

Reframing the Problem: ‘From Climate Change in Urban Areas’ to ‘Urban Governance in an Era of Climate Change’¹

Ferdous Jahan, David Hulme, Manoj Roy and Asif Shahan²

Abstract

Bangladesh is the country most likely to experience severe problems because of its vulnerability to climate change (Roy et. al, 2011, Harmeling, 2010). In some ways it has and is responding well to these challenges through the production of the “Bangladesh Climate Change Strategy and Action Plan” and the international role it is playing in promoting climate change mitigation and demanding resources for adaptation. However, the focus of policy and action in Bangladesh is on food security and adapting to climate change in rural areas; research, policy and action on adaptation in urban areas, and particularly for low-income settlements and poor people, has been neglected (Banks, Roy and Hulme, 2011).

This paper presents the initial findings on work in low-income urban settlements examining household and community capacity to adapt to climate change. It finds that adaptation is integrally linked to urban governance and that the ‘real world’ of informal urban governance is as important (perhaps more important) as the official system of urban governance in supporting and constraining capacities to adapt. We explain this informal governance structure, analyze its formation process and explore its strengths and weaknesses. Our analysis indicates that this network based de-facto structure relies heavily on the existing power relations that the poor can access and is unlikely to produce environmentally sustainable or socially just outcomes in the long run. We use the concept of co-production and the institutional analysis and development (IAD) framework (Ostrom, 2005, 2010) to structure our analysis.

1. Introduction

Bangladesh is the country most likely to experience severe problems because of its vulnerability to climate change (Roy et. al, 2011). In some ways it has and is responding well to these challenges through the production of the “Bangladesh Climate Change Strategy and Action Plan” and the international role it is playing in promoting climate change mitigation and demanding resources for adaptation. However, the focus of policy and action in Bangladesh is on food security and adapting to climate change in rural areas; research, policy and action on adaptation in urban areas, and particularly for low-income settlements and poor people, has been neglected (Banks, Roy and Hulme, 2011).

While Bangladesh faces high levels of risk and vulnerability to increased natural disasters due to global climatic variability, we expect to see massive climate induced migration from rural to urban areas. But, the state of urban governance in Bangladesh is very poor with inadequate urban policies and poor service delivery structure. Thus, city governments may lack adaptive capacities to accommodate these additional migrants. This paper examines incidents of such migration (in

¹ This paper heavily draws on the earlier papers by authors. For details please refer to Roy et. el. (2011a), Roy et. el. (2011b), Jahan et. el. (2011)

² Ferdous Jahan and Asif Shahan, University of Dhaka and BRAC Development Institute; David Hulme and Manoj Roy, Brooks World Poverty Institute,,University of Manchester

Khulna due to Hurricane *Sidr* and *Aila*) and how existing urban poor and migrant poor adapt to urban life. Our study reveals that the policies and actions adopted by the national and municipal governments have not adequately acknowledged the needs and demands of the urban poor. At the same time, the recent shift from a government structure into a governance structure (which includes the provision of service delivery by non-state actors) has been inadequate to address their problems. In these circumstances, we argue that as the *de jure* governance structure is failing to perform, the people living in low income urban settlements have developed a *de facto* informal governance framework. In this paper, we explain this *de facto* governance structure, analyze its formation process and explore its strengths and weaknesses. Our analysis indicates that this network based *de-facto* structure relies heavily on the existing power relations that the poor can access and is not sustainable in the long run. We use the co-production models and IAD framework (Ostrom, 2005, 2010) to explain our analysis.

2. The Urban Governance and Impact of Climate Variability: Evidence from Khulna

2.1 Study Sites and Methodology followed

Khulna is the first case study city for the CLIMURB project³. The decision to study two communities in Khulna follows our initial aim to study two poor urban settlements from the three leading metropolitan cities of Bangladesh: Dhaka, Chittagong and Khulna (see Roy et al., 2011). The selection of two communities in Khulna was based on a reconnaissance survey of five case study candidate low-income communities and an assessment of their suitability as case study sites using the following five criteria:

- Socio-economic diversity – to ensure that we picked up communities where there is variety of socio-economic groups
- Presence of adaptation practices – to make sure that we can study challenges to poor urban communities as well as the practices that they develop to adapt to those challenges
- Presence of institutional structures – to be able to understand institutional roles in poor people’s adaptation practices
- Diversity of tenure/security – this is to ensure that we do not pick community that has a secure tenure or only one form of tenure structure
- Not atypical – to ensure that we are able to capture the dynamics of multiple forms of livelihoods and complex forms of community organizations
- Existing environmental problems – so as to help us understand how the existing problems could be compounded by climate change.

Based on these criteria, we selected Bagmara and Rupshaghat settlements. The Rupshaghat community came first in that assessment, due to the presence of a greater socio-economic

³ The Economic and Social Research Council (ESRC) and the Department for International Development (DFID) have jointly funded a research project on “*Community and Institutional Responses to the Challenges Facing Poor Urban People in Bangladesh in an Era of Global Warming*”. It seeks to create policy relevant knowledge about how climate change impacts on the livelihoods and living conditions of poor urban people and communities in Bangladesh. It is a core project under the “*Poverty and Climate Change in Urban Bangladesh (ClimUrb)*” program, led by the University of Manchester in collaboration with BRAC University, Dhaka. It intends to look closely at how the urban poor are adapting to increased vulnerability and at the ways in which public institutions and market forces help and/or hinder their strategies.

diversity, and multiple forms of adaptation practices, institutional structures and tenure pattern. It is a very complex community, with people from different geographical origins and religious backgrounds. In Rupshaghat, most dwellings are owner occupied, but there are pockets of rented dwellings. The Khulna City Corporation together with the Urban Partnerships for Poverty Reduction Project (UPPRP) and other NGOs have provided with water points and community latrines, and have constructed footpaths and drains in Rupshaghat.

The Bagmara study site has two very important characteristics that influenced to decide it as a case study. First, the urban poor households in this site live in privately owned houses owned by legitimate landlords. Thus, unlike typical slums, the residents enjoy a certain level of tenure security as long as they are able to pay rent. However, due to houses owned by individual landlords, the urban poor people in this area are not organized as a community and they rarely receive any Government and NGO pro-poor development interventions. In a sense, the ultra poor tenants living in Bagmara are more vulnerable than that of Rupshaghat as they cannot negotiate with landlords for better living as well as do not receive government and NGO services (because they are perceived as people living in privately owned houses and thus are not eligible to receive assistance and development interventions applicable for slum dwellers). Second, a significant number of Cyclone *Aila* induced migrants live as tenants in Bagmara.

Methodology Followed

Once the settlements were selected, we conducted a household listing and included all households in the selected settlement/parts of the settlement. An initial mini-survey was conducted to collect the basic information on the household members and their poverty status. Participatory appraisals and FGDs were the next research methods used to identify common problems that the residents face and their coping strategies to minimize those problems. Both male and female residents of these settlements participated in FGDs and appraisals. Twenty-six in-depth household level and 20 institutional cases studies were completed. Fifty five individuals were interviewed to complete the household cases. Moreover, other key informants and stakeholders (e.g. ward councilor, City Corporation officials, government line agencies and administration, NGO personnel, academics) were also interviewed during the study. In total, 21 key informants were interviewed. A regional dialogue with 56 members of the local academic community, government officials, civil society activists, and representatives of the two communities was organized at halfway stage of the fieldwork. The Khulna fieldwork commenced on 1st February, 2011 and ended in April, 2011.

2.2 The City, Urban Poor and Climate Variability Risks

In Bangladesh, now that the threats of climate change have become a reality, a massive 16 to 20 million poor people are facing potential climate variability induced migration from rural to urban areas by the turn of this century (Renner, 2008). The total number of poor people in urban areas will outnumber the poor in rural areas in this generation (Banks et al., 2011). This poses a difficult challenge for policy makers, as the urban governance structure of Bangladesh has not been developed well enough to address the rise of urban poverty. In effect, the absence of governance capability within the context of growing urban poverty has reduced the municipal government's ability to develop a meaningful partnership with diverse actors concerning low

income settlements. This has in turn left poor urban people's agency and structures and the mediating institutions less prepared to adapt to the consequences of climate change impacts⁴.

Khulna is the third largest metropolitan city of Bangladesh. It stands on the banks of the Rupsha and the Bhairab rivers. The city covers an area of 47 km² and has about one million inhabitants as in 2010. Like other cities of Bangladesh, Khulna is home of a large number of low income people living in poor quality dwellings/shacks cramped in vulnerable locations. A recent survey estimates that about 190,000 poor people (about 20 percent of city population) live in 520 low income communities in Khulna (Angeles et al., 2009). These communities vary greatly in terms of area covered and number of residents. But challenges such as finding ways to earn a living, surviving with substandard levels of civic facilities and living with persistent threats to tenure security are common to all.

The city is one of the most vulnerable locations of the country in terms of climate change. It is located in the southwest of Bangladesh, where the consequences of climate change are expected to be particularly severe. As a deltaic plain the land is flat and poorly drained. The Khulna metropolitan area is only about 2.5m above the mean sea level. In the past 10 years, nearly all population of the city was affected by one or more major problems like river flood, cyclone, water logging, and salinity. Around 81 percent was affected by severe cyclone, 11 percent by river floods and five percent by water logging (IWM, 2010). Commonly, poor urban people suffer most as a consequence of these impacts. There are at least three ways climate change may compound these challenges:

- (i) **Sudden-onset events**, such as floods, cyclones and catastrophic river erosion: Large areas of Bangladesh's coastal area located south of Khulna are and will be highly vulnerable to the threat of sudden-onset events for the foreseeable future, and climate change may well aggravate the situation. The most recent examples of such events include cyclones *Sidr* (2007) and *Aila* (2009), which have driven tens of thousands of people into Khulna city.
- (ii) **Slow-onset processes**, such as coastal erosion, sea-level rise, salt water intrusion, rising temperature, changing rainfall patterns and drought: Many cities and towns of Bangladesh including Khulna are significantly exposed to slow-onset processes. According to IPCC (2007) a one meter rise in sea level will inundate 20 percent of Bangladesh land mass which includes urban areas such as Khulna.
- (iii) **Cascade effect** (a chain of events due to an act affecting a system), such as environmental degradation, increased urbanization, reduced human security and international migration: Climate change will displace an estimated 12 to 15 million people in Bangladesh by the turn of this century. Most of them will be poor people from rural areas heading for urban areas, putting additional stress on the low levels of facilities in existing low income settlements and on the capacity of their providers. This is already happening in Khulna city with increased migration following cyclones *Sidr* and *Aila*.

The two case study settlements, Bagmara and Rupsha Ghat represent two common poor urban settlement types in Khulna – a private and a public settlement, respectively⁵. The Bagmara

⁴ See, Roy et al 2011, Simon, 2008, Douglas et al 2008 and Satterthwaite, 2009 for detailed discussion

settlement evolved during the past decade on a number of closely located privately-owned land holdings. Rupsha Ghat, on the other hand, evolved over the past 30-40 years on land partly owned by the government and partly by a religious organization – the Khulna Baptist Church Association. Most of the residents enjoy proxy land ownership either by being the original settlers or by purchasing (informally) the possession of the land from the original settlers or their successors. With a population density of over 6,400/hectare, it is a particularly dense settlement. The two settlements, therefore, give us two different perspectives on problems facing poor urban people in Khulna. As a rented private settlement, Bagmara presents a snapshot of transition into the urban life of recent migrants. In contrast, Rupsha Ghat covers almost the entire lives of dwellers in a public settlement, giving a rich account of livelihood diversity, community-based practices and physical adjustments to dwellings.

2.3 The Vulnerability of the Urban Poor: The State of the Situation

Our research findings suggest that poor urban people living in the case study settlements are exposed to different kinds of vulnerability. Vulnerability is the degree to which a system or unit is likely to experience harm due to exposure to perturbations or stresses. Existing literature differentiates vulnerability into a physical (external) and a social (internal) category (Moser et al., 2010). However, we have followed Evans et al (2010) and expanded social vulnerability into: politico-legal vulnerability; and socio-economic vulnerability, given the importance of these dimensions into the lives of poor urban people in Khulna. While we find evidence of high levels of physical vulnerability⁶ in Khulna's low income settlements, for this paper we will concentrate on the other two types. We identify the following forms and dimensions of politico-legal and socio-economic vulnerability:

2.3.1 Politico-legal vulnerability

We find evidence of political and legal factors to increase people's vulnerability mainly through affecting their security of tenure. Most poor urban people in Khulna suffer from tenure insecurity in one form or another depending on the type of the settlement they live in. For settlements established illegally on government or other organization's land, the fear of eviction affect how people do/ do not invest in household- and settlement-level upgrading and climate proofing. There is no low income settlement policy in Bangladesh, which creates opportunity for local powerful people to grab these lands, in turn escalating eviction threats. At the same time, there are other 'friends-of-the-poor' like powerful people who extend their support to the poor urban dwellers and claim for their own political gain. So, we get political unrest and confrontations.

For settlements established 'legally' on private land, the tenure security is subject to regular payment of rents, and in some cases maintaining a good relationship with the landlord. The word 'legally' needs to be treated with caution; the low income poor urban dwellings are not usually constructed with Khulna Development Authority's (KDA) approval, and in that sense these dwellings are informal, if not illegal. Tenancy in these settlements is vulnerable to market forces, as the landlord may decide to develop the land for other purposes such as real estate developments and sell the property. A tenant cannot usually improve the quality of the living environment by investing on his own; indeed a tenant has no incentive to do so. Consequently, they have to depend on the initiatives taken by settlement-owners. For example, while talking

⁵ About 12.5 percent low income settlements in Khulna are located on public land (Angeles et al., 2009)

⁶ For details please refer to Roy et. El. 2011 (working paper)

about their kitchen facilities, one settlement-dweller stated, “please do pray for a heavy rainfall so that the entire kitchen gets destroyed. Other than complete destruction, the owner will not take any action to improve the condition of these kitchens”

Political factors can also both positively and negatively affect how people live in public settlements and secure their livelihood. The community-based power structure and street-level political leaders can both help reduce vulnerability and create tension leading to increased vulnerability. Similarly, vested outside interest groups can influence vulnerability of specific groups or all dwellers. Some residents of Rupsha Ghat have reported to be the victim of politically motivated dispute resolutions. In contrast, others reported that powerful people have helped them to keep drug addicts away from the settlements at least temporarily. For instance, in Rupshaghat people often talked about an influential shrimp trader. Using his influence he called the drug addicts to his office, sometimes forcefully, if needed. His influence kept the addicts away from the settlement for a while.

Looking from the viewpoint of residents in a private settlement, an absence of political influence can do more harm than good. The dwellers of Bagmara have failed to maintain any direct connection with the powerful political and civil society actors. In fact, they are not even included in the voter list and as such cannot exercise their voting power. This lack of political connection has resulted in two effects. First, they have become citizens without any legal recognition, and consequently the politically powerful actors remain apathetic to the needs of these settlement dwellers. Second, as a consequence of a lack of connection to the political powerful actors, they have established links to various other intermediaries. Not only do these intermediaries seek material gains, they also are less powerful when it comes to realizing legal and political rights of the dwellers.

2.3.2 Socio-economic vulnerability

Unlike politico-legal vulnerabilities, socio-economic vulnerabilities are more idiosyncratic, i.e. these are more sensitive to characteristics of individual households. A significant number of Khulna’s low income people were forced to come from the coastal region of southwest Bangladesh due to cyclones *Sidr* and *Aila*. The destruction of rural livelihood due to these natural disasters triggered both short-term displacement and long-term migration to urban areas. The displaced households face a drastic fall in their income and earnings; at the same time they need more money to pay for basic needs in urban areas. While men may quickly become engaged in some unskilled daily laborer jobs, women find it harder to be economically active. Back in their village these women usually grew vegetables and reared livestock, thus helping to smooth consumption. But, in urban areas there is no use of those rural-skills. It takes time for these women to accept urban jobs such as housemaid. As a consequence, people remain confused about where their future is – in cities or in their ancestral land in the villages. Many have been separated from their family members. Their children have dropped out of school, with girls given early marriage and boys put to work.

Our research has identified three key cascade effects of climatic variability. First, rising population density and stressed out basic services - both of our case study settlements are characterized by high population density and low per capita floor space. We found evidence of increased demand for basic services affecting the quality of service (e.g. frequent break down of tube wells; septic tank spill over; no time to clean the latrines) and overcrowding (quarrelling and shouting). In private settlement, in particular, there has been a flux of *Aila*-affected people.

While the landowners have erected new dwellings with speed to provide accommodation for these migrants (thus securing market gains), they have not installed new services for them. This has resulted in the same number of facilities being used by an increased number of people.

Second, we have noted at least three causes to increased unemployment: (i) following *Sidr* and *Aila* there was an oversupply of unskilled labor (felt mainly by recent migrants); (ii) recently migrated women could not find jobs where they could use their rural-skills (as noted above); and (iii) a fall in labor demand in some industries following *Sidr* and *Aila*, such as a fall in *golpata* and shrimp production. A fall in *golpata* production has led to a permanent shrinkage of the industry and a forced labor mobilization to other industries. A fall in shrimp production has led to temporary fall in work availability for fish cutters/cleaners. People reported a rise in social problems (e.g. drug addiction; women engaging in prostitution) as a consequence of rising unemployment.

Thirdly, the price of essential food items rises. While this may be a global phenomenon (sparked by rapid expansion bio-fuel production, amongst other causes), the effect nonetheless is increasing the vulnerability of poor urban households. People claim that their daily expenditure on food has tripled. They are finding it difficult to make savings, and their nutrition level appears to be falling, as they are rationing their meat/fish consumption. We witnessed incidents where young children had just a small quantity of ‘only rice’ as a main meal.

This section provides us with a brief description of the vulnerability faced by urban poor triggered by climatic variability induced natural disasters. These disasters affect the existing urban poor and cause a new supply of poor people to cities. Now, we will concentrate on the city governance from theoretical and practical perspectives to understand how cities may address these vulnerabilities.

3. Urban Governance in an Era of Climate Change

In the context of the politico legal and socio economic vulnerabilities of the urban poor, a key question is- how can effective and efficient services be provided to the citizens? From an institutional perspective, this question has often been redefined as- “what are the best organizational arrangements for the delivery of public services” (Joshi & Moore, 2004: 31). The two subsections provide a theoretical discussion on different arrangements followed by an empirical evidence of such organizational arrangements in Khulna city in an era of Climate Change.

3.1 Theoretical Perspective on Urban Governance

In terms of identifying the effective organizational arrangement, for a time, there was a consensus among the academics that a proper solution of the ‘arrangement dilemma’ lays in the hierarchical structure of the public sector (Salamon, 2002). However, during the 1970s, a number of studies indicated that the argument that “citizens as clients would receive more effective and efficient services delivered by professional staff employed in a large bureaucratic agency” did not hold (Brandsen & Pestoff, 2006). For example, “after studying police services in several metropolitan areas, the researchers had not found a single instance where a large centralized police department was able to provide better direct service, more equitably delivered, or at a

lower cost to neighborhoods located in surrounding jurisdictions” (Ostrom, 1999). At the same time, the studies also indicated that-

- The service delivery system was more efficient where citizens worked together with public sector agencies and where, they eventually directed the system.
- The effectiveness and efficiency also depended on whether the views of clients were necessarily taken under consideration by the agencies
- An important feature of the success stories was that in a number of cases, the third sector (e.g. NGOs, CSOs) were involved in mobilizing or representing the people.
- The organizational arrangement was mostly semi-informal in nature (as were the agencies involved)

This particular organizational arrangement has been termed as coproduction. Probably, the most widely definition of this arrangement was provided by Ostrom (1996). According to her, coproduction is “. . . the process through which inputs used to provide a good or service are contributed by individuals who are not “in” the same organization” [Ostrom, 1996: 1073]. Ostrom’s definition of coproduction has been expanded by a number of scholars and they have identified some key characteristics of this organizational arrangement. Both Mitlin (2008) and Joshi & Moore (2004) defined coproduction as a strategic arrangement through which the participation of the citizens can be ensured. However, the mode of interaction between the people and other institutional actors can vary and that variation may consequently result into varying modes of arrangement. The existing literature suggests that service delivery to the poor commonly includes three actors-

- A. **State-** the government or agencies of the government. This actor’s role can be categorized into three groups-
 - a. **Producer role**, i.e. government agencies will produce goods and services necessary for the citizens (e.g. infrastructure, shelter etc.)
 - b. **Provider role**, i.e. The agencies will deliver the services to the people (e.g. water services delivery)
 - c. **Enabler role**, i.e. the government will develop policies, create environmental incentive for the profit/non-profit actors to operate, contract service delivery tasks and monitor their activities.

- B. **Non-state Actors-** This includes a wide variety of actors including NGOs, Business groups, religious organizations, for profit groups, philanthropic organizations etc. In general, their activities can be divided into two categories-
 - a. **Producer role**, i.e. when the organizations produce public goods and services and at the same time are allowed to play role in the policy designing arena.
 - b. **Provider role**, i.e. when the non-profits are engaged in delivering services.

- C. **Citizens (in our example poor and low income people)-**
 - a. **Participator-** citizens express their demands for services
 - b. **Receiver-** citizens do not/cannot express their demands and act as passive recipients

- c. **Producer-** i.e. citizens produce goods and services (or forced to produce goods and services) due to lack of producer in the market

As indicated earlier, any specific organizational arrangement depends on the interaction among these three actors. At the same time, this interaction depends on variations in “resource/goods production-delivery interface”. Goods or services relevant to the urban poor may be produced and/or delivered both by the state and non-state actors. When goods and services are produced and delivered by the state agencies, the organizational arrangement can be viewed as a command and control structure. When services are produced by the state agencies and delivered by the third sector, the arrangement can be termed as contracting. This is in effect, the ‘third party government’ structure, where state uses the efficiency of the profit or non-profit actor for delivering services. In these two cases, the citizens play an inactive, passive role and are mainly the receiver of services.

When services are produced by the non-state actors, organizational arrangements can be either co-governance or co-management depending on the service delivery actors. In these cases, the urban poor at least participates in the process and from this perspective, these two modes of organizational arrangements are variations of “co-production”.

In a third possible scenario, when both state and non state actors do not produce or deliver, citizens may become de-facto producers themselves by informal channels for service delivery. They engage in “self-provisioning through collective action, independently of external agencies”. Though Joshi and Moore (2004), while analyzing different modes of coproduction pointed out that in these situations citizens often become ‘self-organized’, they do not elaborate this. At the same time, though scholars point out the complexities of coproduction mechanisms, indicated that coproduction can often result in manipulative and even coercive arrangements, a detailed analysis of this phenomenon has largely remained invisible. In this paper, we mainly focus on this co-production arrangement and examine the following questions-

- Why and how the actors come into this arrangement?
- How successful and sustainable these arrangements are?

In order to answer these questions, we have tried to determine the nature of individual’s behaviors using the lens of Ostrom’s (2005, 2010) Institutional Analysis and Development (IAD) model.

Figure 1: Ostrom’s Institutional Analysis and Development (IAD) model

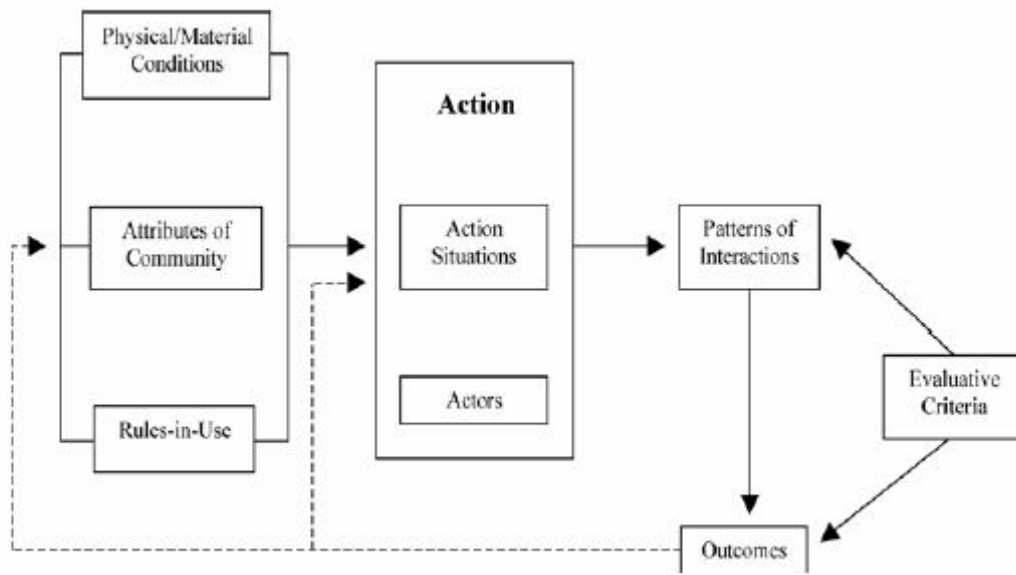


Figure 2. A framework for institutional analysis.

In the simplest sense, IAD describes how and why “...actors in situations together with exogenous factors generate *outcomes* that affect the actors in the situation and potentially others” (Ostrom, 2005). The definition indicates that-

- In order to analyze the actions taken by the individuals, it is necessary to have an understanding about the external factors that may influence the way the actors are playing their roles. According to the model, these external factors include-
 - the rules and norms used by participants to order their relationships: ***Rules-In Use***,
 - the attributes of states of the world that are acted upon in these arenas: ***Physical/material Conditions***, and
 - the structure of the more general community within which any particular arena is placed: ***Attributes of Community*** (see Kiser and Ostrom 1982)
- At the same time, Ostrom argued that the role played by the actors would depend on four variables-
 - the ***resources*** that an actor brings to a situation;
 - the ***valuation*** actors assign to states of the world and to actions;
 - the way actors acquire, process, retain, and use ***knowledge contingencies and information***; and
 - The processes actors use for ***selection*** of particular courses of action.

In other words, it can be argued that according to Ostrom’s model, the final actions taken by the actors, [in this case the urban poor] relies on a complex interaction between ***external*** (or environmental) factors and the ***action*** factors. However, in any situation, these two factors are not self-originating. Instead, they rely on few other factors. According to her, the final outcome of external factors is an interaction of a) community’s physical conditions and structures, b) community norms that guide the relationship between the community dwellers and c) the power structure, in terms of the connection between the community dwellers and powerful actors

situated both inside and outside the communities. The last one is significant as it helps to understand the rules-in-use and provides a general idea about the community structure.

At the same time, the Action factor also depends on two additional sub-factors: Actors and Action situation. “Actors” means the skills possessed by the actors and their ability to use these skills. On the other hand, “action situation” consists of the demand of the actors (the urban poor), their scope of action and their understanding of the rules. Therefore, in this paper while analyzing the self-organized arrangement, we have made an effort to analyze the behaviors of the actors though exploring the interaction between the external and action factors.

3.2 An Analysis of **Adaptive Practices in Khulna Using Ostrom’s Framework**

In order to have a better understanding of the adaptive practices followed by Khulna’s urban poor, based on Ostrom’s framework, we analyze the actions in three parts-

- The **external factors** that motivate the actors in behaving certain manner, i.e. the physical location of the community, the community norms (rules-in-use), available resources and existing power structure
- The **action factors**, i.e. the skills of the actors and the action situation
- The **action**, i.e. the interaction of the aforesaid two factors

3.2.1 The External Factors

Our study indicates that in order to deal with different types of vulnerability, poor people in Khulna are already, consciously and/or unconsciously trying to engage in adaptation activities both in physical and behavioral terms. What is important about their adaptation practices is the emergence of self-organized survival strategy. In the specific context of Khulna, the construction of poor people’s practices is dependent on a number of factors such as the social and economic resources of households and communities (i.e. resource availability), physical location and structure of the community, and the existing power structure. These factors collectively influence people’s ability to maintain core functions in the face of changing contexts (i.e. resilience, Satterthwaite et al., 2010) and adoption of the right measures by making appropriate adjustments and changes (i.e. adaptation, UNFCCC, 2007).

Our studies conducted in two settlements indicate that the variation in the factors mentioned above in the long run strongly influence the actions taken by the urban poor in developing organizational arrangements. For instance, one of our case study areas is situated on private land and thus, the owners of these lands have a significant impact on the life of the people living in these settlements. For instance, in one settlement, we have seen that the settlement-owner has developed an effective patron-client relationship. She performs the ideal role of patron and provides all the necessary help to the dwellers. According to one dweller, “When I got sick, the owner gave her own blood to cure me. She took care of us in all the possible ways. Whenever we need anything, we just go to her and believe me, we never return empty-handed”. In exchange, the owner uses the name of the settlement-dwellers to collect loans from different micro finance institutes, which she herself is not eligible to apply.

In this settlement, the dwellers have to pay rents and electricity bills and do not develop a sense of ownership regarding their dwelling place. As such, their home, the surrounding lands or other facilities are not for their private use which delimits their access to resources. Moreover, as these facilities cannot be utilized for production and commercial purposes, their available resources are very limited and in most cases they have to depend on their labor, skills or connection with outside actors as means of survival. Moreover, Bagmara offers a distinct perspective on livelihood practices, encompassing both rural and urban dimensions. Here we have identified a limited diversity of livelihood practices and examples of employment switch-over. We perceive these livelihood practices as part of a process of adapting to urban life, as many of the residents are newcomers in Khulna.

By contrast, being an established settlement with residents enjoying [unauthorized] land ownership, Rupsha Ghat offers diverse livelihood opportunities to its dwellers. Its proximity to the river Rupsha and to a range of trade, industries and markets that grew along the river bank has made it even more suitable for livelihood diversification. For example, some people have taken multiple employments, in which they showed a great sensitivity to climate variability, e.g. street vending of seasonal products applying sophisticated marketing strategy in different seasons, including using mobile phone for quick/push selling of fresh fish in hot summer.

These particular physical characteristics of the community influence both access to resources and the contexts they live in. For example, in settlements situated in public lands, self-employment is a more attractive form of livelihood practice than working as a daily laborer, although it does involve more risk. But the ability to develop and maintain self-employment is dependent on a complex set of factors, including the length and type of tenancy and attitude to risk. Consequently, we see that long time residents of public settlements, especially who are dwelling owners, are far better positioned to develop effective socio-economic practices compared to recent migrants in rented private settlements. Though the urban poor living in the settlements situated in the public lands have to live in constant eviction fear, majority of them 'own' their dwellings; they do not need to spend on rents and can initiate home-based self-employment thereby making use of women's labor. Then, having been living in the public settlement for a long time dwellers have also developed stronger and wider social networks, which have enabled them to benefit from ROSCA and NGO services. In contrast, dwellers in private settlement have only been able to diversify their jobs. Even here they remain heavily reliant on relatively less powerful intermediaries with vested interests.

At the same time, in both these settlements, community norms play an important role. To a large extent, these norms determine who is supposed to play what role, who they can depend on in order to get access to services and how they can build a connection to outside actors. For instance, in Bagmara, a large number of migrant people live, who depending on the advice of their relatives living in these settlements made the eventual migration decision. There are clearly defined role about what to expect from the owners, how to contact the owners of the settlement and how to deal with outside actors. For instance, in one settlement, there is a clear procedure of contacting with the settlement-owner. As one dweller commented, "Well, in order to solve our problems of settlement, we have to depend on our 'technician' (*mistry*). His wife has a close relation with the owner and she can relay our message to her. And, in most of the cases, that work". Conforming to suggestions made by relatives and owner, in turn allows the new migrants to get a job or to find a place in the very competitive labor market.

By contrast, in Rupshaghat, a key norm regarding mobilization and political action has emerged from the constant threat of eviction. We observe mobilization and political action to revolve around two issues: (i) addressing threats to tenure security; and (ii) securing and improvement of basic services. In public settlements the entire community gets mobilized even only at the slightest hint of eviction threat. Our study indicates as poor people have limited power to overcome interests of powerful people, they keep a watchful eye on the movements of current land owners and potential buyers. They keep in touch with political leaders and other local powerful people to keep them on their side. They react sharply to any hints of eviction, and organize demonstrations in front of homes and offices of the City Corporation Mayor and Ward 22 councilor, and if needed in front of the press club. They also try to keep up to date with payment of holding tax. They believe this strengthens their claim to the land. Similarly, mobilization to secure and improve basic service provisions takes place in various ways: (i) forming Community Based Organizations (CBOs) and coalition with the service providing institutions; (ii) through a Civil Society Organization (CSO) advocating and acting as a pressure group for low income people to the city- as well as national-level service providers and policy makers; and (iii) disaster preparedness through a Community Disaster Management Committee (CDMC). Again, it is in public settlements where we see greater mobilization than in private settlements.

The differing resource availability, community structure and norms generate two different types of power structure. In Rupshaghat, the existing power structure is quite complex as people have to interact with government institutions, local NGOs/CBOs, political actors, elected representatives and different community institutions situated within the slum. In Bagmara, we find a completely different type of power structure as in this case the structure consists of mainly the actors situated inside the communities.

3.2.2 Action Factors

Our study reveals that in general, the urban poor use three sets of skills- **first**, their physical skills (i.e. they try to make the best use of their labour and/or intelligence to get access to jobs); **second**, their initial networking skills through which they try to access to services and; **thirdly**, their scanning skills (i.e. their access to information through which they can acquire knowledge about the risk or opportunity associated with the environment). It is interesting to note that the reliance of the actors on these different sets of skills varies according to the variation in action situation (described below).

Existing literature rejects the myth that the poor are helpless victims and rather argues that they have plenty of resources (e.g. skill, trust, ideas etc.) which can form the basis of responses during the time of emergencies. From this perspective, the urban poor have necessary assets and capabilities which "...are closely linked to the concept of capabilities and the basis of agents' power to act to reproduce, challenge or change the rules that govern the control, use and transformation of resources". In effect, we have found that in both the cases, the urban poor have made significant efforts to 'produce' or 'reproduce' resources in order to survive. For instance, the settlements of Bagmara mainly consists of people who, due to sudden-onset events were forced to leave their villages and migrate to this city to find better jobs and to live a better life. This migration, though necessary for these affected people, creates an adverse affect on the lives of the existing settlement-dwellers. As resources are scarce and as in most cases, the land-owners are only interested in making money, the additional people create (who have come due to

sudden-onset events) extensive pressure on the already scarce resources. Though the number of kitchens, toilets, bathrooms or water-supply facilities does not increase, the number of people dependent on these services gradually increases. For instance, one settlement-dweller describes, “In our settlement, there are only five toilets for 111 people which are quite inadequate. Every day, we have to stand in line, especially in the morning to go to these toilets. Moreover, some of the toilets are actually out of order.”

This new influx of migrants has another important consequence: it creates more competition in the job market by supplying additional workers willing to work at a lower wage. As a result, in order to survive in the competitive market, the settlement dwellers need necessary skills so that they can get easy access to jobs and/or can get better opportunity of mastering a job. Their scanning skills are also very important as that will allow them to understand what type of job is available in the environment and how they can get access to those jobs. Finally, our study also reveals that without networking skills surviving in city life is almost impossible as network helps to understand whom to contact to get a job opportunity. For instance, while interviewing the rickshaw-garage owners, they tell us that in renting rickshaws to the unknown people, they depend on references of these people. According to them, “Many a time, some local people come to us and request us to give the rickshaw to their known people. Lending rickshaw is a risky task and you need to believe the rickshaw-pullers in order to give the rickshaw to them. As a result, when the local people come to us, we consider them as guarantor and do not hesitate to employ a new one”. At the same time, in time of trouble, their networking skills allow them to share resources with each other. Thus, the urban poor living in Bagmara settlement have their own resources like their intelligence and skills which determine their capabilities and the successful ones learn to use these resources to further facilitate their access to institutional arrangements. As our study indicates, the innovative urban poor tend to utilize their connections, use their resources in an efficient way and adopt some collective arrangements to reflect their innovative practices. In other words, the urban poor eventually engage into different levels of network relationships which determine their access to institutional arrangements and allow them to use their assets in an effective and efficient way.

In case of Rupshaghat, its physical location and its connection with various government and non-government institution call for different dimensions of the three sets of skills described above. In this case, rather than struggling for survival, the settlement-dwellers try to maintain a steady income and then to make more income often by taking on more additional risk. When this takes place, there could be three possible outcomes when the two aspects are combined. In the order from high to low desirability these are: households making more income; they are maintaining their income base; and they are failing to maintain a steady income. We find examples of all three outcomes in both settlements, although the number of households making more income is significantly higher in public than in private settlements. We make the following observations in our case studies:

- People in public settlements, especially dwelling owners can make savings (by not paying rents). They also have more scope to smooth consumption through accessing free of cost or paying little for services provided by NGOs and the municipality such as water supply, sanitation and mother and child health. In order to do that, their scanning skills become important.

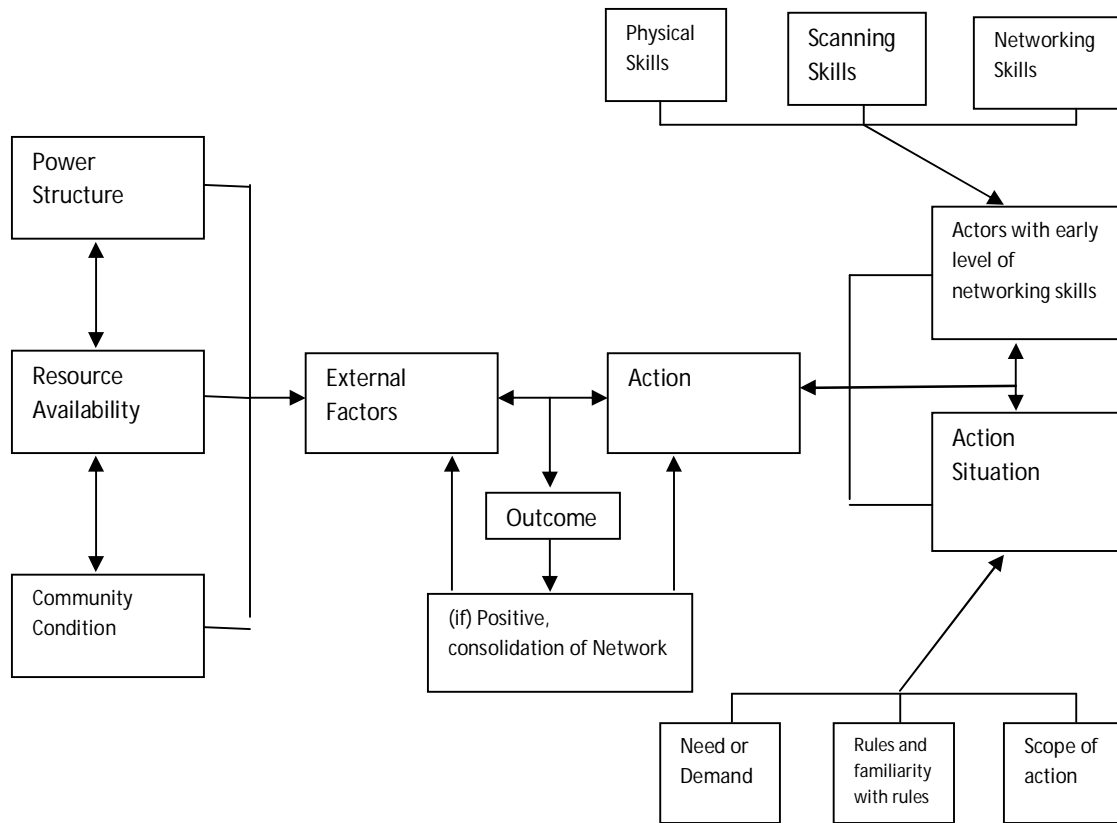
- Owners sometimes use their dwellings productively by subletting part of it. People also invest in productive assets such as owning rickshaws, van or equipments. During this stage, both physical and scanning skills become relevant.
- People draw on a range of support networks. We found a positive correlation between the extent of networks and the level of income, with non-poor households having the most diverse networks. Factors, such as inclusion in the voter list play an important role in people's ability to establish networks with higher level political leaders.

The action situation faced by the urban poor depends on the need or demand felt by them, the scope of their actions to meet these demands and their understanding of the rules in use. In other words, these three factors constitute the complex action situation which eventually allow or constrain the actors from using the action resources they have. For instance, in case of Bagmara, though there is extensive demand for access to services, the individuals' scope of action are quite limited as they have to follow the directives of the landowners, cannot utilize the natural resources (if there is any) and have to depend mainly on physical skills. If they follow the existing community norms, their success of survival will largely depend on their ability to build and sustain multi-level networks. On the other hand, the action situation is a bit different in Rupsha Ghat. Here, there is a strong possibility that there will be scope of action to meet the demand or need of the slum dwellers. Their connection with the market forces, recognition to the political actors, and interaction with the non-government actors allow them to use their skills and resources for self-promotion. However, network is still significant as the networking will help them to grab these opportunities. For instance, Augustin, a mobile trader of seasonal products, saves a list of phone numbers of regular clients in his mobile. Whenever he has something special to sell, he calls his clients to speed up the selling process and to make more profit. He says "mobile phone is very useful in summer when I need to sell fish before it is rotten". Augustin has benefitted from having a wider network of friends and family members in developing such a local knowledge-based and climate variability – sensitive business strategy. He also benefits from market demands of his products, and significantly from using mobile phone. In other words, whereas in Bagmara, individual action is unlikely to succeed without strong support of network structures, the situation is not that rigid in Rupshaghat. Here, individual action can bring about successful outcomes (given that the actors have necessary skills); however, collective actions are still necessary for socio-political mobilization.

3.2.3 The Action Scenario- The Adaptive Practices

The above discussion indicates that the action scenario will vary depending on the variation in external factors and action factors. The previous sub-sections show that in case of our two cases, such a variation is very likely as there are significant differences between these two factors. Therefore, we can re-conceptualize Ostrom's model in the context of Bangladesh in the following way-

Figure 2: Re-conceptualizing Ostrom's model in Bangladesh



The situations in both Bagmara and Rupshaghat can be explained through this framework. In the case of Bagmara, most of the people are new migrants who had to leave their home and come to the city due to sudden-onset events. Our study indicates that in most cases, before taking the migration decision they contact with their relatives and move in different settlements. As a result, they do not have that much resource available other than their initial connection with their relatives and some physical skills. As the settlements are situated in privately owned lands, they have to pay rents and adhere to the demands and commands of the land-owners. As they live close to their relatives, they depend on them for jobs. Therefore, the external condition forces them to self-organization as there is lack of connection with government or NGOs and they are mostly on their own for their survival. As a result, the actors make efforts to develop networks with the help of the initial networking skills. They mostly use their scanning skills to find out what job is available in the market and with the help of the networking; they start selling their physical skills. At the same time, the action situation do not allow them to rely on outside actors to ensure access to services and as such, networking became the most effective tool of analyzing and utilizing the action situation. Thus, our research work indicates the significance of an informal social network which plays the most important role for the survival of urban poor.

As indicated in the discussion, the urban poor have to deal with four different actors in this network structure- their relatives, land-owners, local elites and neighbors. An important point is, the poor are passive actors in the network. As they remain in the vulnerable condition, they always seek to attain resources necessary for their survival through the network. However, as

they do not have the command over the resources, they cannot control this network rather the control always lies with the more powerful actors. The powerful actors have command over the resources of all type be it advice, suggestions or any tangible resources. As whether they will provide resources depend on their wishes and resources availabilities, it is they who determine the success or failure of the network structure. Our research indicates that whether the powerful actors will provide resources depends on two things-

- a. Resource availability, i.e. whether the relatively powerful actors have enough resources to provide
- b. Willingness to provide- having adequate resources is not enough until and unless these actors are interested in sharing these resources. Their willingness depends on two factors- whether they are sympathetic to need of the poor and whether they can serve their interest by helping the poor.

The interaction between willingness and availability creates four different scenarios. The following table shows that-

Table 1: Network Types

Resources Willingness	High	Low
High	Strong Network	Collaboration leading to competition (Weak network)
Low	Apathetic Network	Absence of network

The table above shows that there can be four different scenarios-

- a. Strong network- when both the powerful and passive actors have something to win or when the powerful actors can afford to spend resources to show sympathy, the strong network emerges. In these cases, the poor succeed to survive.
- b. Weak Network- when resource is scarce and willingness is there, this type of network emerges. In these cases, the urban poor receive some sympathy and the opportunity of serving the interest also remains there. However, as resource becomes scarce over time, either the sympathy evaporates and the network moves towards disruption or the poor lose interest in becoming a part of the network as they fail to get adequate resources by serving the interest of others.
- c. Apathetic Network - If there is no willingness on part of the powerful actors, the potential network does not emerge.

- d. Absence of network- if both the willingness and resources are scarce, the network cannot be established

We argue that this is how the “self-organization” framework works where citizens become the producer of services in absence of GOs and NGOs.

Moreover, in case of Rupshaghat, this self-organization also have taken a slightly different turn. Their illegal occupation of government land made them vulnerable to threat of eviction, it also created a sense of mobilization and political awareness. As a result, they could build effective partnership (network relationship) with the local political actors and different NGOs. This had resulted in two significant consequences- first; they had acquired a pseudo-ownership of their homes and did not have to pay any rent. Moreover, they could use the house and the land as a major source of self-employment. Second, their mobilization had made them significant political actors and they succeeded in gaining access to market forces. As a result, it became possible and comparatively easier for them to ensure access to services and sell their skills/products in open market. Though it can be argued that they had created a special type self-organizing framework where they played the role of enabler, it is possible that in future they may move to the direction of co governance or co management, depending on the nature of external factor.

4. Conclusion

In this paper, we have highlighted two issues. First, though the significance of coproduction as a mean of providing effective services to the poor is well recognized in the literature, there is important knowledge gap regarding the variations of coproduction mechanism. Especially, as we have indicated earlier, very little emphasis has been placed on the method of self-organizing. We have made efforts to close this knowledge gap and based on empirical studies have shown how, why and when the urban poor engage in self-organizing activities. Our studies indicate that in most cases, the self-organizing arrangements rely heavily on existing power structures and the formation of networks by the urban poor which link them closely and often subordinately with the more powerful actors. Second, based on our empirical studies, we have attempted to analyze the existing network structures (evolved by self-organizing arrangements) in order to find out the sustainability of such a structure.

The development and utilization of the network structure though may be considered as an important adaptive practice in its own right However, a closer look at different levels of the network indicates some key limitations- first, the network is mainly informal in nature and as such there are no formal obligations on the part of the powerful actors who control the network. Second, the relationship pattern is arbitrarily controlled by the powerful actors. Thirdly, the urban poor are mainly weak actors here. They have to be satisfied with what they get and there are no options available to them to make their voices or demand heard.

In this situation, one option may be developing an alternative co-production model responsive to the need of the urban poor. However, a key concern is to ensure people’s involvement in the whole process. From this perspective, participation is not just “...for what it helps to achieve (i.e. as a means with varying degrees of significance) but also for what it is and of itself citizens have the right to make decisions for themselves” (Dodman & Mitlin, 2010: 6-7). Often, the involvement or participation of the poorer people suffers from ‘tokenism’ or manipulation. Without considering the heterogeneity, existing power relationships within the community, the

process of co-production may not benefit the urban poor significantly. Therefore, it is essential to have a clear understanding of the power relations so that involvement of community-level people can be teased out through the power structure. Moreover, a balance between non-local events, relations and local aspects of the community is essential as otherwise multi-dimensional aspects of risk and vulnerability will be ignored. Finally, specific efforts should be taken so that the “community structures” can enable strategic interventions which will eventually influence the “state policies and positions”. This political dimension of the co-production model is significant as otherwise the adaptation practices will not be able to generate secure livelihood practices. Overall, our work indicates the need for a community-based co-production arrangement to improve service delivery for the poor.

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