

Empowering the powerless

Investigating the sustainability of climate change adaptation through the lens of empowerment in Char Shakhahati, Bangladesh

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Abstract: 300 words

Climate Change impacts are a major concern for Bangladesh. The country is expected to face an increase of 11% in precipitation, drier winter periods causing droughts, extremely high temperatures, sea level rise changing the dynamics of discharge of water from rivers, etc. intensifying poverty. At the forefront of these impacts are char islands highly exposed to the socio-ecological impacts from CC and river erosion. As such the country has employed various forms of planned and spontaneous forms of adaptation with the help of national government and civil society organizations.

This thesis investigates collective agency and empowerment of local communities in Char Shakhahati in adapting to extreme events in relation to the impacts of Climate Change. It explores the empowerment of locals in Char Shakhahati using a causal framework in a state society context which subsequently is utilized to investigate agency and opportunity structure at the local level to understand whether a true collaborative engagement is in place.

The findings show that adaptation in Char Shakhahati is an individual endeavour; communities are fragmented and socially lack the self-organization necessary to initiate collective action. Char inhabitants are constrained due to lack of opportunities and the local government lacks the autonomy and has budgetary restraints. Communities do not have the agency nor the opportunity structure to exercise self-empowerment. Second, the policy documents do not address the specific vulnerabilities of char communities marginalizing them even further. Marginal participation in decision-making processes in NGO led projects leads communities to be beneficiaries of knowledge production rather than producers maintaining their marginalization. Finally, only by creating the space for communities to initiate adaptation planning, implementing them by collaborating with civil society can char communities attain a sustainable solution and be able to empower themselves to address them in the future

Keywords: Empowerment, collective agency, Climate Change Adaptation, mainstreaming adaptation, Chars, Bangladesh

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Table of Contents

1 Introduction	3
1.1 Formation of Chars of Bangladesh	3
1.2 Current Adaptation strategies in Bangladesh	4
1.3 The focus of this research	5
1.4 Research Questions	6
1.5 Contribution to Sustainability Science.....	6
1.6 Thesis Outline	7
2 Char Islands of Bangladesh	8
2.1 The complex socio-ecological vulnerabilities of char islands	8
2.2 The administrative structure in Bangladesh	10
2.3 The district of Kurigram	11
3 Theoretical Framework	12
3.1 The Capability approach	12
3.2 Empowerment	13
3.2.1 <i>Dynamics of collective agency</i>	14
3.2.2 <i>The opportunity structure</i>	15
4 Methodology	17
4.1 Research Design and data collection methods.....	17
4.1.1 <i>Literature review</i>	17
4.1.2 <i>Focus group discussion</i>	18

4.1.3 Key informant interviews	18
4.1.4 Direct observation.....	19
4.1.5 Personal reflection, limitations of data collection methods and ethical consideration.....	20
4.2 Data Analysis.....	23
5 Results and analysis	24
5.1 Adaptation strategies in Char Shakahati	24
5.2 Collective agency in addressing extreme events.....	27
5.2.1 Lack of economic and social capital	27
5.2.2 Aspirations in the age of CC.....	28
5.2.3 Organizational capacity	29
5.3 Opportunity structure	31
5.3.1 Openness of institutions	31
5.3.2 National Adaptation policy and the States' implementation capacity	32
6 Discussion	39
7 Conclusion	42
8 References	43
9 Appendices	48

List of figures and tables

Figure 1: Map of Bangladesh with the Map of Kurigram.....	7
Figure 2: The timetable for river water, monsoon rain and crop cycle in the Brahmaputra River.....	8
Table 1: The Administrative structure in Bangladesh	9
Figure 3: Map of Chilmari Union.....	10
Figure 4: A causal framework for empowerment in state-society context.....	13
Table 2: National policy documents and the time period they are being implemented.....	21

List of Abbreviations

BCCSAP	Bangladesh Climate Change Strategy and Action Plan
CBA	Community Based Adaptation
CC	Climate Change
CCA	Climate Change Adaptation
DRM	Disaster Risk Management
DoE	Department of Environment
MoDRM	Ministry of Disaster Risk Management
DRR	Disaster Risk Reduction
FGD	Focus Group Discussion
GBM	Ganges Brahmaputra Meghna
ICCCAD	International Centre for Climate Change and Development
KI	Key Informant
KII	Key Informant Interview
LG	Local Government

NGO	Non-Governmental Organization
NSDS	National Sustainable Development Strategy
7th FYP	Seventh Five Year Plan
8th FYP	Eight Five Year Plan

1 Introduction

Climate Change (CC) impacts are a major concern for Bangladesh. The low-lying deltaic floodplains of Bangladesh have made it extremely vulnerable to extreme weather events. According to Kundzewicz et al. (2014),” Bangladesh is the country with the highest number of people exposed to floods both in absolute and relative terms.”In addition to that, the country is expected to face an increase of 11% in precipitation, drier winter periods causing droughts, extremely high temperatures, sea level rise changing the dynamics of discharge of water from rivers, etc. intensifying poverty (Christensen et al., 2007). According to the fifth IPCC report (2014), Bangladesh is expected to experience increased poverty rates of approximately 15% by 2030, impacting development investments and challenging the capacity of the marginalized to adapt and eradicate poverty (J. M. Ayers, Huq, Faisal, & Hussain, 2014). The impacts vary both spatially and over time meaning not all communities are equally vulnerable (J. M. Ayers et al., 2014). Communities living in the char islands are highly vulnerable ones, exposed to the ecological impacts of CC and river erosion (Lein, 2009).

1.1 Formation of Char islands in Bangladesh

The Ganges Brahmaputra Meghna (GBM) river basin discharges more than a billion ton of sediment in more than 230 rivers and tributaries of Bangladesh (Baki & Gan, 2012; Dewan et al., 2017). The sediment deposited exceeds the sediment carrying capacity of the flow resulting in an aggraded river bed¹ forming riverine islands, locally known as “chars”, “char islands” or “sand bars” (Figure 1)(Baki & Gan, 2012; Shafi Noor Islam, 2016; Monirul Alam, Alam, Mushtaq, & Clarke, 2017). The sediment deposited separates the flow of the river into several channels, as well as widens the river through river bank erosion (Baki & Gan, 2012; Dewan et al., 2017; S. N. Islam, Singh, Shaheed, & Wei, 2010). The sediment deposited over several years leads to the buildup of chars forming larger and semi-permanent char islands (Baki & Gan, 2012). According to Monirul Alam et al. (2017), 20 of the 64 districts of Bangladesh face river bank erosion with loss of 87,000 hectares of land, displacing around 200,000 people annually severely impacting their lives and livelihoods. With access to land being limited in the mainland, many of the displaced are left homeless and so settle in the newly formed char islands within the rivers (Shafi Noor Islam, 2016; Monirul Alam et al., 2017; Paul & Islam, 2015).

Chars formed are either attached to the mainland or islands and due to the braided nature of the river, the islands formed continue to suffer from erosion (Baki & Gan, 2012). Continuous river

¹ The average flow discharge of each river ranges between 14000 to 100,000 m³/s (Sarker, Huque, Alam, & Koudstaal, 2003)

erosion in chars forces people to move several times within their lifetimes with all their belongings either within the same char or from one char to another and look for new land on which to farm and build their lives all over again (Lein, 2009).

CC has intensified extreme weather events in char islands causing more frequent floods, heavy storms, seasonal drought and heavier precipitation cycles, exposing more than six million poor inhabitants of chars to heightened levels of poverty leaving them more vulnerable than before and marginalized from basic services (Baki & Gan, 2012; M. R. Islam, 2018; Monirul Alam et al., 2017). Additionally, due to the continuous shifting nature of char islands, there is repeated loss of agricultural land, loss in agricultural production and infrastructure (M. Rezaul Islam & Delwar, 2014; Monirul Alam et al., 2017; Paul & Islam, 2015). This represents a complex sustainability problem for any adaptation strategies adopted requiring creative sustainable adaptation strategies to address the specific vulnerabilities of chars.

1.2 Current Adaptation Strategies in Bangladesh

The fifth IPCC (2014) report has defined adaptation as “the process of adjustment to minimize and circumnavigate current and future harmful effects of CC on the socio-ecological system.” Bangladesh has been engaged in various forms of adaptation to adjust to the new reality (Rahman & Hickey, 2019). The Government of Bangladesh (GoB), developed the Bangladesh Climate Change Strategy Action Plan (BCCSAP) (Huq & Khan, 2017). The objective was to mainstream adaptation into regional development policies of the country in the future (Huq & Khan, 2017). Mainstreaming adaptation, also known as “adaptation as development”(J. M. Ayers et al., 2014) is development with cooperation of all relevant social actors involved in designing and organizing development policies which are then evaluated from the frame of reference of Climate Change Adaptation (CCA) and mitigation (J. M. Ayers et al., 2014; Eriksen et al., 2011).

Adaptation in Bangladesh is addressed in three major ways. First, through large scale infrastructure intervention such as embankments, polders etc also known as “hard” adaptation; Second, through the adoption of technology-based actions such as flood and /or salt-tolerant rice variety, diversification of livelihood options and third, by building the institutional capacity of government to address adaptation across the country (Rahman & Hickey, 2019). Also known as anticipatory adaptation, they are planned in advance of the risks of impacts and implemented to avoid exacerbating the effects of extreme events. However, the nature of anticipatory adaptation means that it overlooks local communities’ role in deciding how CCA should be carried out, leaving them

without agency in responding to impacts and thus more vulnerable (Rahman & Hickey, 2019). To overcome this lack of large scale planned or anticipated adaptation, many communities have adopted more spontaneous or autonomous forms of adaptation widely known as Community Based Adaptation (CBA) in the country. CBA has predominantly been carried out by individuals and civil society organizations in the country (J. Ayers & Forsyth, 2009; Forsyth & Evans, 2013; Rahman & Hickey, 2019). Autonomous adaptation takes into account individuals' perception, understanding, his/her subjective experience and exposure to extreme weather events that make individuals in a community decide how to address impacts (Kates et al., 2012; Rahman & Hickey, 2019).

1.3 The focus of this Research

CC impacts are felt excessively by the poor and marginalized living in vulnerable communities. Poor communities across the world lack institutional, financial and technological capacity to address CC impacts (Fankhauser & McDermott, 2014). They lack agency in exercising rights due to unequal power dynamics in society (Cleaver, 2005), unequal access to resources and lack of opportunity in the political sphere to participate, negotiate and influence decision-making processes (Petesch et al., 2005). These factors impact them disproportionately and thus need to be considered when addressing adaptation both at the community level and the national level. 64 % of the population of Bangladesh live in rural areas (World Bank, 2019) and 41% of the population is engaged in agriculture (BBS, 2017).

Char lands are rural areas; all households are involved in agriculture in some shape or form, making the inhabitants highly susceptible to multiple socio-ecological vulnerabilities (Alam, Alam, & Mushtaq, 2017). This also means char communities are often in very unfavourable positions at combatting CC impacts on their own. Hence, sustainable adaptation techniques are needed in char communities to address both social justices and maintain environmental integrity. Sustainable adaptation supports communities in making a diverse set of decisions in advance and to implement them as a community with the help of relevant stakeholders. Taking local knowledge into account and knowing how to address those specific to the area to be sustainable, can thus address both social justice and maintain environmental integrity (Eriksen & Brown, 2011). This enables communities to have agency and the power to control their destinies in sustainably adapting to CC.

This focus of this research is a case study based on Char Shakhahati, located in the Brahmaputra River. The area chosen has a high frequency of floods, river erosion, flash floods and extreme poverty (Baki & Gan, 2012; M. R. Islam, 2018). In this thesis, I aim to explore the extent of collective agency and grass root empowerment of char inhabitants in the decision-making processes of CCA.

By understanding agency and empowerment from the context of adaptation in addressing the impacts of CC, I examine how Local Government (LG) can actively work to shift the dynamics of power from recipients of knowledge to producers of knowledge so that it can reproduce itself in the future. Results from my literature review have shown that collective agency and empowerment of the char community are concepts that are under-represented in the field of CCA, thus I am exploring an area of research that needs more detailed examination. In so doing, I elaborate on how char inhabitants address CC, what opportunities they have in accessing resources to adapt to impacts of CC. Additionally, I explore the extent of participation in decision-making processes of empowering their communities; whether they have the collective agency to exercise aspirations.

1.4 Research Questions

Q1. To what extent are local communities in Char Shakhahati collectively empowered to act as agents in addressing the extreme impacts of CC?

Q2. How is empowerment and collective agency represented and addressed in national adaptation policies?

1.5 Contribution to Sustainability Science

Sustainability science is concerned with sustaining the life support system of socio-ecological systems, meeting the needs of the present without eliminating chances of the future generation (Jerneck et al., 2011; Kates et al., 2001; Wiek et al., 2012) but it is also more than that. According to (Lang et al., 2012), it should also be transdisciplinary,² to comply with different values and capacities of stakeholders across the spectrum. Finding practical and creative answers to problems must follow procedures of transparency, inclusivity, diversity to generate actionable knowledge to be able to solve tomorrow's problems today and not the other way round (Cash et al., 2003; Wiek et al., 2012). Therefore, actions on CCA need to create spaces for social, cultural, legal, economic and technological domains within local communities to transform the system socio-ecological system (Wiek et al., 2012). On that note, this thesis aims to contribute to sustainability science by examining the sustainability of adaptation both in local communities and in national CCA policies. Examining knowledge generation and consumption by local stakeholders as a collective in actively responding to the impacts of CC and transform the dynamics of the socio-ecological system makes my thesis highly relevant to sustainability science.

² "Transdisciplinarity is a reflexive, integrative, method driven scientific principle aiming at the solution or transition of societal problems and concurrently of related scientific problems by differentiating and integrating knowledge from various scientific and societal bodies of knowledge." (Lang et al., 2012)

1.6 Thesis Outline

This section is followed by chapter two, where I explain the socio-ecological vulnerabilities of char inhabitants, the administrative structure of Bangladesh followed by introducing Kurigram where my study site is located. In Chapter three, I introduce my theory wherein I examine two concepts: collective agency from the Capability Approach and Empowerment. I have applied a framework for empowerment to analyse data to obtain findings and reach conclusions. In chapter four, I lay out the different methods used to collect data and methods used to analyse it. In Chapter five, I present my findings with my analysis divided into two main sections following the framework: Dynamics of collective agency and the opportunity structure. These two sections answer the two research questions. The sections are followed with a discussion and finally a conclusion.

2 Char Islands in Bangladesh

2.1 The complex nature of vulnerability of Char Islands in Bangladesh

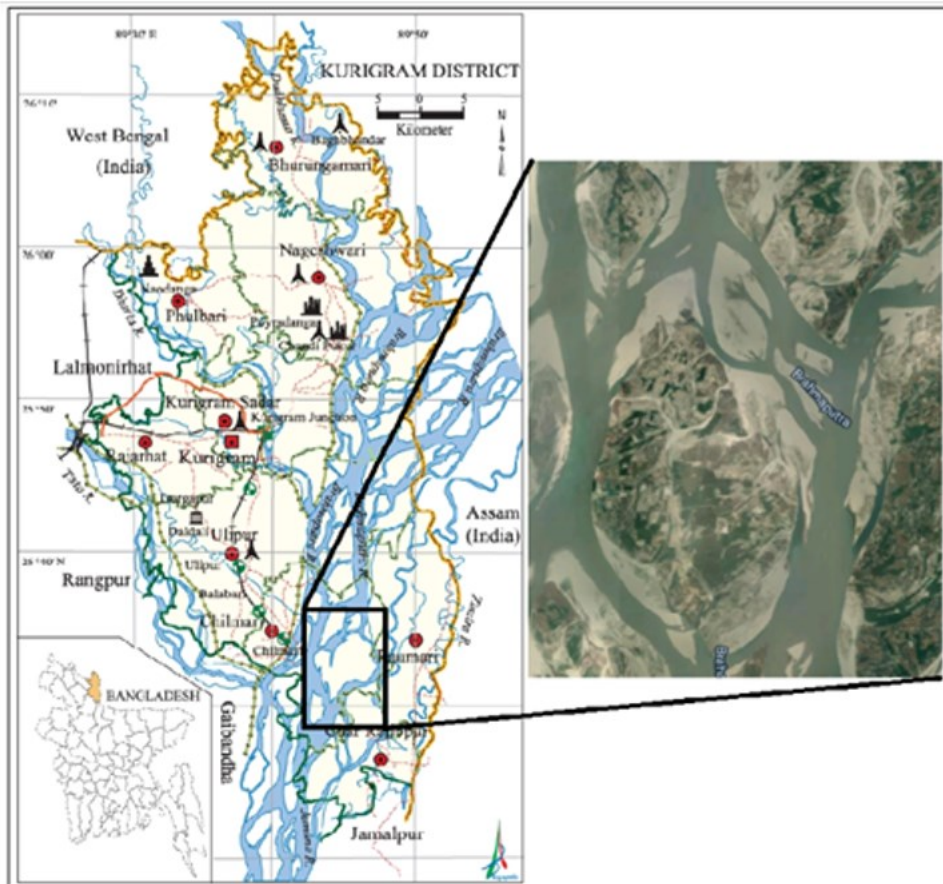


Figure 1: Map of Bangladesh with the map of Kurigram District highlighted in colour. Location of Char Shakahati is enlarged in green in the box . The lighter coloured parts represent newly deposited sand and the darker parts represent char settlements and agricultural fields. (Source: (Banglapedia, 2016; Google, 2019))

Lives and livelihoods are severely affected by the physical geography of the river, the surrounding flat terrain and the monsoon climate which render the char islands highly vulnerable to floods, impacting the socio-economic development of the area. During the peak monsoon season, the northern parts of Bangladesh receive average precipitation of 2931mm (BBS, 2013), 80% of which occurs during the months of May-September (Baki & Gan, 2012). The combined effects of water discharged in the Brahmaputra, the heavy precipitation in the north in the surrounding areas cause flash floods, river floods, flooding the low-lying terrains of char islands (Figure 2), devastating the lives and livelihoods during the monsoon season (MoDMR, 2014).

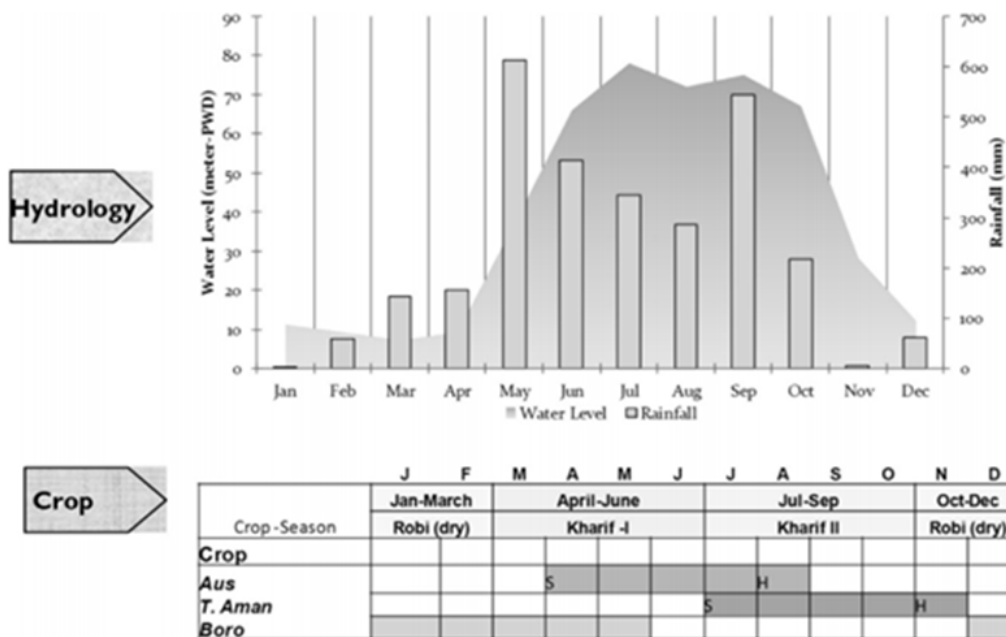


Figure 2 The timetable for river water, monsoon rain and crop cycle in the Brahmaputra River. The table on Hydrology shows the peak water level in the river and rainfall. The table on crop shows the different rice crops and their sowing and harvesting season (Source: (Fakhrudin, Kawasaki, & Babel, 2015))

Remote char islands and their inhabitants are particularly more vulnerable to the ecological impacts of CC and river erosion. As agriculture is the mainstay of char inhabitants, frequent and heavy floods also cause high food insecurity in these islands (Baki & Gan, 2012). With every household of the char island involved in the agricultural sector, farmers and their families are left severely vulnerable to various climatic events such as river floods, localized floods from intense rain, increased frequency of flood, seasonal storm, and hail from May-September (MoDMR, 2014).

The char islands are also characterized by a lack of economic alternatives for work which results in most char inhabitants relying on day-wage labour as employment (M. R. Islam, 2018). The effects leave people in extreme poverty, substantially affecting their ability to adapt to extreme events. Their geographical location leaves them marginalized from institutional access such as education, judiciary, health and social safety net programs. Poor communication services and insufficient development of permanent infrastructure due to a lack of permanence of the land caused by river erosion exacerbates their situation (M. R. Islam, 2018; Paul & Islam, 2015).

2.2 Administrative structure in Bangladesh

This thesis will take a critical look at national CCA policies adopted by the government. To understand how they are governed, it is thus important to breakdown the administrative structure in Bangladesh. Policy implementation is largely top-down and centralized. All national policy decisions are made by the central government and implemented by the respective sectoral ministries. The ministries pass on the responsibility to the district, sub-district and unions (Table 1) (Lewis & Hossain, 2008).

Table 1: The Administrative structure in Bangladesh. Own table with sources obtained from the field and BBS (2013). This table explains where budgetary losses take place. After a budget is assigned it passes through tier 2, 3 4 and 5 meaning local government in the respective tiers keep a portion of the budget for themselves, even if it was not assigned for them.

Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Division- Rangpur	District- Kurigram	Subdistrict/Upazilla	Urban area	Paurashava/municipality
				Union
				ward
			Rural area	Union
				Village
				Ward
		Chilmari Upazilla	Rural area	Union, Chilmari
				Village, Char Shakahati
				Ward: 3 and 5

2.3 The district of Kurigram

2.3.1 Char Shakhahati in Chilmari Upazila³

The case study for this thesis is in the District of Kurigram of Rangpur Division⁴(BBS, 2013). Char Shakhahati is in Chilmari Union of Chilmari Upazila. The land distribution in Chilmari is of three types: mainland, attached char and char islands (Figure 3)(Banglapedia, 2014). The union has nine wards whereof I chose two wards (Table 1) located in Char Shakhahati. The oldest inhabitants in ward no. 5 came to the island thirty years and in ward no. 3, twelve years ago respectively.

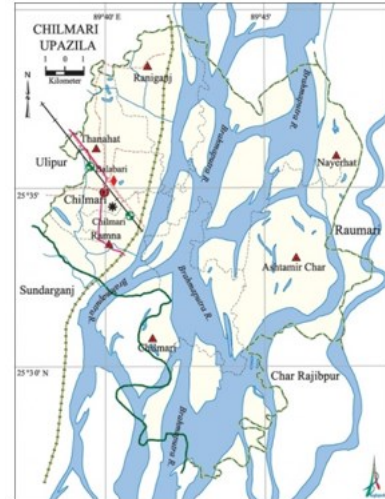


Figure 3: A map of Chilmari Union highlighted in yellow.

(Source: Banglapedia, 2014)

2.3.2 Livelihoods in Chilmari⁵

Small scale farming is the main source of income for more than 60 % of people in Chilmari (BBS, 2013). To understand the vulnerabilities associated with extreme events, it is crucial to understand the agricultural cycle in Chilmari where almost all households are involved with agriculture as farmers, sharecroppers and wage labourers (M. R. Islam, 2018). Major crops grown in Chilmari are Aman and Boro Rice,⁶ followed by Aus, wheat, and jute. The sowing period for Aman is between June-July while the harvest period for Boro is from early April-late May. This period coincides with water discharge in the Brahmaputra reaching its peak between the months of June-September (Figure 2) which sometimes is earlier causing floods between the months of March-May (MoDMR, 2014). Households further supplement their income with seasonal fishing, rearing livestock, selling fruit, and selling wood (BBS, 2013; M. R. Islam, 2018; Paul & Islam, 2015).

³ Upazila is the Bengali term for Sub-district

⁴ Bangladesh is divided into 6 Divisions and Rangpur is one of them

⁵ Statistical information on char islands were not available so the unit of measurement used was Chilmari Upazila

⁶ Aus, Aman and Boro are rice varieties that grow in Bangladesh.

3 Theoretical Framework

The theoretical framework of this research is based on concepts of the collective agency from the Capability Approach and scholarship on empowerment explained in sections 3.1 and 3.2.

3.1 The Capability Approach

The Capability Approach emphasizes the importance of the freedom to choose those capabilities one has reason to value (Alkire, 2002; Gasper, 2007). It also emphasizes that one must have the means to realize a chosen capability into functioning (Alkire, 2005; Alexandre Apsan Frediani, 2010; Gasper, 2007). Capabilities are about how people want to live, what they do and are, their freedom to choose an alternative. Functioning is thus having the freedom to convert that alternative into what they are able to do and be. In achieving the desired alternative, individuals must have the ability to participate in decision-making processes as a means to achieve valued states of being (Alexandre Apsan Frediani, Boni, & Gasper, 2014). Exercising these freedoms allow the subjective dimensions of a person, such as values originating in cultural diversity and intersectionality, to be represented in their decisions (Alexandre Apsan Frediani et al., 2014). It also allows the person to have agency over the decisions made ensuring that changes made are for the long term and sustainable (Gasper, 2007).

3.1.1 Collective Agency

Individual Agency is a prerequisite to exercise both capability and functioning (Alexandre Apsan Frediani et al., 2014). However, poor and marginalized individuals cannot effectively exercise individual agency to achieve empowerment due to unequal power relations, social and institutional barriers and other inadequate government services (Christens, 2019b; S. Ibrahim, 2014). Such a limitation, nonetheless, can be overcome through exercising collective agency defined as “an exercise in alternative pathways together as a group seeking to pursue goals collectively that go beyond their individual well-being concerns with the aim of changing the current status quo” (S. Ibrahim, 2014). Marginalized social groups can, by exercising collective agency, challenge unfair social norms and asymmetrical power structures, creating sustainable grassroots movements to ensure the capabilities of future generations (S. Ibrahim, 2014; Rauschmayer, Polzin, Mock, & Omann, 2018). Additionally, local communities, by utilizing their collective agency can work to change the way some weak social institutions operate, something that is beyond the scope of individual agents (Rauschmayer et al., 2018). Though, how effectively collective action, through

collective agency is achieved is affected by social, economic, political and ecological factors (S. Ibrahim, 2014). Since collective agency is an important criterion for achieving empowerment for the marginalized communities, I will explain the concept of empowerment and the analyze components within the framework.

3.2 Empowerment

For the purposes of this study, I have applied the causal framework for empowerment (see figure 3)(Petesch et al., 2005) in state-society contexts. Empowerment is here understood as a process of collaboration among groups of people within organizations or communities to gain greater control of their circumstances and reduce socio-political marginalization (Christens, 2019b) and collective agency is a necessary component of these collaborative actions. This thesis will take a community perspective to empowerment, more so for the disadvantaged groups of society, whose access to resources and ability to convert those resources into outcomes is limited individually. Grass root empowerment does not happen in a vacuum, the social and institutional structure must be created for opportunities to be exercised by local communities (Petesch et al., 2005). Poorer communities experience inequalities, with respect to the social, political and institutional spheres of the society they occupy. Decision-making processes that put greater emphasis on local knowledge production and address the asymmetrical power imbalance in communities with a wider divide, can challenge inequality in the given society (Christens, 2019b).

Interactions between Agency and opportunity structure available to people in a local setting shape and influence empowerment (Figure 4)(Petesch et al., 2005). Agency and opportunity structure are determined by three sub-components each. Collective agency is influenced by economic and human capital, the capacity to aspire and organizational capacity. Opportunity structure is guided by the transparency of institutions, state implementation capacity, strength and ideology of dominant groups, illustrated in figure 4 (Petesch et al., 2005). The dynamics of collective agency and the opportunity structure to examine empowerment is explained in section 3.2.1 and 3.2.2.

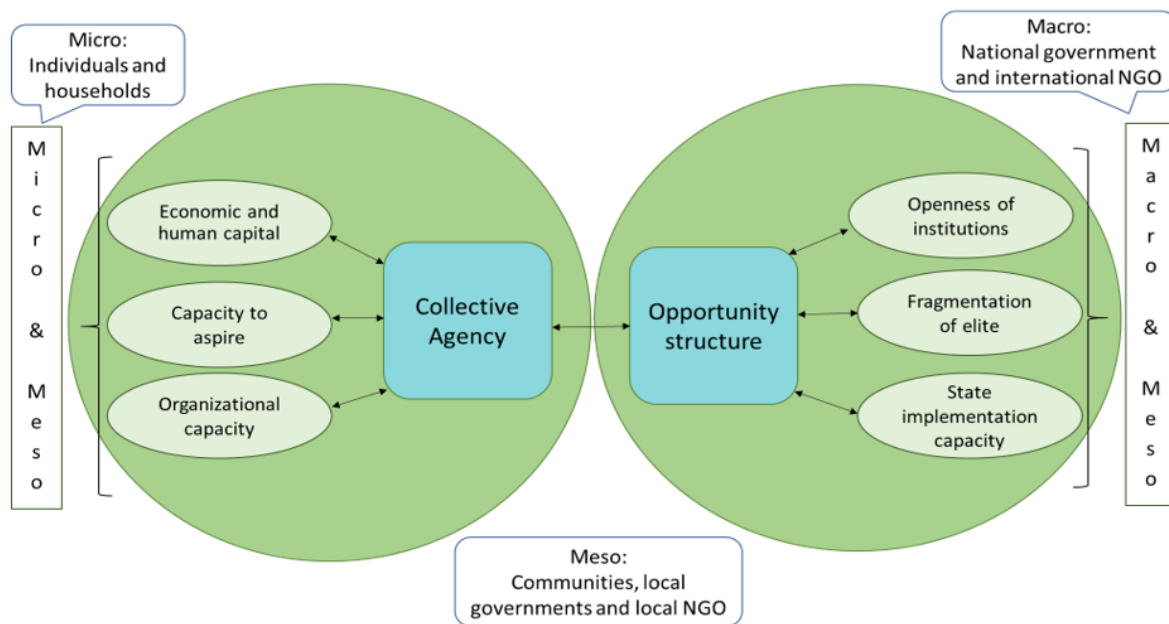


Figure 4: A causal framework showing components necessary for empowerment in state society context. Economic and human capital, capacity to aspire and organizational capacity influence an individual's ability to exercise collective agency. Whereas openness of institutions, fragmentation of elite and states' implementation capacity influence the opportunity structure available for communities to exercise agency and initiate action. Both collective agency and opportunity structure influence each other and their sub components (Source: Adapted from Petesch et al., 2005)

3.2.1 Dynamics of collective agency

This section operates within the micro and meso scale involving individuals and communities but is shaped by factors at the macro level (Figure 4). The interactions between economic and human capital, aspirations of groups, and the organizational capacity shape the way communities and individuals within it exercises agency and their ability to influence opportunity structure within their community (Petesch et al., 2005). Having the space to access economic resources, skills, health, education increases the capability sets of individuals within groups indicating their ability in making independent choices which additionally can also assist them in aspiring to an alternative path of action in the future, though the two are not mutually exclusive. Disadvantaged communities through mobilization, group interactions, and strength of their social alliances can aspire to an alternative that they can realize into functioning (S. Ibrahim, 2014; Petesch et al., 2005). Increased and diversified access to economic resources and human capital can enable greater exercise of agency among the marginalized and help challenge the dominant social structure that maintains the status quo (Cleaver, 2005).

Organization capacity is referred to as the participation of communities in formal and informal space of social, cultural political spheres (Petesch et al., 2005). For marginalized

groups/people/communities, this is always unequal as they are divided along with the local power structures within that society, shaped by gender, class, religion, education and wealth (Petesch et al., 2005). Both the formal and informal organizations reinforce the existing privileges of the ruling local elite. Participation guided by "the right way of doing things"(Cleaver, 2005), including setting the agenda for discussion and decision-making processes set by the influential in the community reinforces and reproduces the existing relations of power (Christens, 2019b). Trying to change the status quo often results in adverse conditions such as cutting off some of the benefits the poor communities are able to exercise otherwise (Christens, 2019b). Thus, poorer communities engage in an adverse manner to participation by internalizing their grievances. Changing the economic and social space for their participation will increase their potential capacity and agency (Cleaver, 2005). Studies in Egypt (S. Ibrahim, 2014), and in Colombia (Boni, Millán Franco, & Millán Franco, 2018) have shown that prolonged forms of participation can create room for marginalized communities' with access to ideas, information, problem-solving and negotiating powers. It can also open doors for networking with other marginalized communities or form alliances with different hierarchical groups to aspire and utilize their collective resources to take collective action. According to Petesch et al. (2005), agency within communities can be measured, by factors such as being members of an organization, the size of the organization, level of schooling; and contextually assessed through alternatives available in the socio-cultural, geographical setting of the community they occupy

3.2.2 The opportunity Structure

The opportunity structure of society operates within the meso and macro scale involving communities, local and national government (Figure 4). The openness of formal and informal institutions, states' implementation capacity, and behaviour of dominant groups influence the opportunity structure of the poor and thereby their agency as well. Rules of competition, inclusion, and accountability are three critical components of institutions (Petesch et al., 2005). Rules of Inclusion refers to who can participate in decision-making processes and under what conditions; rules of accountability are when leaders in the position of power are answerable for their action in their community, these can be both vertical from local to the national or horizontal between different civil society organizations. Finally, for accountability to work, communities need to have access to information about decisions made.

The opportunity structure is the state's implementation capacity; this is shaped not only by who made the policies but also how the policies are made by the national government (Christens, 2019b). Additionally, a range of other factors at the meso level such as how the policies are implemented,

the financial resources available, the administrative infrastructure, the personnel implementing the policies and what happens after the implementation processes are over, are equally important for the opportunities available for the local community in empowering them (Christens, 2019a).

The last component is the fragmentation of the elite but for the purposes of this thesis, their role will not be examined. The short time period I spent in the field meant that I could not examine this aspect of the framework and these are much more subtle in society and thus take a longer time to examine.

4 Methodology

4.1 Research Design and methods

The research design follows a descriptive case study (Berg, 2009; Bryman, 2012) and I chose this particular case study with a specific focus on agency and empowerment because it can be generalized to other char areas of Bangladesh. To answer my research questions, I followed a qualitative deductive approach, developing a theory and then applying it (Berg, 2009; Bryman, 2012). The subjective nature of the understanding of collective agency and empowerment concepts used in this thesis and the short time I could devote to the field meant that I have used qualitative methods to obtain data. Data collection involved multiple methods. To answer both the research questions, I had to obtain comprehensive data sets. I have utilized methodological triangulation (Bekhet & Zauszniewski, 2012; Bryman, 2012), using a combination of four different types of qualitative data collection methods. The method furthered me to increase the validity as well as to strengthen the credibility and confidence in and of the data collected (Bekhet & Zauszniewski, 2012; Bryman, 2012).

Data collection involved both primary data and secondary data. Primary data included Focus Group discussions (FGD) (two male and two female FGDs), Key Informants Interviews (KII) (six interviews), direct observations: from the field, attending a conference on CC and a seminar on Adaptation. Secondary data came in the form of a literature review and national CCA policy document and Development Plan documents of Bangladesh. To understand mainstreaming CCA (section 1.2), it was necessary to analyse both development and CCA policy documents. From national policy documents on CCA and development, I examined the provisions for empowerment and collective agency and to what extent local communities have collective agency in adapting to the impacts of CC and how they have been promoted, strengthened or enhanced through those policies by the central government.

4.1.1 Literature Review

In order to understand the extent of the research field, I conducted a literature review that also guided me in formulating relevant interview questions for my FGD and KIIs. Initial literature was obtained from a Scopus search and the search string words included: “flood”, “river erosion”, “char island”, “Brahmaputra River”, “climate change adaptation “and/or “Kurigram”. All alternative search words and possible synonyms for each of the terms were also used to cover all relevant literature on the topic. The search string resulted in 28 research papers. Alternatively, snowball sampling of references was used together with searches obtained from google scholar to find relevant literature

not available from LUBsearch. The literature review was used to support my arguments in the analysis of my data.

4.1.2 Focus Group discussions

FGD was carried to answer RQ1. FGDs allowed me to observe the interaction within the group and gather a large number of data on the specified topic over a very short period of time (Bryman, 2012; Morgan, 1996). Owing to the male-dominated nature of Bengali societies which means traditionally, when men talk women stay silent (Schuler, Hashemi, Riley, & Akhter, 1996), male and female FGDs were carried out separately to allow both men and women an equal platform to voice their opinions. I carried out two FGDs in two wards of Char Shakhahati to represent diversity, cross-case comparability and also reduce anomaly in the data (Bryman, 2012). The first FGD was carried out with participants from Ward 5 on two separate days and lasted an hour. The second FGD took place in Ward 3 and was carried out on a Friday. Due to time constraints and because it coincided with the Muslim weekly holiday, the 2nd FGD was for 30 minutes each. The female FGD was carried out before Friday prayers and the male FGD after Friday prayers. The timing for all the FGD was chosen according to the time the participants were free to talk and did not hamper their livelihood earning activity. Participants were chosen by a village elder from his/her respective ward with the request to get a diverse group to represent the community⁷ (ages ranged between 15-70), with the majority being farmers, day labourers, fishermen and cattle herders. The discussions were in local Bengali dialect and so was moderated by two local guides. Since I understood the local dialect, I was also involved in asking some of the questions in the FGDs. Before carrying out the FGD, I communicated my intentions and focus of my interviews to my local contact in Chilmari, Mr. Rowshan Zaman and Mr. Habibullah.

4.1.3 Key Informant Interviews

To answer my RQ 1 & 2, it was necessary to interview key stakeholders in the field of CCA. The key informants (KI) were from NGO Friendship,⁸ a research organization and key individuals from a government organization. The interviews were semi-structured, and I used a separate set of questions for the various KIs. Two KIs were interviewed for each category of stakeholder. Semi-structured interviews were done to allow the interviewee a great deal of flexibility in explaining how they understand patterns, events, and topics that interest them (Bryman, 2012). Out of the six

⁷ The condition informed to the village elder for participation followed a spontaneous recruitment where participants were asked to join if they were free, did not live far away and represent a diverse group of livelihoods.

⁸ Friendship is a local Non-Governmental Organization (NGO)

interviews I carried out, four of them fully in English with the other two, a mixture of Bengali and English.

The NGO, Friendship was chosen due to three reasons: it has worked extensively with char islands in Bangladesh in the field of CCA, DRR,⁹ health and sustainability; secondly, owing to its presence in remote char areas and thirdly, its close working relationship with the char communities in my case study area. The first interview with Friendship was with the director of CCA and his team at their Dhaka office while the second interview was with their local project manager in Rowmari,¹⁰ Kurigram. The second group of key interviews was with researchers from ICCCAD;¹¹ an International research center working with different aspects of CC related development in Bangladesh. The researchers were chosen because of their extensive knowledge of CCA, sustainability, floods in Bangladesh with more than 20 years of experience in national policy-making procedures. Both interviews were one hour long and mostly focused on policy document and how the implementation of those policies are carried out. The last interviews were with government representatives, one from the Planning Commission and the other from PKSF.¹² The contact for these interviewees was chosen based on the recommendation from ICCCAD and their availability to give time for the interviews. Both interviewees were time constrained and thus session was between 30 minutes to an hour.

4.1.4 Direct Observation

Gobeshona Conference 2019

During the case study, I attended the Gobeshona Conference on Climate Knowledge which was a platform for researchers from Bangladesh to share their work and experience on CC research outcomes in Bangladesh. Here, I observed how research is done, who does the research and on what, how the outcomes of the research addresses CCA and other current and future risks of CC in Bangladesh. The conference also enabled me to comprehend how research done is reflected in policy formulation and who are involved in policymaking.¹³ The conference was organized by ICCCAD, with participants from mostly least developed countries, international development agencies, national and international NGOs based in Bangladesh and international organizations.

⁹ Disaster Risk Reduction

¹⁰ A Sub-district of Kurigram

¹¹ International Centre for Climate Change and Development (ICCCAD) is a research centre based in Dhaka.

¹² Palli Karma Sahayak Foundation (PKSF) is a financial institution founded by the Government of Bangladesh to finance rural development and provide training

¹³ Many of the researchers' present were also involved in formulating the national policy on CCA

Oxfam-PROTIC Seminar

As part of the collaboration with ICCCAD, I was able to partake in seminars organized by Oxfam in association with the research center. The seminar was on grassroots empowerment of climate-vulnerable women farmers using a smartphone in adapting to impacts of CC. The seminar was one hour and 30 minutes long, with three women from three different hotspots¹⁴ of climate vulnerable areas of Bangladesh who participated in the action research, presenting their own findings which were later concluded by the Oxfam-PROTIC¹⁵ team. The purpose of attending the seminar was to discern how action research is carried out in char areas and what impact it can have if participants are involved from inception to completion of a project and what impacts it can have on the empowerment of the community, individual and collective agency.

4.1.5 Personal Reflections, Limitations of data collection method and Ethical considerations

To realize this research, I collaborated with a research centre, ICCCAD in Dhaka. The centre facilitated my contact with the local guide in Chilmari, arranged for the contacts with NGOs, and Government Officials. The collaboration with ICCCAD may have affected the range of interviewees I could get access to as it was only possible to get interviews with KIs known to ICCCAD. Access to government officials was a challenge and it is something I agree may have limited the data collection in some way.¹⁶ The research centre did not limit me any way such as to what kind of questions I could ask, who could and could not participate in the FGDs or the amount of time I spent with each interviewee. They did not influence my interpretation of what I found from my data collection or how many days I could stay in the field.

When deciding which methods to use to collect my data, I had originally planned to use participant observation in addition to FGDs and Interviews, but upon reaching the field in Char Shakhahati, I realized char inhabitants have just the bare minimum living quarters. I would have had to make additional arrangements for my two local guides to stay with me in Char Shakhahati for standard safety purposes. Additionally, local cultural and religious belief dictates for unaccompanied females to stay with a family with separate female and male living quarters. Bengali cultural norms meant

¹⁴ Hotspots are vulnerable areas of the country with specific characteristics. There are 6 different hotspots in Bangladesh.

¹⁵ The participatory research team that carried out the action research and presented the seminar.

¹⁶ Access to policymakers who formulated the BCCSAP could have provided a much more in-depth analysis of why the policies are implemented the way they are.

that I would be treated as a guest, putting too much strain on their financial and mental status. Eventually, I decided to not use this method as a way of collecting data. Participant observation would have given me a wide range of data not available with regards to experiencing it from their point of view in a naturalistic setting and things that I take for granted may not be the same for them (Bryman, 2012). The time period of this thesis meant that the FGD was done in February and not during the monsoon period. This made it more efficient because travelling to the island was safer, and the participants were easier to access, but doing the field work during monsoon season would have been more beneficial because it would have allowed me to understand what makes collective action more difficult and what opportunity structure is missing for grassroots empowerment.

The amount of data I could collect from FGDs was also limited to a certain extent. Char Shakhahati was only accessible by boat and with no boat services after sunset,¹⁷ I had to do the FGDs within a time period when the participants were free from work and it would not cost them financially to take time out. This restricted the time that was available to me and the kind of data I could collect. I acknowledge that not having the skills to speak Bengali in a native manner may have affected the way I have collected the data, both for FGDs and the interviews conducted in Bengali. Arranging the interviews in Dhaka and giving the interviewees the choice to decide when to set the interview and arranging the FGDs in Char Shakhahati meant that I stayed in Chilmari for 5 days in total. Staying in the field for such a short period of time is also a weakness in the data collection methods.

Ethics in social science research, calls for written consent form as it allows the researcher to clearly inform the participant about the objectives of the research from the outset and for the participant to acknowledge that their participation will have implications at the outset (Bryman, 2012). However, the written consent forms can also make participants uneasy about the use of their signatures and deter some participants from participating altogether. As a result, only oral consent was obtained in recording interviews and FGDs. To obtain mutual trust, participants were given a complete account of what the research was about, my role in the research and what role they play by participating, what they gain from it and what I intend to do after with the recorded interviews. They were also made aware that it was not mandatory and to participate only if they wanted to.¹⁸To protect participants' confidentiality names were omitted from transcribed interviews in the FGD (Bryman, 2012).

¹⁷ Transport to and from Char Shakhahati is available from 9:am- 6: pm. I was advised to leave the island by 4:pm to avoid the likelihood of getting caught in a storm. From my observation I have found that it is safer to leave early as the last boats are more crowded and more accident prone.

¹⁸ Even though a village elder has chosen the participants I left it to them to participate

4.2 Data Analysis

Different qualitative methods were adopted to analyse the primary data and secondary data. Primary data was analysed using Theoretical Thematic Analysis where I utilized an existing theory and its theoretical concepts to generate key themes (Braun & Clarke, 2013). On that note, I have analysed the data following Braun & Clarke's Thematic Analysis. The FGDs and Interviews in Bengali were translated and transcribed while interviews in English were also transcribed. The data was transcribed in line with Mayring (2014) selective protocol, transcribing specific parts of the interview relevant for the research and guided by the research questions. The process of coding and generation of relevant themes were informed by theory. To make the coding process more efficient, coding was done with NVIVO 12.

Policy documents were analysed using a combination of contextual, diagnostic and evaluative approach (Ritchie & Spencer, 1994), the impetus being that it provides insights and explanation behind policy decision and how they affect real-life experiences (Ritchie & Spencer, 1994). Contextually analysing the document allowed me to uncover the nature and form of what exists; diagnostically analysing it assisted me in understanding the reasons behind the way the policies and perceptions exist, and finally an evaluative analysis allowed me to observe the effectiveness of the policies from a sustainability point of view (Ritchie & Spencer, 1994).

To understand what opportunity spaces are made available for local communities, it was necessary to analyse the national policy documents implemented in Bangladesh. The policy documents chosen for analysis (Table 2) include BCCSAP, National Sustainable Development Strategy (NSDS), 7th Five Year Plan (7th FYP) and the Perspective Plan of Bangladesh. The BCCSAP is the only policy document specifically made to address CCA in the country. Adaptation plans have been included in the development strategies in Bangladesh with the hope of mainstreaming them into development in the future (J. M. Ayers et al., 2014). Policy document other than BCCSAP were chosen due to the nature of this study which explores the reality of agency and empowerment in communities in addressing CCA which is a cross-cutting issue in the country encompassing development and sustainability in general.

Table 2: National Policy Documents and the time period they are being implemented.

National Policy Document	Implementation Period
Bangladesh Climate Change Strategy and Action Plan (BCCSAP)	2009-2019
Seventh Five Year Plan	2016-2020
Perspective Plan of Bangladesh	2010-2021
National Sustainable Development Strategy (NSDS)	2010-2021

5 Results and Analysis

5.1 Adaptation Strategies adopted by local communities in Char Shakhahati

Adaptation strategies in Shakhahati are highly fragmented and heavily dependent on individual initiatives adopted by the farmers to survive the difficult life in char areas. Almost all the initiatives taken to address the impacts of extreme events in Shakhahati lies on the person and as such, it is the farmer who must take all the actions necessary to dampen the extent of impacts suffered. These forms of spontaneous adaptation are reflective of other poorer communities in the African Sahel where efforts in carrying out adaptation are often uncoordinated and unaided by the government (Forsyth & Evans, 2013). For example, farmers in Shakhahati experience floods in April or May instead of June resulting in loss of Boro rice harvest (Figure 2), heavy frequency of storms during these periods results in the uprooting of homes and loss of Aus rice seedlings. This means the bulk of their resources go into trying to mitigate losses suffered from these extreme events almost always without the states' support.

The explanation that surfaced in all four FGDs for individual action rather than addressing it together was because the losses suffered by farmers were context specific to each case. As everybody has a different situation than the other, it is each man to himself scenario. Another significant reason for fragmented and uncoordinated action is that everybody is busy trying to do the same thing, that is to earn a living, and this requires plenty of work in chars as explained by the ward member of Ward no. 5.

“Farmers in char can't raise profit because of loss faced every year either to their homes, loss of crops, or livestock which they have to spend every year to replace. Additionally, we have other costs which are related to farming like water for irrigation, buying fertilizers, etc. so there is so much to spend on top of the loss we face every year.”

Losses suffered cause scarcity in other sectors affecting the agency of farmers in fully undertaking autonomous forms of adaptation (Forsyth & Evans, 2013). In the case of Shakhahati, this often means a lack of access to food or to a market or the possibility of growing them during the flood. Years of experience of living in char island mean that spontaneous forms of adaptation are part of survival (Rahman & Hickey, 2019). Food items such as rice, puffed rice, flattened rice, lentils together

with firewood and portable stoves are prepared beforehand to last during this period. This is line with observations made in other parts of Bangladesh (Fakhruddin, Kawasaki, & Babel, 2015). The quantity of food each family can store depends on how much they can afford. Some families or day labourers in Shakhahati who cannot afford to make the same preparation minimize their food intake from 3 meals to 1 meal, take a loan from money lenders at a high-interest rate (Alam, Alam, Mushtaq, & Filho, 2018) or sell their livestock. Connecting to what has been established in the literature, impacts of CC severely affects their ability in earning a livelihood and thus their ability to participate in activities pertaining for the greater good of the community when each individual has bigger concerns to worry about.

Access to resources is very limited and this is felt on an extreme scale by day labourer due to floods (Paul & Islam, 2015). Some sell their labour in advance¹⁹ which decreases the likelihood of them being able to recover from the impacts of extreme events. Many participants think this is one of the most devastating aspects of living in chars. According to participants in the FGD, perceptions such as “we do not have the time to get the community to get together”, “we work in the fields and have to look after our children” were common to explain why they do not have the time in collective action. This finding is in line with other studies that have shown that poor people participate less in their communities’ interactions because it distracts them from the pursuit of livelihoods (Cleaver, 2005). Repeated loss from extreme weather events thus leaves the inhabitants with no control over their lives and over what they can do giving them fewer opportunities to be agents of change. The sentiment was confirmed by a KI from Friendship:

“for example, one alone cannot do anything, 10 people can do it together but what is to be understood here is among those 10 people 1 or 2 are self-sustaining or resourceful financially, physically he/she can share that resource with everybody that is why the community is resourceful, but if in a community everyone is deprived who absolutely has nothing, then without external aid it is not possible to raise them but at least when they are at that stage.”

However, when it comes to the perception of camaraderie between the inhabitants the participants agree that there is a strong sense of community among the farmers when faced with an emergency. For instance, in case of emergencies, when trying to move the elderly, disabled and the young to

¹⁹ Advance labour selling is when they don't have money to buy food, local elites give them money in return for promising to work for them in the future when flood water subside.

safety in times of flood or when there is an imminent danger to their house, children, livestock or another asset, everyone comes forward to help as observed from the FGD:

“Like three years ago we had a severe case when the wall that was built to protect us from rising water levels broke down and water rushed in all at once. It happened during heavy monsoon season, so there was lots of water. Around 200-300 acres of land was flooded so did the rice harvest. We all went there to cut it down, but we could not retrieve it.”

Similar experiences were shared in the context of river erosion as well. These instances of self-help, however, are not extended to self-organizing, active planning, implementing decisions made about the likely impacts of extreme events in the present or future. Female participants were more eager to do things together but suffer from hopelessness, due to gender. Perceptions such as “nobody listens to us; we are women even our own husbands won’t listen to us” were common. Apart from gender, lack of education, lack of wealth (Alam et al., 2017; Paul & Islam, 2015) was some of the other reasons explained by participants as denying them space of participation with a voice in the public sphere. Such a comment explicitly shows the feeling of not having the power to make decisions is clearly understood by the participants. This sense of helplessness was evident in other sectors as well.

Farmers in chars have been quite resourceful and innovative in relying on traditional knowledge to predict the weather (Fakhruddin et al., 2015), but with changing frequency of extreme events and multiple events happening at the same time, they are not able to rely only on traditional knowledge. Though advance emergency weather forecasts are available, such services are mostly available two days in advance (Fakhruddin et al., 2015), which makes for inadequate time to save crops and riverine communities at the forefront of the floods. Early warning systems are broadcasted on national TV/ radio but the acceptance or spread of this information is very low (Fakhruddin et al., 2015) as they are often directed at the district and not the union or sub-district where they live. Personal initiatives taken such as “I called people in India” or “I called my family members in Nageshwari” were some of the other ways some farmers compensated for the lack of information. This indicates that the lack of dissemination and dissection of information on weather forecasts and barriers in knowledge dissolution in the local communities is preventing them from actively making decisions that impact their life.

The findings show that adaptation in Char Shakhahati is largely an individual process, individuals or families take steps to make them less vulnerable but not as a community. Their deprivations are largely a result of lack of access to financial and technological resources, repeated losses suffered affecting their individual agency, making it harder for them to actively work together to lessen the impacts. Why and how those deprivations are influencing their capacity to address CCA is explained in the following sections.

5.2 Collective agency in addressing extreme events

5.2.1 Lack of economic and human capital

Having the space to access economic resources, skills, health, education increases the capability sets of individuals within groups (Petesch et al., 2005), indicating their ability in making independent choices to aspire to an alternative path of action in the future (Mason, 2005; Petesch et al., 2005). Living in a char island makes them doubly disadvantaged. Inhabitants are left to their own devices with no access to services almost throughout the period of floods and other extreme events. Life in char island is always particularly difficult but is made more so during the monsoon season (Lein, 2009). Char inhabitants in Shakhahati must go to the mainland to access markets which means every time they sell their produce; they spend an exorbitant portion in travel expense to and from the island. This example also clearly illustrates the difficulty in access to economic resources. LG sometimes provides access to seedlings, but these are often for a select few, so farmers must take individual initiatives to secure seeds themselves. Many farmers secure extra seedlings by borrowing a plot from their family in the mainland as an adaptive measure in preparation of repetitive floods but these measures are also rendered useless when the floods wipe out everything just before harvest period. CC impacts challenge what a community can do or achieve, which affects their ability to attain human capital as well (Eriksen et al., 2011).

The space for economic opportunity is further exacerbated by a series of extreme weather events happening so frequently and consequently after the other (Figure 2). Farmers often take loans from local money lenders with high-interest rates which takes them 7-8 months to pay back. This becomes a repetitive cycle constantly, leaving them in debt and powerless to change their economic conditions. These create the perfect condition for NGOs to step in. NGOs alleviate the short-term problem faced but it also leaves the farmers increasingly dependent on relief provided by NGOs. The NGOs provide support in the form of food supplies and medicines as securing food is one the hardest hit sectors during extreme events (Brocklesby & Hobley, 2003; Monirul Alam et al., 2017) as the KI

from NGO explains:

“when a person goes to a shelter/embankment he /she never goes alone they usually go with 200 or so other families and it is not usually enough for that many people and there isn’t enough space for cooking one’s food.[.....] we have also seen advance selling of labour, this has serious impact on the people and how quickly they can recover after the flood season. If we somehow provide them with dry food for 5-10 days [...] then this person can recover from the impacts faster in the next 2-3 months”.

This explicitly shows that not having the security of something as basic as food manifest a different set of priorities among the community. Marginalization from services extends to education as well (Alam et al., 2018). According to every participant of the FGDs, lack of education came out as one of the biggest worries among the participants. It is well established that education changes the dynamics of power to a certain extent as it opens doors for better-paying jobs, more assets to their name, their decision making powers and their right to exercise it, altering the socio-economic equation for them in the society (Mason, 2005). It also means that knowledge production about issues that affect them such as CCA is out of their control as entering the sphere of where decisions are made require a certain level of education. This is clearly understood by the participants as well. Lack of education was seen by participants as a contributing factor for their marginalization with expressions such as “what do we know, only educated members can say something about this”. This implies their social standing is also decided by the level of education and that affects the role they can play in decision-making processes. Furthermore, lack of secondary school means char children grow up with fewer skills, trapped in the same low paying profession as their parents. Girls especially suffer a greater disadvantage than boys (Mason, 2005); boys can leave the char island and live with relatives in the mainland and continue their education but the same cannot be said for girls. Cultural norms dictate that girls should stay with their parents before marriage. This lack of secondary education for the children and especially girls mean fewer job opportunities and lower income for them when they enter the job market.

5.2.2 Aspirations in the age of CC

Char inhabitants are limited in their choice when it comes to addressing the extreme impacts of CC in the long term. Hence, most aspirations are to do with minimizing the immediate impacts of CC; such as farmers being able to save additional seeds to be used after the flood period (Fakhruddin et al., 2015). For example, “if we need 5 kg seeds to sow, we save 10 kgs to ensure we are able to sow

after the flood water subsides”. Livestock is seen as an asset, so aspirations are to increase their stock of livestock, culturally and economically, used by the villagers as a source of income, or as security to pay for offspring’s wedding celebrations and other cultural ceremonies. There was also a fatalistic sense that “it is a characteristic aspect of the country, so it is bound to happen”; majority aspirations were to leave the island for more secure land in the mainland. These views, however, were contradictory from female participants who expressed that though life is difficult, they also enjoy certain freedoms in chars not found in mainland such as access to land for grazing livestock, fertile soil after every flooding season, free range in collecting firewood and not having to buy vegetables.

The cultural capacity to form groups is very weak in the char; they lack local initiatives, self-organized groups in the community and so the capacity to aspire is also limited for self-mobilization among the community members. This reason falls in line with the explanation provided by Arvidson (2003): “the poor do not recognize their own capacity to change”(pg.131). The frequent movement of people from one char to another (Lein, 2009) also makes this self-mobilization difficult.

5.2.3 Organizational Capacity

NGOs occupy a large portion of informal and formal space within the civil society in char islands and more so in remote areas with minimal government services (Brocklesby & Hopley, 2003). This was evident throughout the island with all embankments and raising of plinths of homes carried out with the financial assistance of NGOs (CLP, 2016). Many international NGOs work with local NGOs facilitating access to essential services not just with CBA in CCA but in other areas such as health, education, microfinance, DRR²⁰ to the inhabitants²¹(Brocklesby & Hopley, 2003). They are able to cut through bureaucracy in government, bridge the gap between the elite, LG and farmers (Arvidson, 2003). Formal institutions are restricted by budgetary allocation, insufficient time to prepare projects or implement them in an efficient and effective manner.

Hence, NGOs are better able to penetrate most remote areas but have not been able to challenge the dominant client-patron relationship (Arvidson, 2003). There is a collaboration between all the stakeholders in the decision-making process but they fall more within “participation”: a combination of participation and consultation (Alexandre Apsan Frediani et al., 2014). In the FGDs,

²⁰ Disaster Risk Reduction

²¹ Local NGO Friendship is partnered with Ericks Sweden providing the mentioned services in Kurigram

participants were of the view that without NGOs providing financial assistance, they never would have taken any action by themselves. As explained by a participant, it is the financial instability that is preventing them from taking necessary steps from flood-proofing their house or the surrounding roads. The labour cost for raising the plinth of a house is minimum Tk 50000²², a huge amount for farmers already strained from other losses related to floods. NGOs supply the bulk of the financial assistance for infrastructural work necessary to make the island less prone to floods such as raising the embankment, raising the plinth of homes (CLP, 2016). After surveying houses and consultation with local government representatives and farmers, NGOs provide the labour cost for floodproofing the houses (CLP, 2016), but the work done is always temporary due to the consistent nature of hazard faced by the islands; repair or reconstruction work has to be done every other year which the villagers agree as not being sustainable in the long run. Consequently, initiatives for collective action are not initiated by char inhabitants but always by NGOs, they work in bridging the gap between the poor farmers, the well-heeled members of the community and government representatives (Khanum & Watson, 2016). This gives the local government and the elite a “sense of ownership” of the project and a “sense of importance” according to the KI in Friendship but also by a female participant:

“We need their assistance, for example, they have land and we need to use it, if we don’t take their opinion, any decision we take will not last long. If we don’t ask them and do something on their land, later we will be evicted from there and we will be left with no choice, we have to ask them and get their permission”

This reason was also further explained by all of the KIs, “their involvement is necessary if we want to effectively implement the project goals”, such as when the “chairman of the union changes” or “political leadership changes” the elite members are also included, the KI in Dhaka elaborates how their involvement is made:

“for example, in 2017 we organized a workshop meeting of 24 union parishad members of Bangladesh where gov. MP and French ambassador was present and other officials from ministry of DRM. [.....] the minister shared his phone number informing them if they have faced any kind of problem to call him and the interesting part is it worked. So when we go in the field [.....] the prevalent problems in the field are not as severe. They know Friendship has links at the top level of government”

²² Tk 50000 is approximately 530 Euros. This is a large amount for day labourer earning 1 Euro a day (Paul & Islam, 2015).

As a result, NGOs are more effective in carrying out projects in the area, but this also means farmers are completely dependent on NGOs for such services. Even with NGOs working closely with local communities, the organizational capacity for poorer communities remains the same (Brocklesby & Hopley, 2003). This dependency passively becomes another client-patron relationship, one that is more subtle (Arvidson, 2003).

5.3 Opportunity Structure

5.3.1 Openness of institutions

Institutions here refer to legal rules, social norms, routines and habits that operate in a social setting both formally and informally (Petesch et al., 2005). Rules of competition, inclusion and accountability affect the way people can influence government policy. The view from the participants was that the formal institution is largely at the discretion of the person occupying the office of LG. For instance, the national government has provisions for social security programs for the extremely vulnerable but whether the recipients receive the full fund or a portion of the fund or at all is largely decided by the chairman of the union. But this phenomenon is changing with a larger presence of NGOs, making farmers aware of their rights and connecting them with access to certain services²³(Khanum & Watson, 2016). According to a KI and participants in the FGD, access to information provided by NGOs mean the LG is accountable for answering the questions not only from locals but also NG.

Transparency and inclusivity in the decision-making process, is nevertheless, a very elusive concept not just in Shakhahati but in other areas of Bangladesh (Arvidson, 2003). Shelters provided for by the government is under Chairman's discretion with people close to him getting the preference over others more in need. Perceptions of "he gives it to whom he prefers", "we are not close to the chairman", "I don't have a husband, so I am not seen as much as those who do" were prevalent among the discussions. The discussion had to be cut short as it resulted in a heated discussion of how recipients of shelter homes are chosen. It clearly exemplified the extent of the people's dissatisfaction with the way social norms operate yet how powerless they remain to change it.

According to a researcher from ICCAD, transparency of institutions is also affected by how policies are made and implemented, policies are made in the capital and implemented by a separate set of individuals and people often do not have a platform to raise those issues as the policymakers are

²³ The NGO Friendship works extensively in Chilmari in this field.

not connected to their immediate sphere of where it is implemented. The inclusion factor of all parties meant that stakeholders at the meso level participated but not from the micro level (Figure 4) as explained by a KI from ICCCAD:

“The ministry of Env. engages all actors to prepare this document so, direct supervision was done by the CC cell of DoE²⁴, the ministry calls for proposals based on the BCCSAP, they just announce for a call for proposal, they invite different ministry, different NGO²⁵, to participate and submit their proposal. After the project is submitted, there is a technical committee to evaluate the proposal and they select the proposal.”

Participation of local communities in the policy plans is not included in the sense that the rules of competition, inclusion and accountability are biased against them from the very beginning. Another challenge mentioned by the researcher is the gap in communication. Matters related to the national policies will be explained in the next section.

5.3.2 National Adaptation policies and the States' CCA Implementation Capacity

The four key national policy documents addressing CC makes it clear that it is a priority for the GoB. Though the BCCSAP is the only national document addressing CCA in its entirety, Seventh Five Year plan, the Perspective Plan and the NSDS all contribute in various degrees with sections explicitly devoted to addressing CC and its impacts clearly establishing it as a priority. The Perspective Plan (PP) of Bangladesh clearly states the effect the ecological impact of CC will have on the social aspects

“Climate Change will exacerbate the vulnerability of poor people to environmental shocks, with the predicted increase in extreme climate events; and demographic and social changes may further increase vulnerability and social exclusion.” (page. 95)

This link that establishes the impact of CC on society, however, is very narrow and very generic in its application. It does not state vulnerabilities of communities without defining who or where these communities are or how it would address various diversities among people, categorizing all people within singular categories such “women”, “vulnerable” and “children”. Subsequently, the policies fail to address the specific vulnerabilities associated with people living in geographically vulnerable areas such as char islands in the Brahmaputra River. Established through literature review, char

²⁴ Department of Environment

²⁵ Only 10% of the budget in the Climate change Trust Fund is allocated for NGOs, so they mostly depend on international donors.

islands face different and extreme vulnerabilities in the face of CC (section 1.1 and section 2), but policy documents do not have a roadmap to address those specific to char areas in the Brahmaputra River or any other location where chars are located. In fact, the policy document treats different parts of the country in the same manner without considering the specific attributes of those places. This, I consider is a big weakness in the policies connecting to what was specified earlier. For chars, however, this is true in practice as evident from the conversation with NGOs and government officials and confirmed by the interview with an official at PKSF who explained:

“People migrated in their lifetime. almost everybody migrated minimum 5 to 15 times, due to flood, so it is not a habitable place [....]. In fact, the government does not have any kind of long-term plan on that”

He stated the reason behind the lack of investments as being the lack of permanence of the land and people constantly moving from one island to the other due to river erosion and floods. This marginalization both in policy documents and in practice needs to change if what the government aims is to be inclusive, responsive and adaptable to CC (7th FYP, pg. xxxvi).

The 7th FYP’s stresses the need for economic growth to empower citizens. Empowerment in terms of CCA is suggested for CBA to be achieved through “people-centered participatory planning” (pg. 463), with knowledge support of civil society organization both at the meso and macro scale. According to the researcher, the gaps in policy documents and the situation on the ground is owed to gaps between data collected and data translated into policies. Often data is collected by people coming from Dhaka who stay in the area for a short period of time, which is then translated to experts to understand and transform into policies. Objectives of the policymakers are not communicated well during the implementation process which he says should be translated and reflected in the way the goal of the project is reached. The reason was explained by the KI:

“Those who are making plans, policies, mostly live in the capital city and they are understanding a language that is not the same as that of the local people, so that is a barrier. At the national level, they very rarely go to the local level and try to share their experience to them rather they visit someplace, and they like to say we have done this, and we have done that.”

Moreover, this explicitly shows that like all policies, empowerment is also understood to be applied from the top rather than something that is initiated by the community and this was evident across the spectrum of the practice of government policies and NGO-led projects. By pointing out the top-

down nature of implementation process, I am not stating it is ineffective in achieving the short terms goals but what this effectively also does is that it leaves local communities without the agency to sustainably maintain the decisions implemented. Empowerment does not happen in a vacuum, it is an iterative process of self-organization realized and provided for by the opportunity structure and space for practicing agency (Petesch et al., 2005). Participation in policy designing, making, implementing is equally necessary for a community to be agents of change (Biggeri & Ferrannini, 2014). For empowerment to be sustainable, greater autonomy needs to be given to LG because it is the space of interactions for local communities. It is the sphere where inequalities, forms of exclusion and asymmetrical power differences are felt and experienced. Thus, this is where the greatest change can happen if provided with the proper resources (Biggeri, Ferrannini, & Arciprete, 2018). Accordingly, it is important for policymakers to take that into account when addressing sustainability in adaptation to CC impacts. Additionally, the lack of mention of chars in the policy document means that char communities are left out of from the focus of CBA or the need to empower inhabitants from within char areas. This lack of focus on specific vulnerable areas is reflected in all the policy documents with chars mentioned only in terms of poverty alleviation. Future revisions of the policy documents such as the 8th FYP or the BCCSAP currently underway can potentially look to improve by laying out plans that address the CC vulnerabilities specific to that area.

The BCCSAP and NSDS draws on mainstreaming adaptation to address adaptation to CC impacts, laying out both planned and autonomous forms of adaptation (section1.2). Yet, these are also passive adaptations making farmers and local communities largely passive recipients of the knowledge rather than being co-creators of knowledge as they have not been able to connect local communities with knowledge producers when they need it the most. Besides, the BCCSAP has included aims in building capacity of government ministries and agencies, that is preparing government ministries and the personnel within to understand, comprehend and implement CC policies of the government. This aspect of the policy has been effective in creating a greater understanding of CC concepts in the institutions of the country. According to the researchers at ICCCAD, the top-down nature of the implementation process has made capacity building programs at the national level more effective in gathering momentum on CC issues. Having said that, these programs have largely been implemented in the capital and the ministries in Dhaka, which was evident in the Gobeshona Conference 2019, but have not yet reached local governments in all rural areas as confirmed from the FGD in Char Shakhahati. Even though increasing capacities of local

government was mentioned in the 7th FYP, the capacity building programs for LG have not been extended to char Shakhahati in Chilmari, Kurigram²⁶.

The top-down nature of policy implementation may have its advantages, but it leads to issues in unsustainably adapting to CC in the long run. One of the biggest drawbacks has been the implementation of CCA in remote locations of the country. The process has been fraught with difficulties starting with how the policies were designed, how they were implemented and what happens after the project implementation process is over. The next section will thus explain the barriers in socio-political structure and why the exercise of agency and applications of empowerment in communities in implementing CCA has been so elusive.

Socio-political barriers in adapting to impact of CC

The BCCSAP was created specifically to address CC impacts and funds were made available for the projects to be implemented across the country.²⁷ From my experience in Char Shakhahati in Chilmari, BCCSAP programs have not been implemented to all parts of the country. Lack of Accountability and transparency in implementation processes in the ministry influence the states' implementation capacity (Petesch et al., 2005). This was often the case with government ministries, with politicians giving bigger priority to their electoral base and not the area that was more in need. According to the KI from the research centre in Dhaka, the political affiliation of the ministry and the minister who handles the projects affected how and where the BCCSAP funds are allocated. It is not necessarily about lack of fund but rather misallocation of funds as he explained:

“Additionally, the gov decision also changes with the power of the political leaders. The gov decision is not executed in the right manner because the political leaders they also impose their power to get more money in their own area (hometown) For example the BCCSAP fund CC trust fund, a large percentage of the fund were used in the Cox's Bazar area because that time the minister was from that area, although the most vulnerable in the south is the southwest and not south east”

What the researcher meant was the southwest part of Bangladesh suffers the most due to impacts of CC more than the Chittagong area, but the funding was not rationally allocated but instead involved mismanagement. The researcher went on to explain how the lack of transparency, lack of cooperation between the different ministries from the inception of the policy to the implementation

²⁶ From personal communication with the ward member of Ward no.5

²⁷ There were wide ranging development projects being implemented ranging from hard adaptation and soft adaptation such as increasing capacity of people to diversify livelihoods.

of the policies hinders the implementation of the policies at the local level. Furthermore, implementation of these projects is centrally organized which means funds are allocated by the central government in Dhaka with the central government deciding which projects should get funded and how it should get funded. The percentage of funds available to the local government also changes; by the time it reaches the ward level (Table 1), it is only a tiny percentage of what was originally allocated which the researcher further elaborates on:

“Local government has very little autonomy. Budget is decided by the national government then it passes to the district which gets further divided by the time it reaches the local level and there is only a small amount of fund left for the local level to do any long term efficient and effective work.”

These leave local government at the union and ward level with very little choice in terms of which development projects to fund leaving them with no opportunity to create the opportunity structure needed to empower local communities. The reason for having more local involvement is that traditional methods of project implementation do not change the consciousness to act and achieve liberation from poverty and marginalization in the political sphere (Christens, 2019b). Accountability and reflexivity is another major challenge (Petesch et al., 2005). Due to the nature of project proposal procedures, similar projects are often implemented centrally and by different departments often with no communication between each other. This results in not enough attention being paid to projects' full range of effects both intended and unintended (Alexandre Apsan Frediani et al., 2014). Any lesson learned or mistakes made are lost after the project ends. According to the researcher CCA projects implemented often lack the sustainability aspect further adding projects sometimes cannot continue due to lack of funds. There is little or no accountability for the project goals achieved as every project becomes a pilot project losing reflexivity and increasing the room for incompetence and inefficiency.

These implementation structures suggest that the process that the government has adopted has itself become a barrier to addressing CCA in local communities. The one-dimensional approach to implementation means neither the local community nor the local government has any autonomy or ownership in CCA plans that impact them the most. The lack of effective involvement of local communities' results in unsustainable practices, also affecting the long-term financial investments made in running the project.

Varying degrees of participation

Participation of local communities is mentioned widely throughout the NSDS, BCCSAP and 7th FYP not only for local development, social protection programs or CCA but across all sectors. Participation also varies from region to region and project to project. According to the researcher:

“the mayor of Mongla for the last 5 years he has been putting a lot of effort into this, now if you go to Mongla [.....] they are already at level 3, they figured out what we have to do, they are allowing people to go and see what they are doing, learning by doing”

What this points to is participation in projects varies, depending largely on the personal interest of mayors or project funding or objectives set by the NGOs. Connecting what was mentioned earlier NGO led initiatives in the country have increasingly been involved in participation in the form of a partnership. But participation in government-led projects has remained marginal. Factors such as finance, access to resources and politics do a play role in how local government can approach projects which significantly affects the way projects are planned or implemented as explained by the KI:

“We do not give them any power, decision making or resources, they have tiny budgets , we need to give them a bigger budget, let them decide what to do with that budget , we never do that, we say we’ll give you a road but we do not say there is so much money what do you want? A road or something else. We don’t give them that choice. We just say that we’ll make a road for you”

This suggests that administrative structure around budget allocation certainly affects to what degree local communities can participate in local development processes. It also affects the states’ ability in penetrating remote local communities and what services it can provide. This is in line what farmers in Shakhahati had experienced with minimal government services.

Furthermore, the concept of agency that allows people to initiate action and implement objectives that they value is non-existent in all the documents examined. In practise, the objective of participation is not effectuated to achieve a collective agency but more to satisfy donors. These practices are not just restricted to CCA but other development projects across the country (Arvidson, 2003). Participation in CCA projects initiated by NGOs varies, with an overwhelming portion falls between “informing” and “consultation” (Pretty, 1995; Reed, 2008). Projects initiated and

implemented by the government does involve participation but the characteristics fall within the category of Rapid Rural Appraisal (RRA), where projects are planned and goals realized to be very cost effective (Duraiappah, Roddy, & Parry, 2005). These are more to satisfy donors than to empower grassroots initiatives (Arvidson, 2003). Participation that involves delegated power or partnership (Pretty, 1995; Reed, 2008) does exist but almost always initiated and implemented by NGOs as was observed with Oxfam-PROTIC project and Friendship's extensive work in char areas. These stakeholder participation projects have been successful in building capacity and meeting the participant's needs. They have also contributed to empowering stakeholders to a certain extent by co-generating knowledge between all the participating stakeholders and their ability to use that knowledge for the future.

6 Discussion

The purpose of this section is to highlight the main findings made in the previous section in relation to answering RQ. 1 and RQ. 2. Beyond that, the section will reflect on knowledge production for sustainable adaptation in Bangladesh and expected future pathways in the field of CCA

The findings show that inhabitants in Char Shakhahati do not exercise collective agency nor can they exercise collective agency. This led me to investigate what prevents them from doing so and empowering their community. Several factors lead to the lack of collective agency to achieve empowerment in Char Shakhahati in terms of adapting to CC impacts. They include lack of development investment in char areas, lack of economic and social-human capital within communities and asymmetrical power relations (between NGOs-poor local community, Government-poor local community, local elites-poor local community).

The situation is compounded by lack of transparency in government institutions both local and national, clientelist political structures, lack of autonomy of local government in finances and decision-making powers, with the very top-down centralized way of implementing CCA policies all seen as contributing to barriers in empowerment. Furthermore, the nature of procedures applied in the national policies in addressing CCA through projects contributes to this barrier. There is a lack of attention to detail, such as lacking flexibility, inclusivity, LG autonomy and gap in the making and implementation stages undermining the sustainability of projects' long-term goals.

Thus, CCA projects implemented by government or NGOs are not empowering communities in the true understanding of the term, because they are not actually originating from the communities but are externally planned, budgeted and implemented. The dynamics of power does not shift with these projects to the local community. The opportunity structure for people to act as agents is non-existent (Petesch et al., 2005). NGOs play a huge role in bringing poor vulnerable communities to light (Arvidson, 2003), but this relationship is not co-creating structures where empowerment can unfold in the future in their absence. Though the Oxfam-PROTIC project showed a semblance of empowering communities, the fact that ideas and concepts originated from the NGO and not from the local community remains. Subsequently, there was no grassroots organization around the practice of CCA, but single individual-NGO relationship meant that people are wholly dependent on NGOs for taking initiative. It is not merely about accessing knowledge but the tools of producing knowledge that is not with the community (Brocklesby & Hobley, 2003), though they have facilitated

the process of providing tools to the community. The fact still stands that once the NGOs leave or run out of budget, so do the tools used by the community making the entire endeavour unsustainable. The community is not the agent of change but NGOs and government. The procedures cannot be replicated and thus not sustainable in the long run to adapt to CCA.

Empowerment and knowledge production

The scholarship on collective agency and empowerment coincide with concepts used in environmental justice. The “inequitable share of environmental ills”(Schlosberg, 2007) is a central concept of environmental justice, but this is also a human construct, marginalizing communities largely due to neo-liberal market policies in place. The situation in chars and char inhabitants are not a result of neo-liberal market policies but rather a product of natural phenomena of river geomorphology. Marginalization of char inhabitants is due to structures in places in implementing policies rather than being influenced by more global phenomena. The framework of empowerment applied in this study has clearly identified how the structures contribute to the marginalization of char inhabitants.

Empowerment as a concept is widely used in policies and by NGOs but is narrowly understood (Arvidson, 2003). It is seen as individually implementing adaptation strategies and not something that involves the active participation of the community in changing the socio-economic or political structure or that opportunity structure needs to be created for local communities to exercise certain rights (Cleaver, 2005; Petesch et al., 2005). The structure around empowerment in Bangladesh sees it as to be employed from the outside. Empowerment is when communities have the power to initiate, plan, organize and implement projects themselves in a very organic manner with civil society collaboration to make it happen (Christens, 2019b).

Interestingly, the field of CCA knowledge production in Bangladesh is extensive and very rich from what I have observed in the conference in Dhaka and all the various projects carried out by NGOs. Research institutions both within government and outside of government have experts in the field of CCA in Bangladesh but this also a weakness for Bangladesh which can be a strength if applied in the right manner. Knowledge production is a very elitist and power-laden issue because it is produced by the highly educated and the well-off. How to address CCA is very much decided by the more educated experts who provide input and the government and other civil society institutions provide policy recommendations. When the policy formulating body who have the comfort and security of living in Dhaka, decide how policies should be implemented, though it is not necessarily wrong, it lacks the dynamics of equal ownership and depth of experience of living in such vulnerable

situations. According to Christens (2019), knowledge production should not just be collaborative and democratic but also contribute to “critical consciousness” that allows the producer of that knowledge to “read the world” in order to transform the status quo. Lack of education in chars (section 7.2.1) also prevents them from contributing to knowledge production and their ability to read the world to transform it.

Moving Forward

The findings show that adaptation is not a collaborative effort from the framing of the problem to finding a solution to the problem. As such, structures necessary for such collaboration is non-existent to allow people the opportunity to exercise their agency and effectively contribute to making decisions. Based on what has been found from RQ. 1 char communities lack the structures needed to practise sustainable adaptation. For sustainable adaptation, RQ. 2 shows how CCA policies are not contributing to agency and empowerment (section 5). These structures needed, must be co-created by local governments, national government and civil society organizations. Rather than implementing CCA decisions directly in a top-down manner, the government can work to create the structures that communities can utilize to organize, plan and implement adaptation strategies themselves. This way the community generates knowledge and experience that they can implement themselves considering their own subjective diversities and intersectionalities.

Taking into account the specific vulnerabilities of chars, sustainable adaptation in chars will require

- a. Access to equitable markets where farmers from chars can sell their produce without added competition from markets.
- b. Creative solutions to provide education, health, transport and other basic services generated by the community with NGOs, LG, National government playing less influential roles.
- c. LG having greater autonomy in finance, planning, implementing rather than the national government.

Bangladesh is expected to mainstream adaptation in the 8th FYP but for mainstreaming to be sustainable at the community level, local integration is necessary to co-create solution-oriented knowledge. The objective should not be just to reach an end goal but also create the means so that such solutions can be regenerated, reproduced and reconstructed.

7 Conclusion

The objective of this thesis was to investigate local communities in Char Shakhahati and their role in empowering themselves in dealing with extreme events and the understanding of empowerment in national policies and how it is addressed to sustainably address CCA in char areas of Bangladesh.

To understand the complexity and vulnerabilities specific to char areas of Bangladesh and how that impacts adaptation, the second part of the study established the vulnerabilities caused by the socio-ecological system. I initially undertook a literature review followed by an in-depth understanding of the case involving multiple stakeholders in the process of achieving the objectives set in the thesis. Applying the concept of collective agency and empowerment to the local communities in Char Shakhahati, I explored how communities as a collective act together in the face of extreme events and the what spaces are available to them to explore agency and empowerment. From the findings, I conclude that communities lack the agency and opportunity structure to act as agents to realize their potential to empower themselves. Barriers in the socio-economic-political structure as well as how policies are implemented by government and NGOs contribute to the lack of empowerment in char areas. With the understanding of empowerment being misplaced, the top-down approach of development projects addressing CCA impacts miss the sustainability aspect of CCA.

Future research in the field of CCA can explore the possibilities of grass root movements initiated, organized, planned and implemented by the local communities where the knowledge is produced and consumed for them and by them respectively. Research can also explore whether discrimination and fear play a role among local communities in how they should participate in decision-making processes. Paying attention to barriers to exercising of agency and empowerment and the components that drive the empowerment of local communities can aid policymakers in creating more sustainable CCA strategies.

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9 Appendices:

Appendix I:

Interview Questions: Researchers

1. Among the many outstanding things that you notice in the BCCSAP one aspect is undeniable in the document is the collaboration with all the different ministries and departments in the government to effectively address CC. Can you give an example of a typical collaboration between the different ministries to enhance community-level adaptation to address food security, social protection and health comes about (theme1))?
 - a. Is the local community where the decisions are implemented involved in the decision making process in any stage?
 - b. After collaboration with the different stakeholders can you elaborate on how the decision is operationalized/implemented (should address operationalization of Community level adaptation with farmers, fishermen etc.)
 - c. What is the timeline for a medium- and long-term adaptation project?
 - i. what happens after the project implementation stages are over?
 - ii. How is the decision made about the long-term sustainability of the projects success?
 - iii. What were the major challenges at the local, district and national level when it came to be operationalizing the decisions taken by the departments?
2. Theme 6 of BCCSAP mentions capacity building and institutional strengthening. What programmes and initiatives is the government involved in to reach those goals?
 - a. Do these capacity building programmes involve all local stakeholders? (local farmers, fishermen, men, women landed/landless/ day labourers/unemployed etc. and enhancing their capacities in addressing their resilience to CC.
 - b. how did the programme in theme 6 address their adaptive capacity and to what extent has it been scaled up?
 - c. what were the major constraints when implementing capacity building programmes?
 - d. Can you elaborate on how local institutional strengthening is being carried out currently? An example cases?
 - i. What local institutions are involved and what changed as result of those new programmes implemented?

- ii. What do you think are the main challenges for long term sustainability of these likely changes?

- 3. The 5th IPCC report on adaptation has stressed that to have sustainable adaptation strategies it is necessary to have local development that enhances human development (social capital, local development, diversity, intersectionality in reducing inequalities and how it can contribute to reduction of risks)
 - a. How is the government contributing towards local development that enhances the capacity of the community to implement sustainable adaptation strategies?
 - b. What scale of autonomy do they have when it come deciding, planning and implementing those decisions goals at the village/union/ ward level?
 - c. Does the BCCSAP policy document address the need to have collective action through bottom up social participation that is initiated by the people at the community level to implement adaptation measures?
 - d. Does the government encourage ordinary citizens at the village level to initiatives that reduces their collective exposure to floods/CC impacts? What criteria do they have to fulfil to get assistance from the government
 - i. If yes how do you see the government facilitating such initiatives? Expertise? Financial?
 - ii. What do you think the reasons are for such initiatives to have taken hold?

- 4. Char people are among the most vulnerable to Climate Change due to consistent exposure?
 - a. Does the BCCSAP policy take a place and people-based approach to address the specific vulnerabilities of chars and its people?
 - i. Lack of secondary schools and teachers who are not from the community but from the main land decreases the efficiency of education provided
 - ii. Communication in terms of transport and access
 - iii. Access to markets (example: spend quite a sum in transporting produce to the market which additionally disadvantages the char people)

Interview Questions: Private Sector-NGOs

1. What is your experience and involvement with climate change adaptation within the organisation?
2. What is your organisation's experience with local authorities regarding the issue of adaptation?
 - a. How do you cooperate?

- b. How is your relationship with them?
- 3. What kind of CCA plan/strategies do you have for farmers/fishermen?**
- a. How are you working with local communities and farmers in kurigram?
 - b. Does your work address food security, livelihood security or homestead security? If yes how?
- 4. How long have you been working with these issues and are you planning to work here in this field in the future?**
- 5. How does the implementation of the climate change strategies operate within the organization?**
- a. Do you work with local organization/government organization at local/national level?if yes how?
 - b. Who implements the adaptation policies of your org. (local community/ cooperatives or your own experts not based in kurigram)
 - c. Are you included in the formulating the policies and/or during implementation process of the CCA strategy nationally
- 6. How are your climate change projects financed?**
- a. Do you get any support from the state government/ private individuals/international donors?
- 7. Have you worked with local communities to increase their social capital ?if yes how?**
(a. awareness raising workshops b. outreach programmes c. community meeting and other educational programmes to disseminate knowledge about adaptation options)
- 8. What is your organisation's experience with farmers regarding climate change adaptation and facilitating any community led adaptation and giving them the opportunity that they can realize for themselves?**
- i. Their knowledge regarding the issue
 - ii. Autonomy of the community in implementing their own decisions or solutions
 - iii. Access to financial help or to education and information
 - iv. Their view on the local authorities work
- 9. How are the outcomes of the project defined**
- i. Who decides, how it is decided, & what is decided
 - ii. How do you address potential disruptions/unpredictability

iii. Do you encourage communities to take initiatives on their own? For example to prepare after flood levels subside? (address community empowerment, self determination by communities)

Key informant Interview questions- public officials

1. First, can you tell me about your work within the Ministry of Environment...

- a. What does the authority work with regarding for climate change adaptation ?
- b. What is the department's responsibility and jurisdiction?
- c. How do you work with other authorities at the different scales of government starting from the national to the local? Can you give a brief description?

2. Do you work with adaptation addressing social participation in adaptation policy implementation?

- a. How do you increase people's adaptive capacity?
- b. Do you recognise these definitions within your work with the authority?

3. How are you working with local communities, farmers in the district/village?

- a. What kind of adaptation plan/strategies do you have for farmers in the district/village?
- b. Does the Ministry of Env work with other ministries to address CCA ? if yes can you state which ministries and also how the collaboration comes about?
- c. Example collaboration between the department natural hazards, water ministry, agriculture and others?
 - i. What is the timeline and activities for a typical adaptation project?
 - ii. Can you give an example of a very recent case?

4. If you are dividing the work how are you prioritising (in the sense of importance, national support of priority and finance:

- a. Climate change Adaptation/mainstreaming adaptation
- b. Sustainable development that focuses on social opportunity /real opportunity to create social capital to reduce vulnerability of communities to adverse effects of CC ... within your authority?

5. Theme 6 of BCCSAP (T6P1,2,3) mentions capacity building and institutional strengthening. Can you elaborate on how Ministry of Env. Is contributing towards those goals?

- a. How have the inclusion of these goals changed the way the institution operates?

- b. CCA experts call for improving social capital as a way to reduce vulnerability to impacts of CC.
- c. How is social capital addressed at the national/district/village scale?

Focus Group Discussion

1. Have you experienced much flooding, heavy rainfall, river erosion in your area?
 - a. Has it increased over time? Think of how it was 5, 10 years back, has it changed?
 - b. When did it happen last time?
2. Can you explain what typically happens when there is a flood or when there is river erosion?
 - a. Do own land on which you farm/on-lease/or are you a farm labourer?
 - b. How long have you been living in this village? And do you have family here? Did you have to move?
 - c. What do you depend on for your livelihood and how was your livelihood affected by these extreme weather events (flooding/heavy rainfall/river erosion)?
 - d. During extreme floods how do you immediately address food security, domestic animals security, homestead security? Who helps you in these times? Government/NGOs/ family/comboination
 - e. What kind of assistance do you think villagers need in tackling flood/river erosion short term and long term and are you getting those?
3. When the government or NGOs implement flood management policies does the community participate/ consult/ discuss how best the policy should be implemented?
 - a. Is there any adaptation strategy that you want to see happen but is not happening?
 - b. If you had the opportunity to implement a solution about flood or soil erosion for yourself or your community what would it be? Why do you want to carry out this?(Have you tried? What happened?
 - c. Do you support what the government and NGOs are doing in this area?
- 4a. When there is no flood are there any steps taken to better prepare yourself for the future?
 - i. If yes who prepares these discussions and do you attend them? Did you learn anything? Has it been useful? Are you given the opportunity to contribute or organize these meetings?
 - ii. If yes Have you ever organized any such meetings?
 - iii. Did you implement your decisions? What did you achieve? Are you still working with those goals
 - iv. If no do you want to organize any such meetings where you can discuss how to better prepare yourself for future floods/ river erosion?
 - v. What would be your first initiative for your community and yourself?
 - vi. Whose help do you need to carry out the objectives set(NGOs, Government etc)

Appendix II: Fieldwork-FGDs, Interviews and Direct observations

	Date &Place	Methods of Data Collection	Purpose
1.	8/1/2019-11/1/2019 Dhaka	Direct Observation- attending a conference on CC	To observe the state of knowledge production in Bangladesh, who produces it , who consumes it etc.
2.	7/2/2019- Dhaka	Key Informant- Group discussion with an NGO	To find what roles the NGO plays in chars, how do they contribute to empowerment?
3.	11/2/2019-Char Shakhahati	Female FGD	To investigate collective action in CCA actions
4.	12/2/2019-Char Shakhahati	Male FGD	To investigate collective action in CCA actions
5.	13/2/2019-Rowmari, Kurigram	Key informant Semi structured interview with an NGO project manager	To find what roles the NGO plays in chars, how do they contribute to empowerment in the area?
6.	25/2/2019-Dhaka	Key Informant-Semi Structured Interview with a government official	How the government ensures the sustainability of the policies implemented?
7.	25/2/2019-Dhaka	Direct Observation-A seminar with OxfamPROTIC team	The state of participatory partnership projects ensuring empowerment of women in their local community
8.	26/2/2019-Dhaka	Key Informant-Semi structured interview with a researcher at ICCCAD	Sustainability of climate change policies in Bangladesh, how they are made, implemented and what challenges they face
9.	28/2/2019-Dhaka	Key Informant-Semi Structured interview with a researcher at ICCCAD	Sustainability of climate change policies in Bangladesh, how they are made, implemented and what challenges they face
10.	28/2/2019-Dhaka	Key Informant-Semi Structured Interview with a government official	What investment plans does the GoB have in terms of char areas of Bangladesh
11.	1/3/2019-Char Shakhahati	Female FGD	To investigate collective action in CCA actions
12.	1/3/2019-Char Shakhahati	Male FGD	To investigate collective action in CCA actions

Appendix III: Quotes

	KI/FGD participants	Section	Quotes
1.	FGD participant (1st FGD)	5.1	"Farmers in char can't raise profit because of loss faced every year either to their homes, loss of crops, or livestock which they have to spend every year to replace. Additionally, we have other costs which are related to farming like water for irrigation, buying fertilizers etc. so there is so much to spend on top of the loss we face every year."
2.	Key Informant NGO -Group Discussion	5.1	"for example, one alone cannot do anything, 10 people can do it together but what is to be understand here is among those 10 people 1 or 2 are self-sustaining or resourceful financially, physically he/she can share that resource with everybody that is why the community is resourceful, but if in a community everyone is deprived who absolutely has nothing, then without external aid it is not possible to raise them but at least when they are at that stage."
3	FGD participant (1st FGD)	5.1	"Like three years ago we had severe case when the wall that was built to protect us from rising water levels broke down and water rushed in all at once. It happened during heavy monsoon season, so there was lots of water. Around 200-300 acres of land was flooded so did the rice harvest. We all went there to cut it down, but we could not retrieve it."
4	Key Informant NGO-Group discussion	5.2.1	"when a person goes to a shelter/embankment he /she never goes alone they usually go with 200 or so other families and it is not usually enough for that many people and there isn't enough space for cooking ones food.[.....] we have also seen advance selling of labour, this has serious impact on the people and how quickly they can recover after the flood season. If we somehow provide them with dry food for 5-10 days [...] then this person can recover from the impacts faster in the next 2-3 months".
5	FGD participant (2nd FGD)	5.2.3	"We need their assistance, for example, they have land and we need to use it, if we don't take their opinion, any decision we take will not last long. If we don't ask them and do something on their land, later we will be evicted from there and we will be left with no choice, we have to ask them and get their permission"
6	Key Informant NGO-group discussion	5.2.3	"for example, in 2017 we organized a workshop meeting of 24 union parishad members of Bangladesh where gov. MP and French ambassador was present and other officials from ministry of DRM. [.....] the minister shared his phone number informing them if they have faced any kind of problem to call him and the interesting part is it worked. So when we go in the field [.....] the prevalent problems in the field are not as severe. They know Friendship has links at the top level of government"
7	Key Informant Researcher	5.3.1	"The ministry of Env. engages all actors to prepare this document so, direct supervision was done by the CC cell of DoE, the ministry calls for proposals based on the BCCSAP, they just announce for a call for proposal, they invite different ministry, different NGO, to participate and submit their proposal. After the project is submitted, there is a technical committee to evaluate the proposal and they select the proposal."

8	Policy document, Perspective Plan Bangladesh	5.3.2	"Climate Change will exacerbate the vulnerability of poor people to environmental shocks, with the predicted increase in extreme climate events; and demographic and social changes may further increase vulnerability and social exclusion" (page. 95)
9	Key Informant-Government Official	5.3.2	"People migrated in their lifetime. almost everybody migrated minimum 5 to 15 times, due to flood, so it is not a habitable place [...]. In fact, government does not have any kind of long-term plan on that"
10	Key Informant-Researcher	5.3.2	"Those who are making plans, policies, mostly live in the capital city and they are understanding a language that is not the same as that of the local people, so that is a barrier. At the national level, they very rarely go to the local level and try to share their experience to them rather they visit someplace, and they like to say we have done this, and we have done that."
11	Key Informant-Researcher	5.3.2	"Additionally, the gov decision also changes with the power of the political leaders. The gov decision is not executed in the right manner because the political leaders they also impose their power to get more money in their own area (hometown) For example the BCCSAP fund CC trust fund, a large percentage of the fund were used in the Cox's bazar area because that time the minister was from that area, although the most vulnerable in the south is the southwest and not south east"
12	Key Informant-Researcher	5.3.2	"Local government has very little autonomy. Budget is decided by the national government then it passes to the district which gets further divided by the time it reaches the local level and there is only a small amount of fund left for the local level to do any long term efficient and effective work."
13	Key Informant-Researcher	5.3.2	"the mayor of Mongla for the last 5 years he has been putting a lot of effort into this , now if you go to Mongla [.....] they are already at level 3, they figured out what we have to do, they are allowing people to go and see what they are doing , learning by doing"
14	Key Informant-Researcher	5.3.2	"We do not give them any power, decision making or resources, they have tiny budgets , we need to give them a bigger budget, let them decide what to do with that budget , we never do that we say we'll give you a road but we do not say there is so much money what do you want? A road or something else. We don't give them that choice. We just say that we'll make a road for you"