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Who owns the land? Socio-cultural and economic drivers of unequal agrarian land ownership in climate-vulnerable coastal Bangladesh

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ABSTRACT

In agrarian society, land is a critical resource. Not only does access to arable land increase food security and household income, it also provides resources to cope with any environmental stresses. In most cases, in the low-income developing regions land distribution is very heterogeneous. Based on empirical research in coastal Bangladesh, this article explores patterns in land ownership among the local farmers, discussing how gender, ethnicity, religion, and status relate to farm size, playing a critical role in shaping the heterogeneous distribution of land ownership. Historical patterns of inequality and marginality influence land distribution patterns as the historical 'Zamindar system' in the region reinforced elite control. Colonial and post-colonial expansion into climate-vulnerable regions fuelled land expropriation. Cultural constructions of gender create challenges for females owning land. These legacies impact current land ownership patterns. Land distribution informs who is struggling with limited resources and who needs financial subsidies or other forms of support in times of crisis. Even though this paper has a regional focus, it provides critical insights and caution about overlooked assumptions of resource distribution, poverty, and development that can be applied to other parts of the Global South facing similar social, economic and postcolonial legacies.

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Introduction

Land is a critical resource in agrarian societies (Bernstein 2010; Latorre 2015). It is a determinant of social and economic well-being, social status, viability of livelihoods, and access to social and political powers (Agarwal 1994; Fuglestad and Palmer 2019). Land ownership indicates that the individual or a household has resources available, or productive assets, and can determine access to credits and other forms of agriculture support often critical in rural livelihoods (Balakrishnan 2005). Land ownership is not only valuable for material goods and production, it is also a core part of individual identity, giving owners social status and a place in local hierarchies (Rao 2005). It offers social power to negotiate other economic and non-economic resources including membership in local decision-making processes and

entry into regional social networks (FAO 2002). In the low-income developing countries, where the livelihoods of the majority of the population are dependent on farming, land provides more economic and social opportunities at the local level than at the national level (Castle 1995). Evidence also suggests that land ownership can substantially reduce poverty and destitution in agrarian contexts (Bird, Chabé-Ferret, and Simons 2022).

Conversely, people who do not control or own any lands have been considered rootless and are cut off from key forms of social status and power, their social existence denied (Morsalin and Islam 2021). Land is one of the major determinants of someone's level of exposure and vulnerability to climate change impacts, and it shapes the capacity to cope with and/or recover from any disaster impacts (IPCC 2022).

The concepts and realities of land ownership, particularly as they are practised today, are very culture bound and colonial. Modern ways of knowing land ownership are tied to the political ecology of creating legibility (Scott 2008). As discussed in this paper, many Indigenous societies had land tenure systems that were invisible or unintelligible to (outside) colonial authorities and subsequent independent post-colonial states. The focus of this paper is to understand the heterogeneous ownership pattern as defined by legal claim to some interests in a specific parcel of land by a specific person. This type of land ownership differs from the variety of communal (Moreda 2017), usufructuary (Prill-Brett 1994), mobile and transitory (Brosius 2004; Duwe and Preucel 2019) tenure practices as found among various Indigenous and ethnic minority populations. While the concept of 'ownership' may not fit in traditional Indigenous and pre-colonial systems and societies, a custodial relationship with the land is one of the factors that contributes to peoplehood (Holm, Pearson, and Chavis 2003). Policy decisions made on Indigenous lands reflect important ties and invoke both positive and negative emotions (Hak, Underhill-Sem, and Ngini 2022). In both Indigenous and long-established societies, ties to the land are of fundamental cultural importance and can be traced back for centuries (Munzer 2001).

In the wake of the coming climate crisis, land ties take on an unusual complexity. Changing patterns will almost certainly result in major impacts on farming practices and outputs, creating food security challenges on a regional and national scale. In regions like climate-vulnerable coastal Bangladesh, sea level rise, coastal erosion, and salinity intrusion actively degrade or make inhospitable formerly productive lands. Hazards like severe storms, tropical cyclones, and storm surge further strain limited resources. A recurrent theme in political ecology is how poor and ethnic minorities, already pushed to the margins of the state, find themselves occupying marginal lands. In these climate-vulnerable agrarian contexts, smallholder and subsistence farmers who are dependent on small parcels of land are more vulnerable to these environmental pressures than the people who control more land due to economies of scale and the patchiness of climate events.

Beyond owning the land itself, the idea of a homestead (owned or tenant occupied) is another important aspect in rural livelihoods. The homestead is often the centre of various household activities, including income generation from household crafts and small businesses, garden plots (producing and selling vegetables), domestic livestock, and fishing ponds (Masum, Alam, and Al-Mamun 2008). The aspects of land ownership and homestead are critical for countries like Bangladesh. It is an agrarian country. The well-being of millions of its residents, particularly those in rural regions, is dependent on land ownership and their homesteads. Bangladesh is a small but densely populated country in South Asia, which has a long history of being at risk of natural disaster. The livelihoods of the majority of people

are dependent on farming (World Bank 2019). The land is scarce (Jansen 1987), but for many it is a critical source of income and livelihood (Hasan et al. 2013). At just over 148,460 square kilometres, Bangladesh has 173 million residents, for a calculated density of over a thousand people per square kilometre (UNFPA 2023). In this highly dense situation, the average land ownership size among local farmers is much lower than the global average (BBS 2010). The average size of smallholder farms in the country is only 0.79 acres (0.32 hectares) (BBS 2010; Rapsomanikis 2015).

Even though agricultural decisions are gendered, and often shaped by patriarchal social systems, the land ownership patterns in rural Bangladesh are very heterogeneous, driven by differences in values shaped by religion, ethnicity, and gender construction as well as pragmatic differences based on income and type of farm (Ahmed 2019). Often these heterogeneous resource distribution patterns are rooted in historical, social, ethnic and gender disparities, which continue to manifest to this day and contribute to differential livelihood experiences in local contexts (Sachs 1996).

Constrained by the limited land area, climate change further complicates local resources and the heterogeneity of resource distribution patterns. Even though the entire country is being affected by various adverse climate impacts, coastal Bangladesh is at the forefront. People in the region are continuously being affected by sea level rise, storm surge, sea water intrusion, coastal flooding and erosion, and tropical cyclones (Momtaz and Shameem 2016; Roy, Hanlon, and Hulme 2016). Furthermore, the total storm surge inundation area is expected to increase by 4% in near the future (Blankespoor, Dasgupta, and Lange 2017). Because of all these climatic stresses, 30% of the country's cultivable land in coastal Bangladesh is always at risk of being or becoming low-productivity, and the amount of land itself is decreasing at an alarming rate (Dasgupta et al. 2014a, 2014b). Therefore, in the region the social and economic competition to own land has become very intense.

Political ecology of land ownership

The analyses in this paper are grounded in the theoretical framework of political ecology and its critical approach to colonial legacies, micropolitics, systemic marginalisation, and other societal dynamics that determine resource struggles, access and control (Rocheleau, Thomas-Slayter, and Wangari 1996). Centring on farm size as a proxy to index status and local histories, this paper uses qualitative insights backed by quantitative data to examine the intersection of religion, ethnicity and gender as they influence land ownership patterns and control over the land. Identarian and marginalising factors shape resource distribution in a resource-constrained agrarian context. The findings help to elucidate patterns in resource poverty in an agrarian society which is highly vulnerable to climate change: its margins are literally crumbling as sea level rise and severe storms wash traditional lands off the map. We illustrate systemic inequality via the proxy of land ownership along four factors: 'elites', ethnicity, religion and gender.

Lands and the elite

Distribution of land ownership is often influenced by the local political economy of resource distribution (Wunderlich 1993). Multiple socio-cultural divisions define landowners beyond

individual choice and action. These factors contribute to heterogeneous land ownership patterns. However, this heterogeneity can create challenges for effective local resource management and civic engagement (Hammer, Stewart, and Radeloff 2009). In many situations, a few social, economic, and political elites have gained control over the land by suppressing the Indigenous forms of production and consumption (Hagen and Minter 2020). This form of inequality in landownership patterns further marginalises smallholder farmers by reproducing the levels of social and economic inequality and instability as the elite amass increasing levels of control over a larger amount of land (Harvey 2003, 2007).

Further, in South Asia, remnants of colonial and feudal powers, the now illegal '*Zamindar* system', still influence power over the land. *Zamindar* literally translates from Persian as 'land owner'. In the *Zamindar* system, large landowners used to control the land, labour and capital in the region during the British colonial and pre-colonial periods. In most cases, *Zamindars*' lands were cultivated by poor peasants who did not own the land they worked (Barkat, Uz Zaman, and Raihan 2001). *Zamindars* or other hereditary landlords used to enjoy feudal powers. That feudal power was strengthened during the colonial era, as *Zamindars* received social and political protections by paying revenue to the British government. While the *Zamindar* system is now outlawed in Bangladesh, its legacy of land concentration lives on. Most lands in Bangladesh are controlled by a small number of social, political and economic elite families, many of whom live in cities, inheriting the benefits from the now defunct system.

Indigeneity and legibility of traditional tenure

In Bangladesh, more than 98% of the population are Bengalis. The next most common group identify as 'Biharis'. Biharis (not to be confused with residents of the neighbouring Bihar state in modern India) are Urdu-speaking Muslims who are mostly of Pakistani origin; many were stranded in Bangladesh after the country's liberation war with Pakistan in 1971. Less common minorities include Indigenous Peoples and other ethnic groups. While the Biharis are also Muslim and are racially similar in appearance to Bengalis, the Indigenous and ethnic minorities (e.g., Rakhine in coastal Bangladesh) have a very different racial appearance and speak unique languages. These differences result in greater social, economic and cultural discrimination.

In coastal Bangladesh, which is the regional focus of this paper, there are almost 20,000 local Rakhine ethnic minorities, and the majority of them are farmers (Miah 2018). Their predecessors came to coastal Bangladesh from the Arakan State in modern day Myanmar in 1783 AD. At that time, the region was covered with dense mangrove forests. They cleared the forest slowly and started farm-based livelihoods (Miah 2018), becoming the original settlers in the region. Their livelihoods are very much centred on their communities and Rakhine have limited contact with the outside world. However, the Rakhine traditional land ownership system is based on trust and family lineage, which is different from modern (colonial) methods of tracking land ownership. In the traditional system, there were no legal documents associated with land tenure claims. For centuries ethnic farmers had no issues with their land tenure, since their lives, cultures and livelihoods were very much determined by mutual trust and social cohesion.

However, in 1971 there was a major political shift in Bangladesh. It became an independent, sovereign nation after more than two centuries of colonial rule. The population started to grow rapidly. Hundreds of thousands of Bengalis started to spread across their

newly defined territory, including onto Indigenous lands. Bangladesh became one of the most densely populated countries in the world. The coastal region was no exception. Various available resources in the coastal areas, including abundant fishing opportunities, mangrove forests, and the relatively low population density compared to rest of the country, attracted more settlers. Over the years, Bengalis started to purchase lands from the Rakhine farmers. Since the Rakhines had limited knowledge of the new legal system and Bangla (as a language), they were mistreated and deceived in the process of land exchange. In addition, since ethnic Rakhine farmers did not have legal documents securing their land tenure, gradually they lost a large share of their lands to Bengali settlers. Even though legal land rights can protect traditional landowners from some land-grabbing attempts by outsiders (Goldman, Davis, and Little 2016), for ethnic Rakhines the process of getting a land title involved submitting to colonising pressures and a neoliberal concept of 'land ownership' that reshaped traditional relationships with their heritage territory. The structural adjustment of the sudden individualising neoliberal reform contributed to uncertainty and insecurity among various population groups, whose practices were largely traditional, community-oriented, and faith- and exchange-based. Unsurprisingly, evidence shows that contemporary land titling laws and the process of claiming usufructuary rights in Bangladesh favour the mainstream Bengali settlers (Feldman 2016).

Gendered unevenness of land ownership

Land ownership continues to be the most important form of property in rural South Asia, since, as noted above, it is a critical determinant of social status, political power, economic well-being, and food security. In the agrarian context of South Asia, land ownership itself is a very patriarchal concept. Even though the situation is changing, at present few women own lands, and even fewer can exercise effective control over their family's parcels and decisions regarding its productive use (Agarwal 1994). It is very common that decisions regarding land use are made by the male members of the respective households, even when they are absent. Local beliefs and culture also influence who can be the landowner. Several Pacific Island countries, for example, share the belief that agriculture is labour-intensive men's work, and that women are provided for by the family support systems. In some societies, if a female owns land, her family will lose those lands after she gets married because the property will become part of her husband's family's lands (Mehra 1995).

Gendered identity often plays a major role in shaping unequal land ownership. Female-headed farming households or female members of a household tend to face reduced access to lands and limited ownership, largely due to gendered social, culture, legal, religious, and economic determinants. While some traditional cultures are matriarchal, in South Asia the law of property inheritance favours male heirs, disproportionately affecting the female members of the society (Bari 2000). In Bangladesh, land rights are based on religious beliefs and customs. According to the Muslim law, a Muslim woman usually gets half of what a man can get from their deceased parents. On the other hand, the Hindu law in general does not have any provision for women to inherit any property or lands after their marriage. This causes women's position in their family and society to be peripheral and vulnerable (Jinnah 2013). This means women start out with fewer land entitlements in general because daughters inherit less than sons (if daughters inherit any land at all).

As a result, landlessness is higher among females. Approximately 16% of female-led households are landless and marginal in Bangladesh and in Nepal. Lack of land ownership among women is often a barrier to accessing other resources, including traditional forms of credit, which are important for agriculture, irrigation, and farm-related re-investment (Mehra 1995). This unequal access to lands (and credit) partially explains why poverty is higher among females in agrarian societies. This pattern of local culture and norms being a barrier to gender equality is often known to local actors, though most solutions focus on formal policy rather than addressing local barriers even though a regional focus may offer better solutions (Acosta et al. 2021).

Study region: Kalapara in climate-vulnerable coastal Bangladesh

Coastal Bangladesh is one of the most climate-vulnerable regions in the world, facing ongoing weather- and climate-related stresses, as outlined above (salinity intrusion, coastal flooding, and severe storms). Local farmers consistently face various risks and vulnerabilities, deepening poverty, and other humanitarian and developmental challenges. The entire coastal region of Bangladesh is approximately 47,201 square kilometres, or approximately 32% of the country’s total landmass (Hossain and Hossain 2008). People in the region are relatively poor (Kingbury 2020; Roy, Hanlon, and Hulme 2016). Though farming is the major livelihood option in rural Bangladesh, 50% of rural households are functionally landless (owning <0.49 acres or 0.2 hectares) (Ahmed 2019; Hossain, Sen, and Rahman 2000).

In Kalapara, landlessness and illiteracy rates are higher than the national average. While local communities engage in diverse livelihoods such as farming, fishing and forest-dependent activities, smallholder farming is the most common form of livelihood (Hoque 2014).

The geographical focus of this study is Kalapara Upazila (a local administrative unit or sub-district) in the Patuakhali district, which is on Bangladesh’s central coast. Because of Kalapara’s exposure to various natural hazards, farmers there constantly experience crop loss and reduced farm production (Ahmed and Eklund 2021; Wheeler 2011). Because of increased salinity intrusion, there could be a decline of 15.6% in the total output of high-yielding variety (HYV) rice in coastal Bangladesh by 2050 (Dasgupta et al. 2014b) (Table 1).

As in other climate-vulnerable regions, people’s exposure and capacity to natural hazards are determined by social, economic, cultural and other determinants (Cutter, Boruff, and Shirley 2003). In Kalapara, the majority of the local farmers are ethnically Bengali and Muslim.

Table 1. Basic information on Kalapara.

Population	237,831
Area	ca. 492 km ² (density: 484 ind./km ²)
Diversity	Hindu, Muslim, ethnic minority and female-headed households
Livelihoods	Farming, fishing, livestock, forest dependency
Exposure to climate risks	Tropical cyclones, sea level rise, rainfall variability, salinity intrusion
Climate impacts	Salinity in croplands, decrease in agriculture production, scarcity of water for human consumption, etc.

In most cases, farmers from minority backgrounds have relatively limited access to opportunities and decision-making power comparing to the mainstream Bengali-speaking Muslim farmers. Vulnerability to adverse climate impacts in Kalapara is therefore shaped by socio-economic, cultural (eg ethnicity, religion, gender), and biophysical (eg geographical location) determinants.

Methods

Structured empirical research was conducted between September 2017 and January 2018, though this paper draws insights based on over five years of semi-structured research in the region, as the lead author has been engaged in applied climate adaptation- and rural livelihood-related research in the region since January 2015. Human subject research was approved as exempt through the University of Arizona's Institutional review board process (Protocol Number: 1708773764). Participants were informed about the nature of the research and the potential risks. As a low-risk project, and because consent forms are not common in Bangladesh, consent was collected orally before any data was gathered.

In the five months of focused research, critical insights on the heterogeneous land ownership patterns in the region were collected. During this period, 250 farmers were interviewed. Some of the farmers were the head of their household; others were the main person making farm-related decisions. In this research phase, the unit of analysis was the household level, the locus of resource ownership and the primary unit of production in agriculture (Sachs 1996). Respondent farmers were selected based on their: (a) dependency on farming as the major (primary) livelihood option; (b) exposure to rainfall variability, sea level rise, salinity intrusion, tropical cyclones, and coastal flooding; and (c) potential or actual experience of adverse impacts of weather and climatic stresses on their farm production outcomes. Both quantitative and qualitative types of information were collected to understand the complex social fabric and the determinants of land ownership in the region.

Interviewed farmers were spread across Kalapara. In total, 28 villages (locally known as *Moujas*) were included in the study. Muslim farmers, who belong to the majority in the region, live throughout the area. Practicing Hindus and ethnic minority farmers tended to cluster in specific communities or villages because of communal ties. The selection of farmers to interview followed a purposive sampling technique in the region, with the intention of capturing variations among respondents based on their farm size (which was used as a proxy to indicate differences in income) (large vs smallholder), gender (male vs female), ethnicity (Bengali vs Rakhine), and religion (Muslim vs Hindu vs Buddhist).

This study adopted the farm size classification suggested by Hossain, Bayes, and Islam (2017) and Quasem (2011), and then re-classified those categories of functionally landless, marginal, and smallholder farmers to collectively represent, for the purposes of this study, 'smallholder farmers'. In Kalapara, smallholder farmers are defined as owning or renting 0 to 2.49 acres of land. In this study we defined large farmholders as those who own or rent 2.50 acres or more.

Field notes captured local socio-cultural dynamics, which influenced local ownership patterns. Regular participant observation and random conversations were integral parts of this study, used to gain deeper insights into local farm livelihoods and associated development challenges.

Results

Land holding patterns and pressures, technology and crops

The social and economic characteristics of local farmers in Kalapara are complex, but the majority are smallholder farmers. The land distribution among the interviewed farmers is detailed in Table 2. It shows that only one-fourth of the farmers interviewed owned more than 2.5 acres. Overall, this is a strong proxy for a lack of wealth (economic marginality) in the area.

In coastal Bangladesh, people mostly inherit lands from their ancestors, but some purchase farmlands as necessary within their financial capability. There is also growing pressure on available farmlands due to major infrastructural developments projects in coastal regions, including a deep-sea port and an electrical power plant, which also increased the price of farm land. These projects and rising land values have forced some smallholder farmers out. In addition to farming, smallholder farmers in Kalapara also engaged in other forms of labour and market-based activities to support and maintain their subsistence livelihoods.

Often these smallholder farmers are characterised 'by low-levels of technology, reliance on family labor, and a subsistence orientation' (Bernstein 2010, 4), and they are 'incapable of providing enough works or income to be the main livelihood of the household' (Hazell et al. 2007, 1). Farming accounts for 52.4% of annual household income among the interviewed farmers. Almost all the interviewed farmers have experienced some of environmental stresses in the region, which have impacted their farm practice, agriculture outputs, and overall livelihoods.

Local farmers mostly produce rice, vegetables and lentils. In recent years, the majority of farmers have changed from mono-crop rice farming to a more diverse set of vegetables and HYV rice cultivation. This transition largely happened due to the innovation of water-resistant, saline-tolerant crop varieties. These changes in farm practice and farm outputs have substantially improved local income and contributed to reducing local poverty and improving food security.

Who owns the land?

Despite the overall trend towards small holdings and limited economic resources, there are some major variations of land ownership patterns in Kalapara. Findings suggest that religion, ethnicity and gender influence the overall land ownership patterns and farm size in the study area, with members of the dominant/mainstream society (Bengali, Muslim men) trending to the larger land holdings (Figure 1). While the systematic data collection separated Buddhist, Hindu and Muslim religions, all interviewed Rakhine ethnic minorities were Buddhist, and no Buddhists who were not Rakhine were interviewed, so the categories were combined into a single ethnoreligious minority group, and Rakhine and Buddhism will not be discussed separately.

Table 2. Land distribution.

Categories of farmers	Land size (acres)	% of farmers
Smallholder farmers	<2.5	75.6
Large farmers	>2.5	24.4

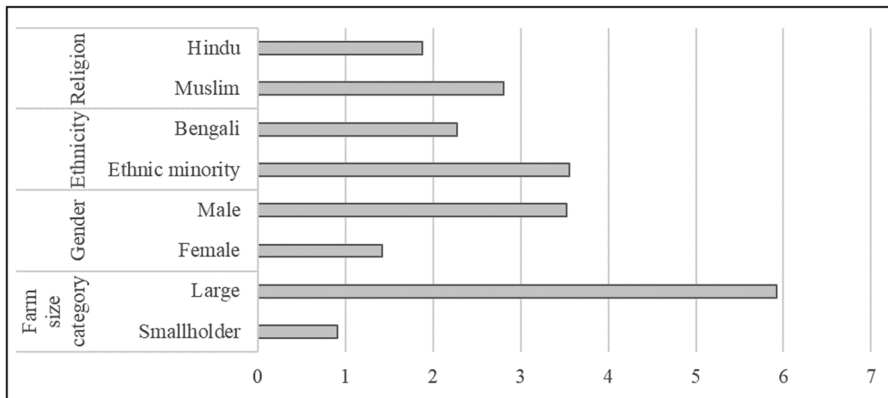


Figure 1. Average farm size among the local farmers ($n=250$) sorted by category (religion, ethnicity, gender and whether they are smallholders or own a larger farm) in Kalapara (in acres).

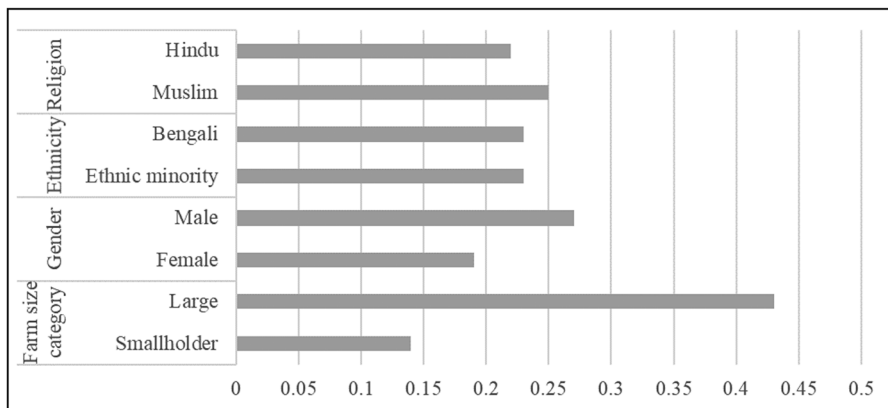


Figure 2. Average homestead size among the local farmers in acres.

Large farmholders in Kalapara own 6.5 times more land on average than the smallholder farmers. In the region, male farmers own 2.5 times more land than female farmers. Muslim farmers own 1.5 times more lands than local Hindu farmers. This means that the empirical data shows that Muslim men tend to hold more land, a pattern consistent with expectations about members of the dominant society being closer to the 'centre' of the state, even at the margins.

This pattern of land ownership variation is also reflected at the individual homestead level, defined as a farmer's home and the small area surrounding it (Figure 2). Just like farmland size, homestead sizes vary depending on individual socio-economic and cultural circumstances.

However, the patterns become more complicated at the homestead level. The average size of the homestead is three times larger among the larger farmholders than among smallholder farmers. Female farmers have smaller homesteads than male farmers, who, on

average, control a space which is at least 1.4 times larger, reflecting gendered inequalities. Yet, there is no variation of homestead size between ethnic minority and Bengali farmers. Similarly, Muslim majority and Hindu minority farmers have homesteads of approximately the same size (Muslim farmers' homesteads are slightly larger, at 1.1 times the size, on average).

Overall, this indicates that the majority religious group controls more land than religious (specifically Hindu) minorities, and that women are the most marginal group. This is consistent with patterns noted by many political ecology studies in which the dominant group has greater access to resources. Likewise, in cultures where men have privileges women do not, women tend to be marginalised. In this case study, Muslim women face patterns of duty and gendered roles different from the experiences of Hindu women, shaping their ability to manage or control farm and homestead operations. There are also cultural practices of inheritance where sons tend to inherit while daughters inherit less, if at all, restricting the amount of land a woman may have rights to. This means the marginalisation experienced by women differs by religion. These patterns of marginalisation are shown in both overall land holdings and homestead size.

However, there are critical facets of the history of place and legacy of colonialism in this case study. Specifically, the data also show that the ethno-religious minority Rakhine farmers own 1.6 times more lands than ethno-religious majority (Bengali Muslim) farmers. A superficial gloss suggests a reversal, where Rakhine have more control over the land. This apparent reversal, though, actually hides a different, much deeper and historic process of marginalisation as Rakhine are actively losing their historic lands. Further, more research is needed, but ethno-religious minority Rakhine women also have a different relationship to farm duties than mainstream Bengali Muslim women. This means that, like Hindu women, Rakhine women face systemic marginalisation, but their on-the-ground experiences and relationship with means of production, relationship with the land, access to information, and ability to complete farm labour, vary.

Discussion

Reasons behind the heterogeneous land ownership and homestead size

While it is easy to paint the social structure of rural Bangladesh as a heterogeneous ethno-state, as noted here, on-the-ground patterns are exceedingly complex. It is heavily shaped by local religion, ethnicity, gender, and farm size (which reflects income differences), as first noted by Gankovsky (1974) and illustrated through the distribution of land as discussed above. Agrarian society in Bangladesh tends to be patriarchal and class-based (Cain, Khanam, and Nahar 1979; Rahman 1986). In this context, typically a class, in a given agrarian context, can only be realised through its mutual relationship with another class (Bernstein 2010).

Elites and colonial powers shaping farm size (legacies)

In rural Bangladesh to this day, local people are often divided into power elites and the marginalised, defined as large landholding owners vs landless farmers, or rich money lenders vs poor peasants, and so forth. This stratification is grounded in the historical *Zamindar* system, a feudal system in which local elites benefitted from protection by participating in the larger British colonial state.

By definition, large holder farmers control more farmlands and have larger homesteads than smallholder farmers. Usually, the large holder farmers belong to a different economic class than smallholders, because the hierarchy of economic classes is tied to the patterns of land tenure and inheritance in the local agricultural system (Rao 1964). Not only do these large holder farmers have greater social, economic and political power, they often exercise that power to influence local society and decision-making processes. In most cases, their voices are heard in local government discussions and other community affairs. In contrast, smallholder farmers are not only economically marginalised, but also have less access to decision-making bodies. Therefore, smallholder farmers are often the victims of decisions, norms or laws that favour large farmholders.

In Kalapara, farm size does not follow a continuous curve (e.g., many small farms and increasingly fewer large farms). Rather, there is a categorical difference in farm size between large and smallholder farmers. The average farm size among large holder farmers is 5.92 acres, which contrasts with the average of 0.91 acres among the smallholder farmers. This variation indicates the scale of income and social inequality among local farmers in Kalapara. The split is tied to these colonial legacies, and due to both history and the pragmatics of the power land ownership (and wealth in general) brings. In this study, the distribution of large farmers was as follows (see Table 3).

Large farmholders have greater social, economic and political power, in Kalapara. They also have a greater influence on society and are more active in the community, while smallholder farmers have less access to decision-making bodies. Nonlocal factors fit in too, as national laws and policies still favour farmers who own more land.

Religion

Field insights also suggest differences in that religious affiliations are also connected to unequal ownerships in Kalapara. Bangladesh is predominantly a Muslim country. Less than 10% of the total population are Hindus (CIA 2019). In Kalapara, the majority of Hindus are low income and smallholder farmers. Since Muslims are the local majority, their social, cultural and political dominance has shaped local formal and informal institutions and power structures. Therefore, the average size of farmlands and homesteads among Muslim households is larger than among local Hindu households. So, the social, economic and political power directly influences resource ownership patterns.

Land ownership patterns among the Hindus are largely influenced by the traditional caste system that governs social stratification and has shaped the unequal power structure in the region (Rao 1964; Tiwari 2010). The caste system invoked the concepts of landlord and landless peasantry and unequal power relations in rural agrarian societies across the entire South Asia subcontinent. The upper-class Brahmin caste traditionally controlled the majority of communal resources, such as local farmlands, while low-caste Hindus usually

Table 3. Distribution of large farmholders (%).

Religion	Male	Female
Buddhist/Rakhine	6	0
Hindu	14	26
Muslim	44	12

worked as labourers in agricultural fields. If they owned some lands, they were either functionally landless or controlled marginal parcels of land. As a religious minority in Bangladesh, Hindu farmers today have extremely restricted amounts of social, economic, and political capital. Due to the study size and limited number of Hindu participants, this project did not detail differences between castes, categorising 'Hindu' as a single group. However, field insights not reflected in the systematic data show that descendants of upper caste Hindus in Kalapara today clearly own larger shares of lands than do descendants from lower caste Hindus.

Ethnicity

The starkest difference, and perhaps the most important illustration from Kalapara, shows that caution should always be used with proxies for wealth and power. The ethnic minority Rakhine people tend to have larger holdings – a pattern due to loss showing encroachment and land grabbing, rather than elite legacies proxied by 'large holdings' as discussed above.

In pre-colonial and colonial Bengal, Rakhine were the original stewards of lands in the present-day Kalapara. But the implementation of colonial, specifically neoliberal, constructions of ownership and legal concepts of title made it hard for Rakhine to hold onto traditional lands. This favourable legal framework led to many Bengalis grabbing and claiming land managed by Rakhine farmers. The historical legacy of being the original owners shows in the pattern observed here – to this day, some Rakhine farmers still own large amounts of land. The average farm size is higher among Rakhine farmers (3.56 acres) than the mainstream Bengali farmers (2.27 acres).

However, the simple quantitative assumption that it means Rakhine hold more wealth or power is a misconception. The distribution is skewed due to a misunderstanding of tenure which resulted in a small portion of Rakhine farmers owning a large share of the lands, while the majority of them are smallholder farmers. Because of the social, cultural, political and economic pressure, many Rakhines are now in the process of shifting towards non-farm activities.

Gender

Since rural Bangladesh is predominantly patriarchal, gender divisions shape unequal access to power and resources in the society. In the traditional agrarian culture in general, men are responsible for farming and supporting the family financially. In contrast, women are responsible for household chores and taking care of families. In Kalapara, this gendered division of labour, socioeconomic status, state land policies, and Muslim inheritance laws shapes women's access to lands and land ownership (Balakrishnan 2005; Jinnah 2013; Sachs 1996). Ultimately, this unequal access to lands results in lower farm production, increased food insecurity, and income poverty among female farmers.

Feminist theorists have highlighted that society's relationship with land is gendered (Nyantakyi-Frimpong and Kerr 2017). The extent of female ownership of lands is inversely correlated with poverty, hunger and domestic violence against women in local society (Agarwal 1994; Panda and Agarwal 2005). This study finding in Kalapara is consistent with expectations.

This element of poverty and lack of resources becomes most stark at the homestead level. All these activities centred on the homestead provide nutrition to the family. They can also be a source of additional household income. It is at the homestead where gendered differences are most visible. Regardless of ethnicity or religion, male farmers consistently have larger homesteads than female farmers. This means female farmers suffer from a lack of access to these critical resources.

Who controls the land? Changing gendered decision-making (even without ownership)

Gender relations of land ownership in Kalapara are changing rapidly. Several factors, such as environmental stresses, individual economic contexts, religious considerations, and ethnic and cultural determination are playing major roles in this ongoing process. Due to the impending nature of environmental stresses in Kalapara – as sea level rises, coastal areas erode away and salinity intrudes upon once-fertile lands – people are losing overall land productivity or the land itself. This creates pressure to temporarily or permanently migrate away from the entire coastal region. In most cases, male members of the households leave first, leaving female members of their household behind. This means female farmers are increasingly in charge of farming or farm-related decision-making. Also, if a specific household is extremely poor and cannot afford agricultural machines or to hire farmworkers, women must do the job. This kind of work is viewed unfavourably. In remote rural villages in Kalapara, a large share of people believe that the women should stay at home. This belief is more prevalent among Muslim families because of their religious and cultural values. But it is not the case among Hindu families. Therefore, generally female members from Hindu families are more active in farming activities than those in Muslim families. Among the ethnic minorities, female members of the household are also more active in homestead farming and males are more active in household or non-farm work. Despite these ethno-religious differences, in Kalapara, male members of any household still are the dominant farm workforce. But these patterns are changing rapidly as more females are forced to make decisions and have to take on traditionally male-dominated farm work.

Future of land ownerships

Land is a means for distributing and exercising power.

(Wunderlich 1976, 8)

Since coastal Bangladesh is heavily exposed to adverse climate change impacts, resource ownership is critical to the local capacity to cope with any environmental stresses. Ownership of lands often determines the extent of social interactions and shapes the lives of local farmers (Jansen 1987). However, lands in coastal Bangladesh will continue to experience increasing pressure from salinity intrusion, sea level rise, rainfall variability, and increased intensity of tropical cyclones. Recent growth in the shrimp industry in the region might cause a major change in rural landscapes, in addition to increasing tension in rural society between different economic sectors (Islam 2009). Regional environmental and social stresses will negatively affect the amount and quality of available arable lands.

In many cases, large farmholders with more holdings will be more likely to sell their unproductive lands to smallholder farmers and will migrate farther inland because they are insulated from risk and temporary loss during migration (Ahmed and Eklund 2021; Petrova 2021). The smallholder farmers, who are already at the margins, will experience further socio-economic marginalisation as their farms become less productive even as they face heavy exposures to various weather and climatic stresses (including potential disasters) in the coastal region.

In addition, population growth and increasing development and investment in the region can further marginalise the smallholder farmers. Kalapara is now the home of nation's third largest seaport, along with a few other major infrastructure projects including the Payra Power Plant, which is a 1320-megawatt coal-fired power station, and a Bangladesh Navy Regional Base. At the same time, local farmers shared that they felt all of these developments and ongoing investments are necessary, but that the projects increased the local land prices and increased other livelihood expenses. Even though farmers received land compensation, they lost their prime farmlands to the government for those infrastructure developments. Some farmers, mostly large landholders, profited by selling their lands to either investors or the government. But that was not the case for most of the smallholders, who faced further marginalisation. Both large and small farmers found the large-scale investments for infrastructure development further forced the process of shifting from farm to non-farm activities.

Ethnicity can also play a decisive role in shaping future land ownership patterns in the region. Historically, Rakhine ethnic farmers own more farmland compared to Bengali farmers, a pattern that persists in the region. However, because of population pressure, growing education, and out-migration of Rakhines from the coastal regions, in the near future there could be a gradual decline in the average farm size among the Rakhine, which may contribute to further marginalisation.

In addition to existing social, cultural and economic marginalisation, field insights also suggest that ethnic farmers in coastal Bangladesh are living with a growing 'sense of fear', which is primarily driven by the Rohingya crisis in neighbouring Myanmar. Since Rakhine farmers in Bangladesh are ethnically of Indo-Chinese descent and settled in coastal Bangladesh from what is now Myanmar in the late eighteenth century, many of the local Rakhine ethnic farmers reported that they are considering migrating to Myanmar because of the growing hatred and marginalisation they experience in this Bengali-dominated society. During the field research, the lead author also observed that Bengali land brokers were trying to convince the ethnic farmers to sell their lands for lower than market price by creating fear of uncertain Bengali–Rakhine relationships. An (anonymous) ethnic farmer in Kalapara mentioned during conversation: 'It is better to sell our lands, because if some local [social, economic, or political] elites want to have our lands, then we have to sell [for] whatever the price they want to give us'.

Therefore, it will not be surprising if, in near future, many of the lands which are now owned by ethnic farmers are transferred to the local Bengali majority. In addition, because of climatic stresses, the total number of ethnic farmers might decrease due to either their shifting from farm to non-farm activities or ethnic farmers out-migrating to inland areas or other destinations.

Changing patterns of land ownership in the region are also shaped by religious ties, even though during the research we did not see any indication of change in land ownership patterns based on religious differences. However, since Hindus are a religious minority in

Bangladesh, they face social, cultural and religious suppression in the country. Hindu farmers are also sometimes forced to sell their lands to local Muslims and tend to migrate to their Hindu-dominated neighbour, India. Recent politics in India (which include strong pro-Hindu policies) are contributing to the growing tensions among Hindus and Muslims in Bangladesh, making India an appealing destination for the marginalised Hindus of Bangladesh. This study shows that the average land size among Hindus is already smaller than among Muslim farmers. The trend might grow as more affluent farmers out-migrate, leaving the most marginalised behind.

Conclusion

Several years back, Agarwal (1994, 2) mentioned in her work on land ownership in rural South Asia that 'Land defines social status and political power in the village, and it structures relationships both within and outside the household'. This is equally true for the farmers in coastal Bangladesh, whose livelihoods not only depend on their land ownership, but also define their capacity to cope with any forms of natural hazards in the region as well as their social and political positions in their communities. In every aspect, land plays a vital role. Even though land ownership data seem to show prosperity among the ethnic Rakhine farmers who empirically control more farmland comparatively (at the household level) than the ethnic majority Bengalis, this paper provides an important historical and socio-cultural background to understand the reality of the increasing marginalisation of the early settlers. In contrast, females, regardless of ethnic or religious background, tend to own the least amount of land (farmland or homestead areas), even as demographic shifts are placing more women in charge of farm activities.

Land ownership patterns provide critical insights on the socioeconomic and cultural fabric of a society by revealing existing social, economic, cultural and political disparities. These findings from coastal Bangladesh provide critical insights into the patterns of who controls local power and why, who is marginalised and what the reasons are behind their marginalisation, and how that articulates with emerging government programmes climate vulnerabilities. These are increasingly important questions for promoting adaptation and resilience among the most vulnerable people in the Global South. Locally relevant, culturally specific, tailored interventions are critical, since in resource-constrained societies people are struggling with landlessness, food insecurity, societal inequality, and adverse climate impacts. This paper unpacks that complexity by illustrating the reasons behind the unequal land-ownership in coastal Bangladesh.

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