoods. Incorporating local-level evidence from those who are directly affected will enrich the ongoing debate on the climate–security–conflict nexus.

Materials and methods

Context of the study

Bangladesh famously is one of the most climate-vulnerable countries in the world due to its geography, high population density, poverty, and lack of resources to cope with climate risks. The country is significantly impacted by climate change and extreme weather events, such as cyclones, floods and droughts, which have become more frequent and severe in recent years and have caused significant economic losses and adverse effects on human health and livelihoods (Kabir et al., 2020; Uddin et al., 2019). For the people of Bangladesh, extreme climate events are no longer single, incidental shocks but recurrent phenomena that exacerbate existing social stress and insecurity and push the lives of vulnerable and marginalised people to the limit.

The coastal region of Bangladesh is highly vulnerable due to its low adaptive capacity, dense population, flat topography and exposure to various hazards such as storm surges, sea-level rise, tidal floods, and coastal and riverbank erosion (Uddin et al., 2019). In the coastal region, the coastal islands are the most vulnerable as they are low-lying small land-masses surrounded by the ocean. Islanders face a range of natural hazards and challenges related to the limited water-based transport system, limited livelihood options, poverty and poor housing which have increased their degree of vulnerability.

Hatiya Island is a prime example of a climate-vulnerable area, affected by various climate hazards. The island is an erosion-prone sandbar situated in the southern Noakhali district of Bangladesh, occupying a total area of approximately 371 square kilometres (Kabir et al., 2020). It is in the Meghna estuary of the Padma River (Ganges delta) and serves as the administrative centre and the largest island of the Hatiya upazila, a sub-unit of a district. Other notable islands in the region include Bhasan Char, Damar Char, Nijhum Dwip and Jahajir Char. Most of the population of Hatiya Island is Muslim, with a Hindu minority. The poverty rate is high, with many households living below the poverty line. Approximately 81 per cent of the islanders earn less than BDT 5,000 (approximately USD 48) per month (Parvin et al., 2008). The island also faces significant infrastructure challenges, with limited access to basic services such as health care, education and electricity. In addition, the island lacks proper transportation facilities, making it challenging for residents to access markets and other services on the mainland (Alam, 2012). This restricted access

hinders their opportunities to diversify their livelihoods and develop other skills to improve their economic conditions (Aziz and Jabeen, 2021).

River erosion, cyclones and coastal flooding have significantly impacted local livelihoods, particularly for those who rely on agriculture and fishing. Saltwater intrusion contaminates freshwater sources and agricultural fields, rendering it difficult for farmers to cultivate crops, while cyclones regularly destroy homes, boats and fishing nets, making it challenging for fishers to earn a living. Moreover, these climate events heighten the risk of food insecurity and malnutrition, especially among vulnerable groups such as women and children. In the aftermath of Cyclone Aila in 2009, for instance, a significant increase in malnutrition rates was recorded among children on Hatiya Island (Alam, 2012).

Research methodology

A variety of qualitative research methods, such as focus group discussions, key informant interviews and informal conversations were employed to get in-depth insights into local experiences and understandings of risks associated with climate and other socio-political factors. The data presented in this contribution was primarily collected through focus group discussions with people from Hatiya communities that have been experiencing the impact of climate-related vulnerabilities and other associated drivers. This method allowed us to explore a wide range of complex and diverse perspectives on the given topic.

The choice of communities was primarily guided by existing literature, which suggests that regions with heightened exposure and vulnerability to the impacts of climate change are more likely to experience conflicts, especially among communities situated on the coastlines. Purposive sampling was used to select eleven communities taking into account their location on the island, their experience with climate hazards, and their vulnerable socio-economic conditions. Each of the selected communities had, at some point in their history, confronted unique climate-related disasters. The primary motivation behind expressly choosing these communities was to ensure the inclusion of the most vulnerable individuals on Hatiya Island, encompassing various ages and occupations, and balancing genders. A total of eight to twelve individuals took part in each discussion, comprising a mix of artisanal fishers, small-scale farmers, housewives, day labourers and other community members. The age range of participants spanned from twenty-eight to seventy-two years, reflecting a broad spectrum of life experiences and perspectives. Occupationally, participants hailed from a range of professions, including but not limited to fishing, agriculture and homemaking. Special efforts were made to keep the gender balance among the participants and ensured by the participants themselves cordially. Selected communities are located in seven unions (rural village councils) of the island including Burir Char, Char Ishwar,

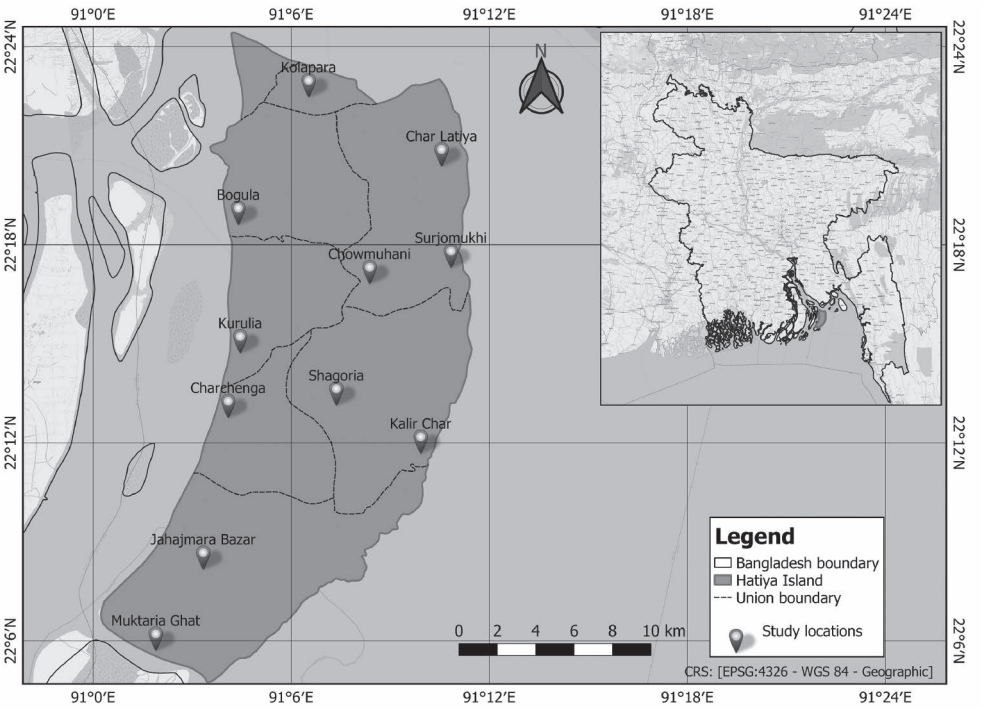

Figure 1 Study areas on Hatiya Island

Char King, Jahajmara, Nolchira, Sonadia and Tamaruddin. The union (*parishad*) is the lowest local government system. The areas where communities were selected are visible in Figure 1.

Between 2022 and 2023, a considerable effort was invested over several months to establish rapport and build relationships of trust with community members. This involved informal visits and consultations with community members to familiarise ourselves with community dynamics, norms and cultural sensitivities. These efforts were instrumental in gaining the confidence of community members and creating a conducive atmosphere for open dialogue during the focus group discussions. To structure the focus group discussions effectively, a semi-structured discussion guide was developed. This guide was carefully constructed to delve into participants' perceptions and experiences on three key components of the climate–conflict nexus (climate, food insecurity and the potential for violent conflict). It covered different aspects of the connection between perceptions of what these components mean to them, the main struggles of vulnerable people and what they saw as conflict and as conflict drivers. The guide consisted of open-ended questions and prompts, ensuring flexibility and depth in the focus group discussions. Before each focus group discus-

sion began, participants received detailed information about the study objectives and procedures and were assured of confidentiality and the freedom to withdraw without consequences. Verbal informed consent was obtained from all participants for both their participation in the focus groups and the audio recording of the discussions, only for proper documentation purposes.

To ensure broad representation across the island, one focus group discussion was conducted in each of the eleven selected communities. Before these discussions, the discussion guide was tested with a small group of community members to ensure that the questions were clear and relevant, and minor changes were made based on their feedback and experiences. The participants were free to bring up any issue they were concerned about. As a result, each discussion took a different course. The discussions lasted approximately sixty minutes each and were facilitated by a local research assistant who provided translation and note-taking. Thematic content analysis was performed on the transcripts using ATLAS.ti software to identify common themes and patterns in the data.

Results and discussion

This section delves into how the inhabitants of Hatiya Island perceive and experience the ongoing climate events and the impact on their lives, in terms of human security, especially food and livelihood security. Finally, we will discuss if and how the combined effect of all factors may increase the potential for violent conflicts.

Ongoing climate events

River erosion, cyclones and cyclone-induced coastal flooding are significant climate events that have impacted the lives of people living on Hatiya Island. In particular, river erosion has been a life-changing event for nearly all the participants, causing displacement and leaving individuals homeless and traumatised. Participants from focus group discussions in areas such as Charchenga and Kolapara perceive that every two to three years, erosion intensifies dramatically, undercutting vast stretches of land, contrasting with gradual erosion. They often hope and pray for a delay in the arrival of the next extreme erosion event, allowing more time to recover from the last event. However, erosion events can be so intense and sudden that they force individuals to save their own lives and those of their family members first and to abandon their property, livestock, fruit trees and kitchen gardens, which significantly impacts food security.

While recent cyclones and cyclone-induced flooding are perceived as less destructive compared to the 1991 cyclone, the memory of that event still lingers in the minds of the people of the island. However, due to lower levels of destruction in recent

years, participants from cyclone-prone communities such as Muktaria, Jahajmara Bazar, and Kalirchar areas in the north and east of Hatiya Island (see Figure 1) generally perceived cyclones as a normal event that can occur when living on the island. Nonetheless, some communities in areas like Choumuhani and Shagoria expressed concerns due to the lack of proper housing infrastructure and the limited number of nearby shelters. According to some participants, heavy winds during cyclones pose a serious threat to their safety. They fear that plastic or corrugated sheet iron roofs may be blown away, and trees may fall on houses, causing extensive damage and potentially leading to casualties. Intriguingly, most of these concerns originate from communities not primarily exposed to cyclones, underscoring a feeling of relative insecurity. During these events, vulnerable groups such as women, children and the elderly are at higher risk of losing their lives. Participants expressed that the most challenging aspect of experiencing a cyclone is the resulting flooding, which inundates everything and causes waterlogging that can last for several days.

Participants across all focus group discussions feel that temperatures have been increasing in recent years; the recent summer seasons in particular have been extremely hot and have caused health issues like itching, skin rashes and children falling sick frequently. Alongside this, islanders are also experiencing irregular rainfall, ranging from intense and continuous rainfall to dry spells. The weather is becoming more extreme, with rainfall accompanied by loud thunderclaps, which result in casualties due to lightning. This situation also makes people afraid to leave their homes on rainy days. When heavy rainfall days coincide with spring tides, due to the combined gravitational effects of the Sun and Moon, flooding occurs. People in the Burir Char area – situated close to the shoreline – live with seawater flooding for three to five days and sometimes up to ten days a month as a result of high tides. This situation is worse for those living outside the embankment, yet even those living inside the embankment are affected, as the embankments are not high enough to control high tides or they are damaged. Participants living inside the embankments think they are the most at risk as there is no channel through which the tidewater can be diverted. This tidal waterlogging is increasing the salinity of the water and breaking the mud floors of houses. Additionally, water carried in by the tide sometimes can carry poisonous animals like snakes and scorpions, which pose a threat to human health. Many respondents also feel that the tide water level is higher than before which might be a consequence of sea-level rise.

Perceived food insecurity associated with climate events

The poor of Hatiya Island face immediate food insecurity during extreme climate events due to limited access to food markets and the inability to cook because of the inundation and lack of dry fuels such as wood and manure. Their yardstick is their

experience of the super cyclone of April 1991, when starvation was a reality on the island. Compared to 1991, they perceive access to food during or after climate events in current years to be better. However, in real terms, they still are not food secure at all. For the extremely poor, who cannot afford fish, meat and vegetables, food security is rice security whether they cultivate rice or not. When rice is unaffordable, people resort to reducing their food intake or sometimes skipping meals. Rising salinity due to climate change such as sea-level rise has led to the disappearance of kitchen gardening and a reduction in the number of fruit trees which are an important source of food and nutrition, a concern particularly highlighted by women participants. Many participants from all over the island expressed the belief that coastal erosion is one of the major reasons for their poverty as their family lost all their property and resources. After losing everything to erosion, it was difficult for them to afford land in a safer place. So, they end up occupying land in vulnerable and unprotected coastal locations. Despite these lands being owned by the government, the occupants reported having to pay a 'fee' to local politicians to obtain permission to stay there. The cost of living in these vulnerable areas is also higher, as extreme weather events damage houses and the few resources they have, such as livestock. This forces them to use their meagre savings and take loans to repair the houses almost every year. These factors always have a significantly negative impact on their financial struggle and contribute to poverty, food and nutrition insecurity on Hatiya Island.

The impact of climate change and extreme weather events on agriculture is perceived as an important issue, with farmers now able to cultivate paddy only once a year, while it used to be possible twice a year. Vegetable cultivation has become extremely difficult due to the late arrival of the cold and dry winter season and unpredictable rainfall and temperature. Extremely hot days during the winter growing season cause agricultural droughts that damage crops as most people do not have any alternative irrigation methods. In the Char Latiya area, farmers believe that flooding is better than drought because crops like paddy can withstand flooding, but not droughts. However, regular tidal inundation has raised soil salinity levels, making it even more difficult to grow vegetables in particular. Sharecroppers are particularly vulnerable to these scenarios due to the fact they have to pre-finance inputs and are not compensated in case of harvest failure. Livestock rearing is a common aspect of a farmer's livelihood system, providing a significant source of protein for children and allowing the use of cow dung as fuel. Not all small-scale farmers can afford to buy and rear livestock. The heightened mortality rates of livestock due to extreme weather events such as hotter weather present a major worry for women, who typically shoulder the primary responsibility of livestock care, and exacerbate nutritional deficiencies within families, notably impacting children's health.

Unusual climate and weather conditions result in lower crop yields and crop loss, leaving farmers in debt as they cannot repay their loans. These loans are taken to

invest in farming, but crop failures result in debt instead of profit from farming. A single rice harvest a year is insufficient to create a surplus to sell or even to meet their own family's requirements for staple food to last the entire year. The harvest lasts them a maximum of three to four months, depending on the size of the family. After that, they must rely on the market, which not only forces them to reduce food intake but also reduce other expenses for other needs such as education and health care.

Fishing is potentially a comparatively profitable livelihood option for its practitioners, as Hatiya Island is one of the best locations to catch hilsa fish, a preferred delicacy for Bangladeshi households. The increasing incidence of long hot summers and the growth of char lands along the shoreline (rising seabed) have significantly reduced fish populations and availability in adjacent waters. When faced with frequent climate events like cyclones and heavy rainfall, precautionary weather signals often compel fishers to return to shore, resulting in losses due to a reduced fishing window, causing difficulty in recovering investments such as fuel, boat and engine repairs and food expenses. This problem is further exacerbated by multiple fishing bans imposed by the government each year. Even with the government's allocation of rice rations exclusively for registered hilsa fishers during bans, the situation remains challenging for many – a significant number of fishers claim they do not have access to registered fisher cards, and hence, to rice. During the focus group discussion, fishermen contended that other people, better connected to politicians, get these cards even though they are not fishers, leading to heated debate and accusations of favouritism and political patronage. The fishers perceive these limitations as adversely affecting their income, resulting in food insecurity.

In conclusion, while climate change undoubtedly plays a significant role in exacerbating food insecurity on Hatiya Island, it is not the sole factor contributing to food and livelihood insecurity faced by the community members.

Ongoing social tension and conflict

Economic and infrastructural development on Hatiya Island over the years has been a major concern for the island residents and contributes to grievances. Their primary concerns revolve around access to essential services like health care and education. Currently, only one health care institution serves the island, and government schools are often too distant for many communities in the Muktaria area. Consequently, many children do not attend government schools but instead, families opt for the Madrasa (Qur'an school) due to its closer proximity and affordability for economically disadvantaged families. Despite recent progress in connecting some island communities to the national electricity grid, not all areas, particularly those prone to erosion, have benefited from this expansion.

During discussions, many participants talked about the diverse types of aid available for those in need. However, almost all of them stated that they have seldom if

ever received any assistance from the government or international organisations, even during the COVID-19 pandemic. Most of them are not covered by social safety net programmes and perceive that local authorities are not taking responsibility for the poor and vulnerable, as evidenced by their conviction that their lives cannot depend on the government. Local leaders only favour those who endorse them in their political rallies and support their actions. Overall, the prevalence of grievances among people towards local authorities was visible.

Small-scale farmers and artisanal fishers discussed various challenges stemming from exploitative labour relations and the accumulation of debts, as well as ongoing tension and conflicts with individuals wielding significant power. To bridge income gaps and address food insecurity, they frequently resort to borrowing from informal moneylenders. However, the failure or delay in loan repayments frequently results in social embarrassment and escalating frustration. In the absence of political support, they fear to raise their voices against money lenders or powerful individuals, they said, let alone enter into conflict with them, because they will be beaten up or excluded from further credit. Despite their anxiety about future farming, most farmers do not want to switch to alternative income-generating livelihoods.

Many artisanal fishers depend solely on fishing for their livelihoods, lacking alternative sources of income and exploited by informal lenders, such as Mahajans, who provide easy credit but make them increasingly dependent on loans. This vulnerability is exacerbated during fishing bans, leading a significant number of fishers to resort to illegal fishing practices, frequently resulting in their apprehension by the enforcing authorities, primarily coastguards. Many from Kurulia and Jahajmara areas have reported experiencing physical violence, damage to their fishing nets, and even imprisonment upon capture. Despite these extreme challenges, illegal fishing persists, rationalised by their desperate need to provide for their families as they have no other means of sustenance.

Many female participants in the focus group discussions discussed incidents of domestic violence during financial crises. Gender norms in their society create an attitude of acceptance of partner violence. Women indicated that requesting support from their husbands during tough financial times exacerbated problems and escalated into violence, particularly when men were stressed about their financial situation. Additionally, older individuals mentioned the weakening of family ties, lamenting that contemporary times appeared to lack the care and support for the elderly that once existed within families.

Participants from a community in the Surjomukhi area that had experienced displacement due to erosion voiced their deep frustration regarding an ongoing conflict over land. Certain individuals have encroached upon and occupied portions of their land, leaving residents feeling powerless and marginalised. Despite multiple attempts to seek help from local authorities and the police, they have been met with

no assistance or resolution. This has led to a strong belief among the residents that the police tend to favour the affluent, prompting them to abandon the pursuit of legal action.

Participants in the discussions generally did not see a direct relationship between social tension, on the one hand, and issues of food insecurity and climate, on the other. Most participants firmly believe that a lack of food or hunger should not be a cause for conflict. In their view, recurrent periods of going hungry have left them physically weak and lacking the strength to engage in disputes. They acknowledge that tensions and conflicts can arise, particularly concerning land issues, but food crises or hunger are not typically seen as triggers for conflict. While participants did discuss the presence of political conflicts on the island, many residents feel unaffected as they do not engage in political activities, and physical security concerns remain relatively minimal. Nevertheless, tensions, particularly those related to land disputes, persist and often manifest as verbal disagreements, particularly among women, due to cramped living conditions. Neighbours often find it challenging to provide extended assistance to each other, limiting borrowing to very short-term arrangements, and failure to return borrowed items can lead to embarrassment. These tensions may result in occasional outbursts, but not in sustained violence.

While climate change and extreme weather events have significantly impacted various livelihoods on Hatiya Island, we have to recognise that climate is just one of several stress factors. Above, we have seen the downward spiral resulting from the intersection of climate extremes and reduced livelihood opportunities for both farmers and fishers. These challenges are compounded by a lack of alternative income opportunities, limited government assistance and the personal biases of civil servants. Furthermore, exploitative power dynamics between small-scale farmers and moneylenders, between artisanal fishers and Mahajan, as well as between fishers and coastguards, have contributed to mounting frustrations, social tensions and grievances. Currently, these frustrations and tensions are primarily expressed internally, often resulting in instances of violence against women, which is a grave concern. The compound effect of debt and dependence appears to be characteristic of what Van der Geest and Dietz (2004) have termed 'erosive coping' – the cumulation of restorative actions after disasters that negatively impact the household economy and gradually undermine livelihood sustainability. There is however still also the potential for this frustration to turn outwards into aggression toward people they see as competitors (or easy victims), towards the governmental authorities or into receptiveness to populist mobilisation by politicians and religious extremism, especially if institutions and public services remain weak.

Conclusion

The data presented has given a first-hand insight into how the residents in the remote, coastal study area, Hatiya Island, experience climate change, food insecurity and conflict potential. Unexpectedly, cyclones were not considered a major threat on Hatiya Island – rather, long-term issues such as erosion and saline intrusion, which are related to more long-term environmental change, were identified as more important threats to livelihoods. Moreover, it is evident from the focus group discussion data that participants' perspectives on climate events are significantly shaped by their geographical location on the island. This underscores the fact that not all extreme climate occurrences are universally concerning for every individual, emphasising the localised nature of climate impact perceptions.

Despite the impacts of climate change and extreme climate events on different livelihood options, however, perceived food security was found to have improved. Almost everyone agreed that they no longer skip meals regularly but there still are days when there is not enough food for everyone. People are beset by stress, frustration and grievances on a daily basis, intensified by increasingly (partly climate-induced) cramped living spaces and a lack of basic services such as schools and hospitals. Yet, apart from continued tussles between fishermen and coastguards, residents of Hatiya did not report any of this leading to violent conflict. This does not necessarily indicate that they are comfortable or happy with their situation, but rather that there is an equanimity in the knowledge that most neighbours are in the same precarious situation so that one cannot expect much help from them or the government and non-governmental organisations. Putting up with continued adverse living conditions (or leaving) may not be a sustainable condition, but for now, they continue their lives, ignoring all the climate and social injustice as their main coping strategy.

Above all, we find, the climate must not monopolise the spotlight in this interconnected web, as it conceals shortcomings in development and planning, as well as unwise policies and practices. Simultaneously, it provides a means for politicians to evade accountability for their inaction or misguided actions (Shewly et al., 2023). Conflict may not inevitably arise from extreme food and livelihood insecurity intensified by climate and other factors. We surmise that a group of individuals must first move beyond the quest for securing sustenance and livelihoods for their families, finding the capacity and motivation to collectively engage in conflict with a specific purpose. Therefore, gaining insights into potential climate–security–conflict dynamics from communities directly affected by climate change becomes invaluable. Their coping strategies and adaptive measures offer practical insights into resilience, which may differ significantly from an expert's perspective and might not be readily apparent.

This study discovered that, despite facing the challenges of climate-related, socio-economic and political factors that render them vulnerable and marginalised, the people of Hatiya Island have refrained from resorting to violence, either amongst

themselves or against the authorities. In their perspective, involvement in conflict necessitates financial stability (affordability) and political backing. Furthermore, the absence of conflict in this context does not equate to the presence of peace or cooperation. In the horizontal power dynamics among islanders, seeking assistance is perceived as futile, and similar sentiments prevail in vertical power relations when it comes to conflict. This study shows that there is little to suggest a high potential for violent conflict in a situation of extreme vulnerability to climate change impacts, yet there are important underlying issues related to poverty, exclusion and lack of access to basic services and support. As a result, climate change impacts are not perceived as an (immediate) threat: other issues seem to have more priority. This should not be taken to mean that climate change is irrelevant, though, as it has an impact on the bedrock of long-term poverty and distress.

This study may not have covered all the variety of stresses and frustrations. During the fieldwork, it took considerable time and effort to build trust and rapport before informants (especially women) were prepared to share their frustrations and problems. Our data suggest they do not expect much understanding and sympathy from the government, which has neglected their problems and offered little assistance to overcome their challenges. They are also used to not having access to basic services such as health care and education and being excluded from new services like electricity. As a result, we may have missed some of the severity and depth of their grievances or even missed certain issues, as this would require a longer engagement with these communities. As testified by the explosion of discontent and frustration in the Sahelian countries, these long-term sources of stress and frustration in a situation where people are living in a situation of vulnerability to climate stress cannot be taken too lightly. These sources of vulnerability, stress and poverty should be addressed to prevent future outbreaks of discontent. The people of Hatiya deserve our future attention.

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