

Could the Effects of Climate Change be Profitable?

A case study of climate induced migration into the
Bangladeshi readymade garments industry.

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Human Ecology Division
Department of Human Geography
Faculty of Social Sciences
Lund University

Author: Anna Plowman
Supervisor: Vasna Ramasar
Term: Spring Term 2015

Department:	Human Geography
Address:	Lunds Universitet, Kulturgeografi, Sölvegatan 10, 223 62 Lund
Telephone:	046-222 17 59

Supervisor:	Vasna Ramasar
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Author:	Anna Plowman
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Abstract:

This thesis examines the possibility of a relationship between climate change and profitability in Bangladesh's readymade garment (RMG) industry. It investigates specifically the phenomenon of climate induced migration and how this may affect competition for employment in urban RMG production zones. This study was carried out through fieldwork interviews conducted with migrant female RMG employees, living in Dhaka, Bangladesh.

The findings of this study conclude that climate related environmental changes constitute a significant migratory push factor, encouraging some women to move to urban areas and seek employment in RMG factories. The push factor of climate change is intertwined with the pull factor of potential RMG employment, and these are both tightly related to economic hardships and the limited employment opportunities available to women in Bangladesh.

With the use of Marx's theory of the industrial reserve army, this is contextualised within a discussion about the role that such a climate mobilised labour army could play with regards to the wages, working conditions, and profitability of the RMG factories. This issue is framed in light of Core-Periphery dynamics as they relate to both the causes/effects of climate change and the garment commodity production chain. In light of these dynamics, I assert that it is possible that the creation of climate change may be a cyclical reinforcing process and that the challenges presented by climate change must be addressed through a lens which recognises the global intricacies of the relationship between climate change and capitalism.

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List of Acronyms

CREC	Climate related environmental change
GNP	Gross national product
ILO	International Labour Organisation
IPCC	Intergovernmental Panel on Climate Change
NGO	Non-governmental organisation
RMG	Readymade garment
SEK	Swedish kronor
USD	United States dollar

1. Introduction

The misery of the agricultural population forms the pedestal for gigantic shirt-factories, whose armies of labourers are, for the most part, scattered over the country
(Marx [1867] 2010, 481)

In this thesis, I put forward a hypothesis by which the effects of climate change may be profitable, and as such, I consider that climate change may further facilitate its own creation. Karl Marx's theory of the 'industrial reserve army' and a world-systems approach primarily constitute the theoretical basis to this hypothesis. I look specifically at the role of climate change as it relates to female migration from rural areas of Bangladesh into employment in Dhaka's readymade garment (RMG) industry.

This thesis does not explore all migratory push and pull factors. Furthermore, it does not address all factors which influence profitability in manufacturing industries (nor all factors that influence the size of the industrial reserve army). I must be clear that it is not the aim of this thesis to *prove* the mechanism of climate change profitability which I consider. Instead, this thesis focuses specifically on climate change and industrial reserve army theory to *explore the possibility* of the profitability of climate change, and understand *how* such a relationship might work, as there is currently very little written on this matter. The purpose of this thesis is thus to better understand the complexities of climate change and capitalism in the way they relate to one another. This paper does not offer a solution to the Bangladeshi case in discussion, but instead aims to promote further discussion and debate around future alternatives to business as usual.

The mechanism of climate profitability which I consider in this thesis offers an alternative perspective to existing ideas around: a) the RMG industry as promoting female equity and empowerment (Hossain 2012); and b) climate change as compromising profits and leading to the downfall of capitalism (O'Connor 1998). This is not to say I do not see merit in these arguments, but I am simply considering an alternative perspective and contributing to a more nuanced discussion around these issues.

I begin this thesis with my research questions (1.1), followed by background and context (2), which addresses the issues of climate change and climate migration in Bangladesh (2.1 and 2.2) and the readymade garment industry in Bangladesh (2.3). Section 3 discusses Marx's theory around the industrial reserve army (3.1), and world-systems analysis (3.2). The methods and methodology section (4) then describes my methodological perspectives (4.1), and the design and process of fieldwork interviews (4.2), including ethical considerations (4.2.6), and limitations (4.3). After this, I discuss my analysis of the interview data with relation to three central themes: encouragement to migrate (5.1); the involvement of these migrants in the RMG factories (5.2); and encouragement to stay in Dhaka (5.3). I then move on to the discussion section (6) where I consider my findings in the context of Marx's theory on the industrial reserve army (6.1 and 6.2.1), and offer my own suggestion for how Marx's theory could be adapted in this case to account for the role of climate change (6.2.2). This suggestion is then framed in the context of world-systems dynamics (6.3). Finally, I explore the question of whether climate change supports or undermines capitalism (6.4), and what this means for future responses to climate change (6.5). Some final conclusions summarise the findings and significance of this study, and offer some recommendations for future research (7).

1.1. Research questions

A) When considering rural-to-urban migration, can a relationship be identified between climate change and Dhaka's RMG industry?

- What are the experiences of migrant RMG employees with climate related events?
- How do push and pull factors interact, leading people to Dhaka and to the RMG industry?

B) How can such a relationship be understood with regards to theory around the industrial reserve army?

- What factors determine whether a migrant RMG employee decides to stay in Dhaka or leave?

- Based on the answers to the previous questions, what are the likely implications for the size of Dhaka's migrant labour population?
- What could be the potential impacts of this on the standard of wages and working conditions afforded to RMG employees?

2. Background and Context

2.1. Climate change in Bangladesh

Bangladesh is considered one of the most vulnerable countries in the world to climate change. Based in a tropical location at the base of the Himalayas, on low lying land at the Ganges delta, formed by three major rivers (Ganges, Brahmaputra and Meghna), the country's physical vulnerability to climate change is high (Karim and Mimura 2008, 491). Bangladesh is highly exposed to environmental changes associated with climate change, such as cyclones, storm surges, flooding, coastal and river erosion, sea level rise, salinity intrusion and droughts (Ali 1996, 1999; Huq et al. 1999; Yu et al. 2010; Mirza 2005). Further to physical exposure, social vulnerability to climate change is considered to be very high due to high levels of poverty, agriculture and aquaculture based livelihoods, poor infrastructure, a high population density, and insufficient resources for preparing and responding to emergencies (Brouwer et al., 2007; Huq et al. 1999; Ali 1999; Mirza 2005; McLeman 2014, 93).

Existing evidence suggests that climate change is already having an effect in Bangladesh. Historical meteorological records have indicated a steadily increasing temperature in Bangladesh since the early-to-mid-1900s, matching climate model predictions (Rajib et al. 2011). A high rate of sea level rise and an increase in the frequency and intensity of storms and cyclones in the month of November have also been recorded (Karim and Mimura 2008, 493). If atmospheric levels of GHGs continue to rise according to predictions, the frequency and intensity of these events and their social implications is expected to increase (IPCC 2013).

2.2. Climate migration

2.2.1. 'Climate migrant'?

The study of climate migration can be problematic in two central ways: an inability to identify the specific environmental push factor (for example, a specific flood event) as having been due to climate change rather than normal weather variability; and an inability to isolate the environmental push factor as having determined the migration decision, thus an inability to determine causality (Findlay and Geddes 2011, 139). To address the first issue, in this study I refer to these events not as 'climate change', but as climate related environmental changes (CRECs). With regards to the second case, I have adopted a multidimensional understanding of the drivers of migration. I recognise that there are many intersecting and interacting reasons why a person (or family) may decide to migrate (Tacoli 2009 516), and thus, I do not think it is possible, nor do I intend to categorise people as solely 'climate migrants'. However, for linguistic simplicity and comprehension in this thesis, I often refer to people as 'CREC migrants'. It should be thus noted that in all such cases, the implied meaning is actually 'climate related migrants' or 'CREC related migrants' – meaning that such a person has a climate related dimension to their migration decision.

2.2.2. Climate migration in Bangladesh

Deterioration in livelihoods, influenced in certain cases by climate change and climate variability, is a human security issue in its own right. But such stress to livelihoods also gives rise to migration, which may be unavoidable and undesirable.

(Adger et al. [IPCC] 2014, 777)

Environmental factors have played a large role throughout human history in determining migration decisions and patterns (McLeman 2014). Climate change is expected to have an increasingly drastic impact on migration (Adger et al. [IPCC] 2014; Tacoli 2009), especially amongst people and populations who have a higher level of vulnerability to climate change (McLeman 2014, 77). Bangladesh is expected to experience a high frequency of this type of migration due to its high level of physical and social vulnerability to climate change (recall section 2.1).

Migration literature generally refers to ‘push’ and ‘pull’ factors contributing to a migration decision. In the case of rural-to-urban migration in Bangladesh, Md. Al Amin Islam (2013) has identified four major interacting push factors for migrants: poverty, landlessness, natural disasters and lack of job opportunity. Considering again, my multidimensional approach to migration, I am interested in understanding the way climate associated ‘natural disasters’ (CRECs) interact with other such push and pull factors, and particularly, how this may lead a person to Dhaka and to the RMG industry.

2.3. The RMG industry in Bangladesh

The Bangladeshi export oriented RMG industry has grown dramatically over the last quarter century, with the main production zones located almost exclusively around Dhaka and Chittagong. Between 1990 and 2014¹, the number of employees in the Bangladeshi RMG industry has grown from 340 thousand to 4 million. In the same time period, the value of RMG exports has risen from 624 million to 24.5 billion USD, going from making up 32% to 81% of the total value of the country’s exports (BGMEA 2015).

However, the Bangladeshi RMG industry has received great criticism due the documentation of poor working conditions. This includes low wages, late wage payments, gender based wage discrimination, sexual harassment, verbal abuse, a fast work pace, long hours of overtime, forced overtime, inaccessible or non-existent trade unions, poor lighting, lack of ventilation, inadequate bathroom access, cramped working conditions, lack of employment contracts, inadequate and/or unpaid maternity leave, inadequate medical facilities, poor structural and/or electrical safety of the building, lack of safety inspections, lack of health and safety training, lack of accessible emergency exits, and a lack of emergency provisions such as fire alarms and extinguishers (Kabeer 2004; Ahmed and Hossain 2009; Sikdar et al. 2014; Absar 2001; Salway et al. 2003; Khosla 2009; Akhter et al. 2010; Rahim 2013). While I will not analyse wages or working conditions in this thesis, here I present a poignant quote from my interviews to reflect this point.

¹ 2015 statistics are yet to be released.

Shokhina:²

It is very difficult. It is also difficult to get a job at the garments factory and even more difficult to work there. It is not easy. Some people work all day and sleep under the open sky on the roofs. But we need the money no matter what. We have to go through a lot of hardship here. [...] The present salary is 5300 - 6000 taka [601.69-681.16SEK/68.14-77.14USD per month].³ There is no higher or lower post. We could do overtime before but now we have to finish our work by 5 pm. We have to be happy with only 5300 taka. How do you survive with such an amount of money? You cannot. We could get an additional 4000 taka before for overtime. But now the supervisors make us do too much work between 8 am and 5 pm. We have to make 200 – 300 pieces each hour. It's torture. The work load has increased but there isn't enough money for it. I have to pay rent of 4000 taka, and my children's school fee of 1500 taka. What can you do with the rest 500 taka? I have other expenditures right? I have to buy food and other daily necessities. Can I do anything good with what I am left with? There is nothing I can do about it. So, we have to live with such difficulties.

Incidents of workplace injuries and deaths in RMG factories have occurred throughout the history and growth of the industry (Ahmed and Hossain 2009). In recent years, a handful of specific events related to the shortcomings listed above have been highly publicised on the international stage. In April 2012, the body of RMG trade union organiser Aminul Islam was found by police on a road just outside Dhaka. He had been tortured and murdered (Yardley 2012). Later that year, 123 people died, and over 200 people were injured in a fire at Tazreen Fashions factory (Adewunmi 2012). Then in April 2013, 1,127 RMG employees lost their lives, crushed in the collapse of Rana Plaza (Butler 2013). In countries where Bangladesh's RMG products are consumed, these events spurred widespread debate around the ethics of outsourced manufacturing and labour rights.⁴

Improvements to working conditions have been made in the last two years; however, despite a dramatic increase in the minimum wage in late 2013, at 68 USD/month, Bangladeshi RMG employees still receive the second lowest wages⁵ of the ten largest exporters in the Asian

² All names for interviewees in thesis are pseudonyms.

³ Currency conversions based on exchange rates on 12/04/15.

⁴ For examples of campaigns that have risen out of this, see the 'Clean Clothes Campaign', 'Labour Behind the Label', and 'War on Want'.

⁵ RMG labourers in Sri Lanka are paid slightly less at 66USD/month.

garments sector (ILO 2014, 3, 13). Now, two years on from Rana Plaza's collapse, there are still calls for improvements to the working conditions in Dhaka's RMG factories (Westervelt 2015). The issue of poor wages and standards in Bangladesh's RMG industry is important in this thesis in the way it relates to Marx's theory of the industrial reserve army (to be discussed in section 3.1).

2.4. Demographics related to RMG factories and climate migration

The excerpt presented here, which I discuss in this section, describes the type of person typically employed by RMG factories.

The evidence strongly suggests that the garment industry is tapping into this reserve pool of female labour in the countryside. The overwhelming majority of women in the garment industry are rural migrants and for the majority it is their first job. [...] It is also clear that the garment industry is drawing from poorer (but by no means the poorest) sections of the rural population. [...] [T]hey have low levels of education and their families are often landless and in food deficit for some of the year.

(Kabeer and Mahmud 2004, 148, 153)

2.4.1. Are some CREC migrants and RMG employees the same people?

The type of migrant RMG employee described above by Kabeer and Mahmud (2004) – poor, uneducated and landless – fits closely with the type of person likely to migrate in response to CRECs (see Tacoli 2009, 517-8). It therefore seems likely that there may be a climate related dimension to the migration background of many of Dhaka's current RMG employees. Yet to my knowledge at this time, this specific demographic (CREC migrant RMG employees) has not been studied. A crucial initial aim/contribution of this research is therefore to be able to clarify whether such a type of person exists. This research seeks to understand if there are cases in which RMG employees have been affected by CRECs in a way that encouraged or determined their migration to the urban RMG production zone. The ability to identify the existence of such a type of person is central in this thesis to being able to identify and discuss a relationship between climate change and the RMG industry.

2.4.2. A Gender Dimension

While it is not the purpose of this thesis to specifically explore the issue of gender, the role of gender dynamics in relation to CRECs, migration and RMG employment forms an important context for this thesis.

For various socio-economic reasons, women tend to be more vulnerable to CRECs than men (Adger 2006, 271, 273). Yet typically, a higher proportion of men have constituted Dhaka's migrant (and also specifically CREC migrant) population (McLeman 2014, 137; Tacoli 2009 517). This is largely due to the employment opportunities available to men in the city and the traditional role of the male as the breadwinner of the household. However, Black et al. (2008, 28) have suggested that recently the tendency for women to migrate from rural areas has been growing due to the growth of the RMG industry as an economic pull factor.

Kabeer and Mahmud's (2004, 148) quote above (2.4) indicates that RMG factories tend to employ women from rural areas who have previously been unemployed – such women constitute a “reserve pool of female labour”. Bangladesh's RMG factory employees are 85% female, and thus, employment in the sector is clearly gendered (Sikdar et al. 2014, 173). In this thesis, I look at why it could be that women are disproportionately employed in the RMG industry by investigating how gendered employment opportunities relate to the financial impacts of climate change (sections 5.1.3 and 5.1.4), and how women as a demographic may be considered profitable according to Marx's theory of the reserve army of labour (section 3.1.1).

3. Theoretical Framework

3.1. Marx's theory of the 'industrial reserve army'

Marx's theory of the industrial reserve army constitutes the central theoretical basis of this thesis. The terms used in this thesis - 'industrial reserve army', 'reserve army of labour' and 'surplus labour population' are all synonymous. Simply put, the 'industrial reserve army' is the number of people either unemployed or underemployed, and seeking wage employment

(Marx [1867] 2010, 443). This section explores the role of the industrial reserve army in the market, as described by Marx.

3.1.1. Why is the reserve army of labour important?

According to Marx, the existence of the industrial reserve army is an essential prerequisite to capital accumulation and industrial expansion. Marx ([1867] 2010, 438) describes the need for there to exist “a mass of human material always ready for exploitation” for the self-expansion of capital. “[T]he expansion [...] of the scale of production”, he claims, “is *impossible* without disposable human material, without an increase, in the number of labourers independently of the absolute growth of the population” (ibid., emphasis added).

The presence of the industrial reserve army is crucial to the expansion of capital in two ways. Firstly, the physical practicality of expanding industrial production is only possible if there exists a population of labourers available to work in the new factories, without compromising the existing labour force. This labour supply must be ready for immediate employment (and equally immediate dismissal) in accordance with the demand for labour power.

[T]here must be the possibility of throwing great masses of men suddenly on the decisive points without injury to the scale of production in other spheres.

Overpopulation supplies these masses.

(ibid.)

Secondly, the relative size of the industrial reserve army plays a crucial role in determining the profitability of the industry. The size of the surplus labour population (unemployed working class) in relation to the labouring population (employed working class), according to Marx, influences the amount of competition for employment within the working class, and thus the level of bargaining ability for the average worker. When competition is high, employees are forced to accept poor wages and working conditions. Marx generally focuses his discussion regarding this on the issues of low wages and long working hours⁶, both of

⁶ “It is the absolute interest of every capitalist to press a given quantity of labour out of a smaller, rather than a greater number of labourers, if it costs about the same. [...] The overwork of the employed part of the working class swells the ranks of the reserve, whilst conversely the later pressure that the latter by its competition exerts on the former, forces these to submit to overwork and to subjugation under the dictates of capital. The

which have been noted in the case of Bangladeshi RMGs (see section 2.3). This lack of bargaining ability can further impact other areas (implied but not explicitly mentioned by Marx) associated with Bangladeshi RMG factory conditions such as the (in)ability to organise with a union, acceptance of poor environmental health and safety standards (recall the incidents at Rana Plaza and Tazreen Fashions), and acceptance of high pace and stressful work environments. The low standard of wages and conditions brought about by high competition amongst the working class makes the production process cheaper, and increases the profitability of the industry (Marx [1867] 2010).

Another way in which a large surplus labour population supports the profitability of a manufacturing industry is through the ability of the employer to choose to hire cheaper demographics – specifically women, youth and the unskilled.

[T]he capitalist buys with the same capital a greater mass of labour power, as he progressively replaces skilled labourers by less skilled, mature labour power by immature, male by female, that of adults by that of young persons or children.

(Marx [1867] 2010, 440).

This theory regarding profitable demographics is befitting to the employment of female labour in Bangladeshi RMG factories.

So theoretically, the level of profitability of Bangladesh's garment industry is partially dependent on the relative⁷ size of the exploitable⁸ surplus labour population. The practices (wages, conditions and preferred employee demographics) that have been documented with regards to the Bangladeshi RMG industry generally fit Marx's description of the ways in which a relatively large surplus labour population can facilitate profitability for an industry. Within this context, this thesis seeks to further understand the surplus labour population in Dhaka, as it constitutes the so-called "lever" of profitability, and specifically investigates the way the surplus labour population relates to migration and climate change (Marx [1867] 2010, 438). If climate change has an influence on the size of the exploitable surplus labour population through migration, then in accordance with Marx's theory, there is a relationship

condemnation of one part of the working class to enforced idleness by the overwork of the other part, and the converse, becomes a means of enriching the individual capitalists" (Marx [1867] 2010, 440).

⁷ Relative to the size of the employed labour force.

⁸ Located in Dhaka.

between the effects of climate change and profitability in the Bangladeshi RMG industry. This is the central mechanism explored in this thesis.⁹

3.1.2. Who are the surplus labour population?

I will now establish some key terms and concepts relevant to this thesis, regarding the surplus labour population. The overall population engaged in the labour market (employed, unemployed and underemployed) will be termed the ‘working class’ (what Marx also calls the ‘proletariat’). Those who are employed (on either a part or full time basis), I refer to as the ‘labouring population’, ‘labour army’ or ‘labour force’. The ‘surplus labour population’ refers to people unemployed or underemployed who have the potential to take up employment.¹⁰ When I mention the ‘exploitable’ surplus labour population I am referring to the surplus labour population which can be accessed by those who control the means of production, which in this case is RMG factory employers. Therefore, ‘exploitable’ refers to the surplus labour population *located in Dhaka*. Marx defines three key categories of people who constitute the surplus labour army: the ‘floating’, the ‘latent’ and the ‘stagnant’ (Marx [1867] 2010, 443). It is the latent reserve army which is of particular relevance to this thesis. The latent reserve consists of people not yet completely integrated into the capitalist system or the working class, including women, children and the rural agricultural population (Marx [1867] 2010, 444; Harvey 2006, 51).¹¹ This thesis deals specifically with women of the rural population.

3.1.3. How is the surplus labour population expanded?

In chapter 25 of *Capital*, Marx ([1867] 2010, 428-499) addresses two key ways that the exploitable surplus labour population is expanded. First, the mobilisation of the latent reserve: either out of the domestic sphere and into the working class, for women and children

⁹ I must be clear at this stage that I am by no means assuming that labour supply is the only determinant of profitability in the RMG production process. I am simply focusing on this factor in this thesis. Furthermore, I recognise that there are other factors which influence the relative size of the surplus labour population (for example, the rate at which industry employs additional labourers, or lets existing labourers go), but it goes beyond the bounds of this thesis to explore these factors in depth.

¹⁰ In this thesis, I consider those who are underemployed (employed on a short term or part time basis but still looking for work) to be members of both the labour army and the reserve army, as the theory I will apply is relevant to them in both categories.

¹¹ Even in Dhaka where there is a higher concentration of employment opportunities for women, women are still not engaged in formal employment to the same degree as men (Salway et al. 2003, 885). As such, Marx’s categorisation of women as comprising a large part of the latent reserve is still applicable.

(to become either employed or seeking employment); or in the case of the rural population, out of rural agricultural regions and into urban areas of industrial production. Secondly, Marx puts forward his theory of the ‘setting free’ of labourers, a process by which capitalists in areas where the latent reserve army was exhausted (the near-maximum possible number of people from the latent reserve had already been mobilised into urban areas, making them exploitable/accessible) could create their own surplus labour population independently of other population determinants (Marx [1867] 2010, 439). This is a process which I will discuss in section 6.2.1. Marx devotes the majority of chapter 25 to describing the process of the latter - the ‘setting free’ of labourers. However, in this thesis I am interested in elaborating on and understanding further the process of the former – specifically the mobilisation of rural Bangladeshi women from the latent reserve into the exploitable surplus labour population in Dhaka, seeking employment in the RMG factories.

3.1.4. Why do the rural latent reserve migrate to urban industrial centres?

It is important at this stage to note that so long as the rural agricultural population do not have the facility or motivation to go to urban centres to work, they do not affect the urban labour market in terms of competition, and thus, do not impact the level of wages in industrial areas. Therefore, what is important to the profitability of the RMG industry is not only the relative size of the latent reserve (in addition to the floating and stagnant reserves), but whether or not they are exploitable/accessible (located in Dhaka). As David Harvey (2006, 166) puts it, a “highly mobile labour force becomes a necessity for capitalism.” Now it becomes clear that to understand profitability, it is important to understand what drives the rural latent reserve to move to urban industrial areas.

Marx predominantly attributed the migratory push force from rural areas to be due to the capitalisation of rural agriculture.

As soon as capitalist production takes possession of agriculture, and in proportion to the extent to which it does so, the demand for an agricultural labouring population falls absolutely [...] Part of the agricultural population is therefore constantly on the point of passing over into an urban or manufacturing proletariat. [...] But the constant flow towards the towns pre-supposes, in the country itself, a constant latent surplus

population, the extent of which becomes evident only *when its channels of outlet open to exceptional width*.

(Marx [1867] 2010, 443-4, emphasis added)

But what is it that opens the “channels of outlet to exceptional width” (Marx [1867] 2010, 444)? What other factors interact with the financial push induced by the capitalisation of rural agriculture? In this case, why do previously unemployed women of the rural population in Bangladesh (the latent reserve) choose to move to Dhaka, and what leads them to engage in a capitalist economy?

Marx did not allocate a lot of discussion to the intricacy of this topic. Rosa Luxemburg ([1913] 2003, 342) even went so far as to say that Marx “ignores [...] the sources from which the urban and rural proletariat is recruited”. Luxemburg herself considered the “decay of peasant economy and small artisan enterprises” to be largely responsible for the recruitment of “non-capitalist groups” (the latent reserve) to the proletariat and the surplus labour population (ibid.). Personally, in a modern context, I am interested in the role of climate change as a migratory push factor and financial driver encouraging women to seek formal employment.

To defend Marx somewhat against Luxemburg’s criticism, he did consider one case (of particular relevance to this thesis) where the reason for rural-to-urban migration was not entirely attributed to the capitalisation of agriculture. This is the case of the migration of the Irish agricultural population during the great potato famine. Recall the opening quote to this thesis: “The misery of the agricultural population forms the pedestal for gigantic shirt-factories, whose armies of labourers are, for the most part, scattered over the country” (Marx [1867] 2010, 481). It is clear in this example that in some cases there exists a strong environmental component (push factor) to the reason why a person of the rural agricultural population may choose to move to an urban industrial centre in search of formal employment. The condition of the rural environment thus plays an active role in the mobilisation (or lack of mobilisation) of the rural latent reserve.

So what are the implications of this for migration patterns of Bangladesh - a country with a densely populated and numerically large rural population, which happens to be one of the most vulnerable countries in the world to climate change (recall section 2.1)? How is the

situation different when the environmental push factor is not just persistent yet temporary crop failure (as in the Irish case), but a long term change related to various different environmental stressors, with the expectation that these will exacerbate as time goes on (as is the case with climate change) (IPCC 2013). Through this thesis, I explore these questions further.

3.1.5. Summary: How could climate change support the profitability of the RMG industry?

To conclude this portion of the theoretical background, I have constructed a visual representation of the way in which Marx’s theory of the industrial reserve army may lead to the interpretation that the phenomenon of climate change is profitable for Dhaka’s RMG industry (Figure 1). This is the central hypothetical mechanism which this thesis sets out to explore.

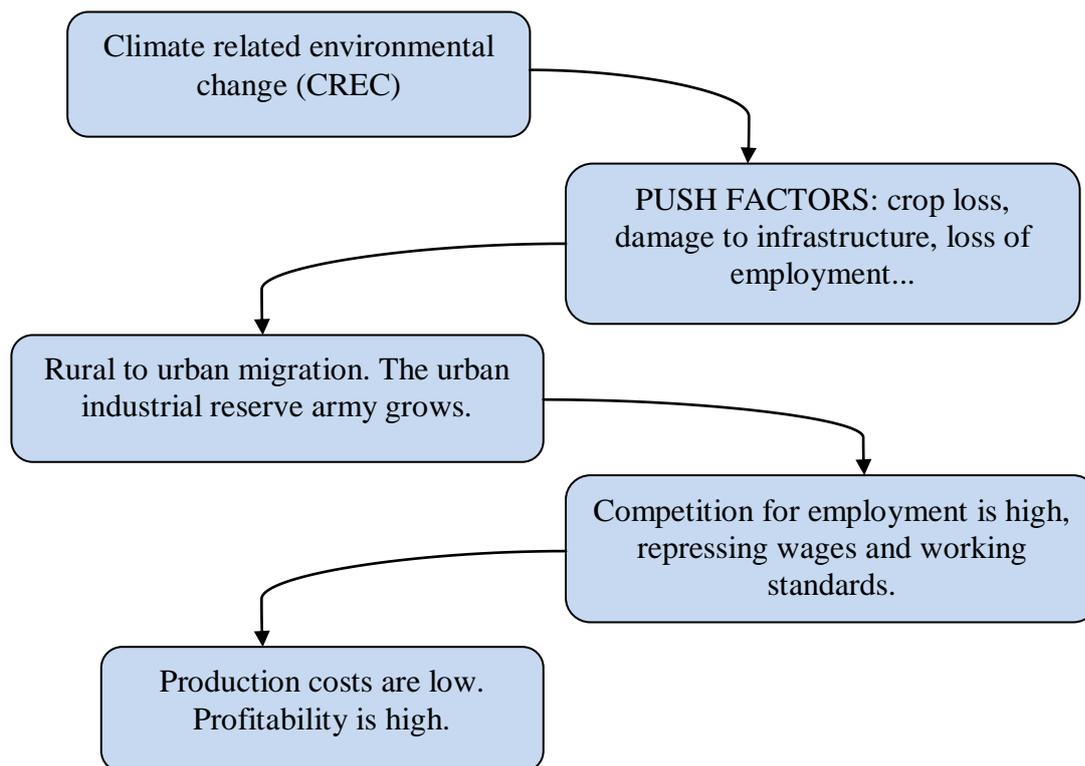


Figure 1: Hypothetical model depicting how the effects of climate change could be profitable through the inducement of climate/labour migration.

3.2. World-systems analysis

World-systems analysis¹² is a perspective largely developed by Immanuel Wallerstein (2004), which is used to look at power relations in the global capitalist system – in the phenomenon of globalisation. As seen through a world-systems analysis, globalisation is characterised by the stark division of labour and production processes between different geographical areas. By looking at these differences, it is possible to identify three different areas/economies: the Core, the Periphery, and the Semi-periphery (Wallerstein 2004). Economic exchanges between the Core and Periphery¹³ are “unequal”, “favoring [sic] those involved in Core-like production processes” (Wallerstein 2004, 17). Surplus value is appropriated from the Periphery to the Core, contributing to a widening of the gap in wealth between the Core and Periphery. Core and Periphery economies can be identified (in a simple manner) by looking at areas with the highest and lowest GNP per capita respectively as an indicator to understand whether a country’s role in the global economy is dominant/hegemonic (Core) or dependent (Periphery) (Korzeniewicz and Martin 1994, 71). With regards to the global economy and RMG supply chains, Core-Periphery dynamics are central to understanding the wider economic implications of the role of a country as a producer/exporter (Periphery) or consumer/importer (Core) (Harvey 2000). I will now make some general claims related to world-systems analysis that are central to the theoretical basis of this thesis.

- a) Bangladesh, as an RMG producer/exporter, is a Peripheral economy.
- b) The majority of the countries that import Bangladesh’s RMG products are Core countries.
- c) The poor wages and working conditions that have been documented (see section 2.3) in the Bangladeshi RMG industry (the Periphery) are generally not accepted in the Core (Taplin 2014).
- d) Core countries are predominantly responsible for climate change (Roberts and Parks, 2007, 2009).
- e) The effects of climate change are felt most negatively by peoples located in the Periphery (IPCC 2014, 15).

Climate change and international commodity production (and consumption) exist within an unequal global system. World-systems analysis can be employed to better understand the

¹² I understand that the term ‘world-systems *theory*’ is commonly used with reference to Wallerstein’s ideas in this regard. I have, however, decided to refer to this as ‘world-systems *analysis*’ as this is the term used by Wallerstein (2004).

¹³ While most literature does not capitalise the terms ‘Core’ and ‘Periphery’, I have chosen to do so throughout this thesis. In this way, I recognise that these terms are representative of real locations which are difficult to define, similar to the way people talk about ‘the West’, for example.

power dynamics inherent in climate change and international commodity production, and by extension, how these dynamics relate to one another. This has consequently become an invaluable analytical tool, which is central to the discussion of my findings (section 6).

4. Methods and Methodology

I see my research as a case study of a situation in which the effects of climate change may be profitable. Other examples of the profitability of the effects of climate change have been addressed recently in the book *Windfall* by McKenzie Funk (2014). Funk (2014) deals with cases such as the sale of flood barrier technology, and the opening of trade passages due to the recession of Arctic ice. Another such case of potential climate change profitability which I witnessed in Bangladesh, is a growing market for genetically engineered flood resistant crops. Each potential case of climate profitability is “an unusual or unique situation” and as such, this is an ‘intrinsic’ case study (Creswell 2007, 74).

In relation to the overarching hypothesis behind this study – the idea that the effects of climate change, through migration, may be contributing to the profitability of Dhaka’s RMG industry, this case study is a ‘plausibility probe’. I do not expect to be able to prove the existence of such a relationship between climate change and RMG profitability, but I intend to explore its possibility, and “determine whether more intensive and laborious testing is warranted” (George and Bennett 2005, 75).

In this thesis, I have adopted a ‘theory-to-research-to-theory strategy’ (Koh 2013). Through this, I have used Marx’s theory of the industrial reserve army to: inform my research approach; develop my research and interview questions; assist in the interpretation of my findings; and further develop the theory at hand. The purpose is not to test Marx’s theory, but to identify ways in which the theory may or may not be supported by the findings, in order to further develop and better understand both the case and the theory.

4.1. Methodology

4.1.1. Critical realism

I have taken a critical realist approach to this research. Ontologically, I hold that there is an objective reality independent of human perception. As such, climate change and migration are real phenomena with real and observable drivers and consequences. In terms of epistemology, it is possible to gain knowledge about migration and climate change, but this knowledge is always incomplete, and “fallible” (Brante 2001, 172) due to the subjectivity of human perception (Bhaskar 2008). By seeing the situation I am studying as an “open system”, I am interested in understanding the complexities of “causal mechanisms” behind CREC migration, and by extension the causal mechanisms behind RMG profitability (Sayer 2000, 14-5). In line with my understanding that people have differing interpretations of the subject of study (climate migration), it is important for me to take into account the opinions of others, and reflect on my own biases and power when it comes to the creation of knowledge. This is discussed further in the following section (4.1.2).

4.1.2. Decolonising methodology

Being particularly aware of and uncomfortable with the power dynamics inherent in my research (to be described in section 4.2.6.2), I approached my research through the lens of decolonising methodologies (Smith 1999). I aim to work against the power dynamics inherent in neo-colonialism in two key ways. Firstly, during the fieldwork and data interpretation, I attempted to challenge neo-colonial power dynamics by constantly challenging my opinions and assumptions in light of my privilege (Seifert 2011). Secondly, I hope to challenge (and encourage other people to challenge) global systemic neo-colonial dimensions of power through the story I tell with this thesis. There were, unfortunately limitations to the extent to which I could employ decolonising methodologies. I would have liked to have had consistent dialogue regarding my thesis with someone from inside the community of migrant RMG working women, and I would like to be able to show the results of my research to the women I interviewed and garner their opinion. Furthermore, although I learned a little Banlga and understood the culture to a certain extent from having lived in Bangladesh for three months before beginning the interviews, I feel that a greater degree of

cultural immersion would have been preferable (Smith 1999, 176-8). However, due to time, resource and availability constraints, this was not practical.

4.1.3. Militant methodology

Militant methodology as described by Bertie Russell (2014) is contextually important to my thesis in that it accepts that my political opinions as an activist and my inquiries as an academic are intertwined. My research is also militant in that it concentrates on “a contradiction, inconsistency or paradox within an overtly politicised milieu” and through this I am attempting to “understand and contribute to the collective surpassing of the paradox” (Russell 2014, 2). The political paradox I hope to address in this thesis revolves around the Core-Periphery power dynamics to be discussed in section 6. As militant research strives to promote positive change with regards to the issue of interest, the extent to which my research can be considered “successful” relates to the measure by which I contribute to conversation concerning the complexity of the ethical and environmental issues embedded in global capitalism (in Core-Periphery dynamics), and facilitate a shift toward the discussion of alternatives to this system (Russell 2014, 5).

4.2. Applied method: fieldwork interviews

My fieldwork interviews took place in Dhaka between December 5th 2014 and January 9th 2015. I engaged in semi-structured qualitative interviews to gather my primary data. In total, sixteen interviews were carried out with eighteen interviewees - two pairs of interviewees were a mother and daughter interviewed together. During the research process in Dhaka, I also conducted key informant interviews with members of NGOs, research organisations and labour organisations whose work relates to my case study. However, to narrow the scope of this thesis, I have chosen to focus on the information gathered in my interviews with migrant women. I deem their experiences and narratives to be more important to my research because: a) their first hand experiences are central to the phenomenon at hand; and b) their voices are marginalised especially in discourse around climate change and the garment commodity chains. As such, the key informant interviews form a background to my knowledge around this subject, but do not feature here in my empirical data or analysis.

4.2.1. Finding locations

While living and working in Dhaka, I had learned that most women who work in the RMG factories reside in Dhaka's bastis ('basti' being the Bangla word for 'slum'). As I was hoping to talk to these women in a comfortable place outside of their working context, it became apparent that their homes in the bastis would be the best location to find interviewees and conduct interviews (Flowerdew and Martin 2005, 118).

I noted several key garment production zones in Dhaka upon which I wanted to focus: Mirpur, Ashulia, Savar, Uttara and Gazipur.¹⁴ Due to resource and mobility constraints I eventually settled on interviewing women from several different bastis in the Mirpur area. This is a limitation to my study, but I do not expect that the responses from my interviews would differ significantly between these RMG production zones. Nevertheless, I would recommend future research investigate this further.

The interviews were conducted in these five Mirpur basti locations (listed along with the number of CREC interviewees I spoke to in each respective area): Baishteki Basti (3); Jhilpar Basti (6); Khalshi Basti (2); Sarker Bari, Mirpur embankment area (1); and Bhola Basti (6). Publicly accessible maps of Dhaka are limited in detail, with bastis almost always omitted. I found these locations in several different ways. Baishteki Basti, was found by arriving in Mirpur and asking local people for directions to a nearby basti. Khalshi Basti and Sarker Bari were found through similarly explorative methods. The local RMG NGO 'Awaj Foundation' had tipped me as to the existence of Jhilpar Basti, the final location of which I found through a map in a doctoral thesis (Nahiduzzaman 2012, 62). I further knew of the existence and got directions to Bhola Basti through colleagues who had also conducted research in that area.

4.2.2. Sampling

I used purposive opportunity sampling that was 'theory based' (in accordance with the hypothesis underlying this thesis regarding climate change and RMG profitability) and on

¹⁴ I identified these areas by seeing where previous studies on garments had been conducted, by looking at material from RMG NGOs and where they based their work, and by talking to friends and colleagues who work with these issues.

some occasions employed a ‘snowball’ method (Creswell 2007, 127). A further deeply qualitative dimension to my sampling method was used to identify CREC migrants.

Here I outline and justify my sample criteria.

a) Female.

A particular interest in women is due to the gendered dimensions of climate vulnerability, migration and employment opportunities (particularly in the RMG industry) (recall section 2.4.2).

b) Migrated to Dhaka from a rural area of Bangladesh.

This criterion is critically linked to the hypothetical inquiry behind this thesis. I identified ‘rural area’ as areas other than Bangladesh’s two largest cities – Dhaka and Chittagong – because RMG factories congregate around these cities, and my interest is in migration *toward* RMG production zones.

c) Aged at least 14 at time of migration to Dhaka.

This was to ensure that the interviewee would remember what life was like before they left their village¹⁵, and also to hear from people who had made a conscious decision to move, and could talk about their plans (or lack thereof) regarding employment once they reached Dhaka.

d) Presently works or previously worked in an RMG factory.

This is another criterion integral to the hypothesis of this thesis. I felt the inclusion of people who are now unemployed was important as they could offer relevant and interesting insights that perhaps people who are currently employed could not.

4.2.3. Interview structure

In order to collect some key demographic information, some basic closed questions preceded the interview. The rest of the interview was constructed to ask questions (based around some

¹⁵ ‘Village’ is a term generally used in Dhaka to reference a person’s rural home area. This may not always be consistent with Western conceptions of the size of a village, but the necessity here is only to identify the area as separate from central garment production areas (exclusively Dhaka and Chittagong).

central themes listed below) that were non-leading and generally open ended in order to best understand the issue through the perspective of the interviewee (Flowerdew and Martin 2005, 119-121).

I used the first half of my interview as a way to both filter for CREC related migrants and learn about their experiences related to CRECs. This was a deeply qualitative way of filtering for the data I wanted to analyse and the people I wished to continue to interview. I conducted interviews with twenty six women overall, and in this way identified eighteen of them as CREC (related) migrants. The interviews from these eighteen women constituted my final data sample.

In order to identify the interviewees as either CREC migrants or non-CRE C migrants, I devised the questions in accordance with McLeman and Hunter's (2010) description of climate vulnerability.¹⁶ This consists of three main dimensions: a) exposure; b) sensitivity; and c) adaptive capacity. To identify a CREC migrant, I had to be satisfied by their answers that according to each of these dimensions, they were previously vulnerable to climate change: I would need to be able to answer 'yes' to each of the corresponding questions below.

- a) Exposure – has the interviewee been exposed to CRECs?

My questions for this focussed on four central CRECs: storms; floods; erosion and drought. I excluded other CRECs common to Bangladesh such as salinity intrusion and sea level rise in an effort to keep the conversation simple and accurate, as I felt these CRECs would be difficult to communicate, especially across linguistic and cultural boundaries.

- b) Sensitivity – have these CRECs had a significant impact on the lives of the interviewee and their family/dependants?

I questioned the interviewees about their main sources of income, in order to ascertain their level of dependence on their physical environment. This included finding out if they were engaged in land dependent activities such as farming, if they were dependent on wage labour or if they had their own land, if they had any other diverse

¹⁶ Recall the link between climate vulnerability and propensity to migrate mentioned in section 2.2.2.

forms of income, and if their income or ability to provide for themselves and their family was in any other way impacted by the CRECs to which they were exposed.

- c) Adaptive Capacity – did the interviewee face significant challenges to being able to continue living in their local area?

This means I attempted to gauge my interviewees' ability to take action to “reduce or moderate or adjust to the expected or actual negative effects of climate change and take advantage of new opportunities” (Ford et al. 2010, 374). This is difficult to gauge as an outsider when asking about migration in retrospect, so I focussed these questions towards the interviewee's own *perceptions* of the options they had available to them at the time.¹⁷

The latter part of the interview I constructed with guidance from Marx's ([1867] 2010, 428-499) theory of the industrial reserve army. This can be broken down into three main sections: d) migration; e) RMG employment; and f) reflections.

- d) Migration

This included questions about the experience and challenges (personal, practical and financial) of migrating and looking for a job. This would give me an insight both into the process of urbanisation (the attraction of migrants and increase of surplus labour population) and competition for employment.

- e) RMG employment

These questions explore the interviewees' feelings about their working conditions (wages, hours, job security, safety and treatment). I also asked about the demographics of people who tend to work in the garment factories and why my interviewees thought that was the case. Through the follow up, I hoped to better understand why they would accept particular working standards.

¹⁷ I am aware of the ongoing debate over whether or not the act of migration as a response to CRECs constitutes a form of adaptation. On the one hand, migration is viewed as a “failure to adapt to changes in the physical environment”, and on the other hand migration is seen as ‘a key adaptive response to socioeconomic, cultural and environmental change’ (Tacoli 2009, 513). Is migration a symptom of a lack of adaptive capacity, or evidence of the presence of adaptive capacity? I have come to believe that it is both. I thus recognise that my interviewees were probably not the most vulnerable people affected by CRECs in their respective areas. Yet to understand my interviewees' pre-migration vulnerability, it is still important to gauge their adaptive capacity with the exception of the option to migrate.

f) Reflections

To conclude, I asked reflective “warm down” questions regarding how the interviewees view their decision to migrate and comparisons between Dhaka-life and rural-life (Flowerdew and Martin 2005, 120). Through these questions, I was attempting to understand what might keep migrant labourers in Dhaka, and how this could relate to surplus labour.

A copy of the basic interview template I used (derived from the approach described in this section) is featured as Appendix 1 (9.1).

4.2.4. Interview Process

I visited the bastis mostly on Fridays as this is usually the one day per week when RMG employees do not work, and so, would be likely to be home.¹⁸ I used three different translators for the interview process, all of whom had been briefed about my research and their role beforehand. Walking around the basti, my translator would talk to passer-by women, briefly explain who we were and why we were there, and then, if she was interested, ascertain whether or not the woman fit the basic sample criteria.

All of the translators I used for the interview process were female. This was important for three key reasons. Firstly, the sample was restricted to women and I thus felt that an all female context would contribute to a sense of trust and comfort. Secondly, I was often hoping to be invited into the interviewee’s home, where things were a bit quieter, to conduct the interviews, and felt that it would be culturally inappropriate to hope for a woman to invite an unknown man into her home. Thirdly, there is a gender dimension to my interview content, and I wanted the interviewee to feel as free as possible to speak on issues of gender (Temple and Young 2004).

¹⁸ It is interesting to note here that it seems that a large portion (54% recorded in a 2003 study) of RMG employees have no days off work whatsoever (Salway et al. 2003, 893). I encountered one such woman during my fieldwork, who I interviewed on her lunch break. However, it is important to note here that it is unlikely that I spoke to the women with the worst working conditions, as they would not have been home during my visits. As my analysis focuses more on migration experiences than working experiences, I do not see this as posing a major limitation to my study, but it is still important to note.

Most interviews lasted from one to one and a half hours. Prospective interviewees were asked beforehand if they had this amount of time available for the interview. However, in some cases it became apparent during the interview that there were time constraints, and so the interview length and questions were limited according to the interviewee's availability.

While I followed a basic interview structure with open ended questions (see section 4.2.3), I remained open to letting the interviewee lead the direction of the conversation, within the bounds of my topics of interest (Flowerdew and Martin 2005, 120). I found the structure useful in cases where interviewees were less talkative. Open-ended follow up questions were also crucial in these cases to get the more detailed narratives I was seeking and understand new emerging themes (Flowerdew and Martin 2005, 122).

All interviews were recorded with an audio recorder, and later transcribed for the greatest possible level of accuracy (Flowerdew and Martin 2005, 122-3). I made further notes by hand during the interview in case the recording failed or the background noise was too high for accurate transcription.

4.2.5. Method of analysis: coding

I had the interview recordings transcribed into English, and used these transcriptions to analyse my data through a coding process. The recurring themes in the interviews were initially recorded in a preliminary table, in order to minimise the loss of data (Flowerdew and Martin 2005, 106-7). The final key codes which I have decided to focus on in this thesis are listed and explained in part 5.

Given occasional time constraints and the semi-structured nature of the interview, the exact same topics were not discussed in each interview. This should be kept in mind when looking at the frequency of particular themes drawn out in the analysis section. It is possible that the experiences of more interviewees are consistent with a given theme, but that that particular theme was not explicitly discussed in the other interviews.

4.2.6. Ethical considerations

4.2.6.1. Confidentiality and safety

The discussion of working standards in Bangladesh's RMG industry is still a contentious and potentially dangerous topic (recall the murder of a trade unionist mentioned in section 2.3). As my interview aimed to find out honest information about aspects of my interviewees' working life, including things that they may dislike, I understand that my interviewees could have felt that they were putting themselves at risk, at least to disciplinary repercussions from their employer, if not something more severe.

I attempted to address this by explaining who I am, where I come from and the purpose of my research to the interviewees – establishing that I am not associated with their employer. I further emphasised that their anonymity was ensured and that their name would not be repeated. Permission to record was always gained from the interviewee prior to turning on the recorder for the interview.

Unfortunately, it was not possible for me to guarantee complete privacy and anonymity as there were almost constantly onlookers of between one and ten people from the basti observing the interview, which I will discuss further here in the limitations section (4.3.2). Given the situation at the time, my translator and I felt that as we were outsiders of the community, it was ethically more important to let the onlookers stay than to ask them to leave. While there was no way for me to know if this breach of privacy would have negative repercussions for any of my interviewees, overall I felt that the onlookers were either curious or genuinely interested in contributing to the discussion of the interview. However, I recognise that this comes from my limited interpretation of the situation as an outsider, and as such, constitutes an ethical limitation to my research.

4.2.6.2. Positionality and power dynamics

There are several implicit power dynamics at play within my research. These are embedded in class, ethnicity, nationality, culture, language, education (including the perception of 'legitimate' knowledge) as they are rooted in colonial history and neo-colonialism (Smith 1999).

A key question which I have been asking myself through this research process is: *what right is it of mine to tell this story?* In many ways it would be more ethical and more culturally accurate for this research to have been conducted by a woman from inside the community of focus (Smith 1999). Throughout the research process, I have responded to this issue by continually attempting to remind myself of and be aware of my privileges, while questioning and challenging my actions and opinions in light of prevalent power dynamics (Seifert 2011). I also tried to avoid projecting my own expectations or opinions onto the interview, encouraging the interviewee to speak freely, and trying to listen to the narrative as it is told through her perspective. Yet an unavoidable part of being an outsider of privilege is that my understanding of my own role, opinions and actions, and my interpretation of what my interviewees said will always be in some way clouded by my own positionality, which inevitably forms a limitation to my work (Smith 1999, 176).

In some ways, I am inclined to see my position as an outsider as beneficial to my research, because it allows me to look at this situation through a different lens (Flowerdew and Martin 2005, 125). For example, many of the women I interviewed did not seem to think that their working situation and wages were as unfair as I personally felt they were. Yet I can compare their wages to the sale price of garment in the Core, and I can frame their wages and working conditions next to what would be considered acceptable or unacceptable in the Core. I approach such issues with the use of world-systems analysis and with a goal to promote global justice, which I see as beneficial, despite the limitations presented by my positionality.

I consider myself to be primarily accountable to the women I interviewed (Smith 1999, 173), yet I have no way of contacting them or showing them the outcome of this research. While I am attempting to use my position of privilege to provide a platform to marginalised voices, despite my attempt to undermine my own biases based in privilege, these voices form the final thesis narrative that is told through my eyes. Thus, I find an ethical issue here in that I cannot verify with these women whether they feel my work has done them justice.

Another question I asked myself in relation to power dynamics was: *who really benefits from this?* Out of this, I would get a masters degree and the opportunities that go in hand with that – but what would these women get? Why should they give me their time? I eventually decided it would be appropriate to bring a box of biscuits to put out during the interview and

to give each woman a small gift afterwards to thank them for their participation (Flowerdew and Martin 2005, 125). In response to the question ‘what do we get?’, which prospective interviewees would sometimes ask, I attempted to explain that my research would have no direct influence on their lives, but that I hoped to be able to tell people outside of Bangladesh about their experiences, so potentially some positive changes could be made for them.

4.3. Limitations to methodological approach

4.3.1. CREC filter subjectivity

The heavily qualitative nature of my approach to filtering the interviewees for CREC migrants carries limitations. The decision as to whether or not an interviewee constituted a CREC migrant was not based on objective data (nor do I believe it could be), and consequently this decision came down to my discretion. I have attempted to describe my decision making process as thoroughly as possible (see section 4.2.3) in order to maximise the reliability of this filtering method and its ability to be replicated.

4.3.2. Reliability of answers: onlookers and my identity as an outsider

The lack of privacy mentioned in section 4.2.6.1 is likely to have had an influence on the reliability of the answers given in some cases. For example, one woman was reluctant to tell me until the spectators left that her role in the factory is to clean the toilets. My identity as an outsider is also likely to have impacted the honesty of some answers because people may want to please me and tell me what they think I want to hear, or they may fear that the information will make its way back to their employer through me (Flowerdew and Martin 2005, 125). For example, in one case, my translator informed me that an observer told the interviewee not to tell me ‘everything’ in response to questions about working conditions because she might lose her job. This was an unfortunately unavoidable dimension to my research for me personally as a researcher and does pose a limitation to this study. However, with the use of open-ended non-leading questions I hope to have minimised responses where people might have told me what they perceived I wanted to hear.

4.3.3. Translation

During the interview, I found the translation back and forth through English and Bangla greatly inhibited the fluidity of the conversation and the answers. Sometimes when it came time for my translator to ask another question in Bangla, the interviewee had begun a conversation with another person. The process thus sometimes became long and laborious, contributing to interviewee fatigue and limiting the detail of the answers I received.

As I was recording the interviews, I knew I could get the full direct quotes of what was said by the interviewee later on through my transcribers/transcriptions. I thus compromised on some of the depth of the detail translated back to me in the interview, in an effort to keep the interviewee's attention and facilitate the fluidity of both their answers (by not asking to pause mid-answer for translations) and the conversation as a whole. A limitation of this is that there were several moments where I would have liked to have asked follow up questions and probed a bit more, yet did not have all the information available to me at the time to do so.

A further problem presented by the translation process concerns the inaccuracies inherent in translation (Temple and Edwards 2008). For example, questions were not always translated as open-ended and non-leading. I tried to overcome such problems as much as possible by briefing my translators about such issues prior to the interviews. There are inevitably other problems such as things getting lost in translation or misinterpreted (Flowerdew and Martin 2005, 126). A further challenge for my translators was posed by the diverse accents and dialects of Bangla spoken by the interviewees who had migrated from all over Bangladesh.

I have tried to be aware of places where these limitations apply, through a highly detailed transcription process, yet some of the same challenges that faced my interview translator will have also faced my transcriber (Nikander 2008). I requested for my transcriptions to note (and translate) everything said in the interview: my question in English; the translator's question to the interviewee; the interviewees answer; any further exchange between the translator and the interviewee; the translators description of the answer back to me in English; and so on. In cases where a quote from the transcription used in my analysis had any minor grammatical errors, I have corrected the English myself to improve the readability of the analysis section (part 5).

4.3.4. Communication of concepts

A further problem I encountered concerned the interviewee not being aware of the concept I was referring to. For example, one woman responded that she had not experienced drought, yet after my translator explained the physical characteristics of drought to her, she had a lot to say on the topic. As mentioned in section 4.2.3, I tried to minimise such complications by focussing on very tangible CRECs (excluding those which are less tangible, such as salinity intrusion), briefing the interviewee to ask me if they want clarification of anything, and explaining the question further where necessary.

4.3.5. Generalisability

The phenomenon of which I consider this thesis a case (the profitability of the effects climate change) is incredibly varied. Recall the other examples I mentioned from Funk (2014) at the beginning of section 4, which involve trade passages opening, and a growing market for flood barriers. My study is not closely related to these situations, so my findings cannot be generalised to such dissimilar cases. In cases which specifically concern CREC migration from a rural area into an urban industrial workforce, and where this happens in similar climate and socio-economic context, some degree of similarity in terms of how the mechanism of migration profitability works could be expected. However, due to other variations in context, this kind of generalisability is still limited (Creswell 2007, 74). In a Bangladeshi context, the small sample size used in this study also means that I cannot offer a high degree of confidence as to the generalisability of the findings (Creswell 2007, 76).

5. Findings and Analysis

In this section I discuss the recurring themes which emerged through the analysis and coding of my interview data. Due to the potentially sensitive nature of the interviewees' participation, a pseudonym has been assigned to each participant.¹⁹ Most quotes used in this section are single excerpts; however, in cases where I feel that the way a question was

¹⁹ With the assistance of a Bangladeshi colleague, I have ensured that all the names used for the pseudonyms are culturally appropriate.

translated offers important context to the answer, I have included dialogue from the translator as well. If the reader wishes to see additional quotes supporting a given theme, they can be found in Appendix 2 (9.2).

This analysis addresses three main themes/assertions: first, that some impacts of CRECs form strong encouragement for a rural woman and her family to move to Dhaka (5.1); second, that this migration process is significant for Dhaka's RMG factories (5.2); and third, that the participants of this study experience ongoing encouragement to stay in Dhaka (5.3).

5.1. Encouragement to move to Dhaka and seek RMG employment

As a result of several different factors, all my interviewees experienced strong inducement to move from their village to Dhaka. I will now explore the most salient push and pull factors which made people inclined to migrate, and how these factors relate to one other.²⁰

5.1.1. A physical push factor: CRECs

Property damage constituted a strong push factor for many of my interviewees. To distinguish this from the way property damage relates to financial standing, I refer to this here as a 'physical' push factor (and refer to a 'financial' push factor next). While only seven of my interviewees were at some point displaced from their home due to the physical effects of a CREC, all eighteen had experienced some kind of property damage or loss as a result of CRECs in their area. Joshna is one of the women who has experienced such a physical factor due to CRECs.

Joshna:

Our house was devastated. The storm was so dangerous that we had to leave our house to somewhere else. For a certain time period we made a temporary house with clothes. [...] Our life was very miserable. After the storm we had no house of our own.

²⁰ I do not intend to imply that these are the only push and pull factors at play for migrants who decide to move to Dhaka. In my research, I encountered more push factors than those which I mention here - such as illness or death in the family. I do not address all push factors here as they go beyond the focus of my research. Instead, I have focussed on those which I deem to have a significant relation to CRECs and the RMG industry.

In some cases, this physical push factor also manifests as a fear for personal physical safety and the safety of one's family, as Shokhina reflects:

Shokhina:

[...] [T]he floods and storms will always prevail. We get scared at these. But we try to save our lives above all. [...] You have to save your children and yourself. It's a problem for us.

5.1.2. A financial push factor: The financial impact of CRECs on rural, climate vulnerable families

The second push factor I address here concerns how CRECs relate to family finances. This can be direct in terms of the loss or damage of personal assets such as household property or crops intended for personal consumption - which require money to mend or replace. It can also be indirect and long lasting in the case of the loss of employment (especially relevant in the case of wage employment in agriculture where the crops have been damaged) or productive assets (such as personally owned/farmed livestock or crops intended for sale), or in cases where such financial hardship leads people to take loans which require the further payment of interest. This financial hardship often affects families most immediately through ability to feed their family. In order to be able to feed their family, it becomes essential to seek income elsewhere. Here, I present cases to demonstrate this point.

Fourteen of the eighteen interviewees reported a loss of income as a result of CREC damage. Hosnara's story is one example of this.

Hosnara:

We had to face many problems in this period [during flooding] because at that time our income stopped. Nobody could go outside for work. [...] We were facing very hard times. Most of the time I couldn't feed my children. They had to go hungry. We thought that if we shifted to Dhaka then our future would be bright. [...] Our intention was to earn money.

Poly's story is an example of displacement and a loss of productive assets, and demonstrates how the financial impact of a CREC can be complex and long lasting, especially when it leads a family to take out a loan.

Poly:

Our house and cultivable land went under the water [through river erosion]. Then we moved to another char. At that time that char was also flooded. [...] When we had our own land we could easily grow more crops but now we were living on another char. Lots of grasses grew beside the crop field and it damaged our crops. We needed more money to remove these grasses. We did not have enough money. That's the reason we had to borrow money from others. That's the reason we moved to Dhaka.

Overall, the point I address here is that family finances and CRECs are tightly related. The indirect financial impact of CRECs on my interviewees formed a strong push factor, increasing their propensity to migrate away from their village.

Only four of my interviewees reported having previously migrated rurally before moving to Dhaka. This means that for the majority, their migration to Dhaka was the first time they relocated from their home village. The economic nature of this push factor, suggests that a CREC victim's new location would need to be one with more income opportunities than their village, offering an explanation for why so many of the interviewees chose Dhaka to be their first destination for relocation. This also represents a change in livelihoods strategy, whereby the women become integrated in the formal wage economy. I delve further into the topic of financial opportunities in Dhaka in the following two sections (5.1.3 and 5.1.4).

5.1.3. A financial pull factor: The prospect of employment in Dhaka as potential economic relief from financial hardships

All the participants reported moving to Dhaka with an expectation that their income and ability to provide for their family would improve. For some, the financial pull of Dhaka was the prospect of employment in *any* industry, yet the RMG industry consistently comes through as a strong financial pull factor in itself (which I will discuss next in section 5.1.4).

Monica:

We heard that there were lots of opportunities in Dhaka. [...] If there were no garments [factories] in Dhaka we would have done anything to earn [money], like collect papers and work on the field. We would have survived anyway. We would have worked as day labourers. [...] We had to move to Dhaka. We were struggling in our home village.

The central point here is that Dhaka as a location, including the RMG industry specifically, is seen as a beacon of opportunity, offering an escape from the financial hardships of rural life after CREC damage.

In this case, one can follow Marx's ([1867] 2010, 455) argument that as the size of industry grows, "exploitable human material" (people) will migrate to urban industrial centres with greater rapidity. If it is true that CRECs promote the profitability and expansion of the RMG industry, then it is also true that the perceived attractiveness inherent in the size of industry (which correlates with the industry's size, according to Marx) can be partially attributed to CRECs. I have conceptualised this in Figure 2.

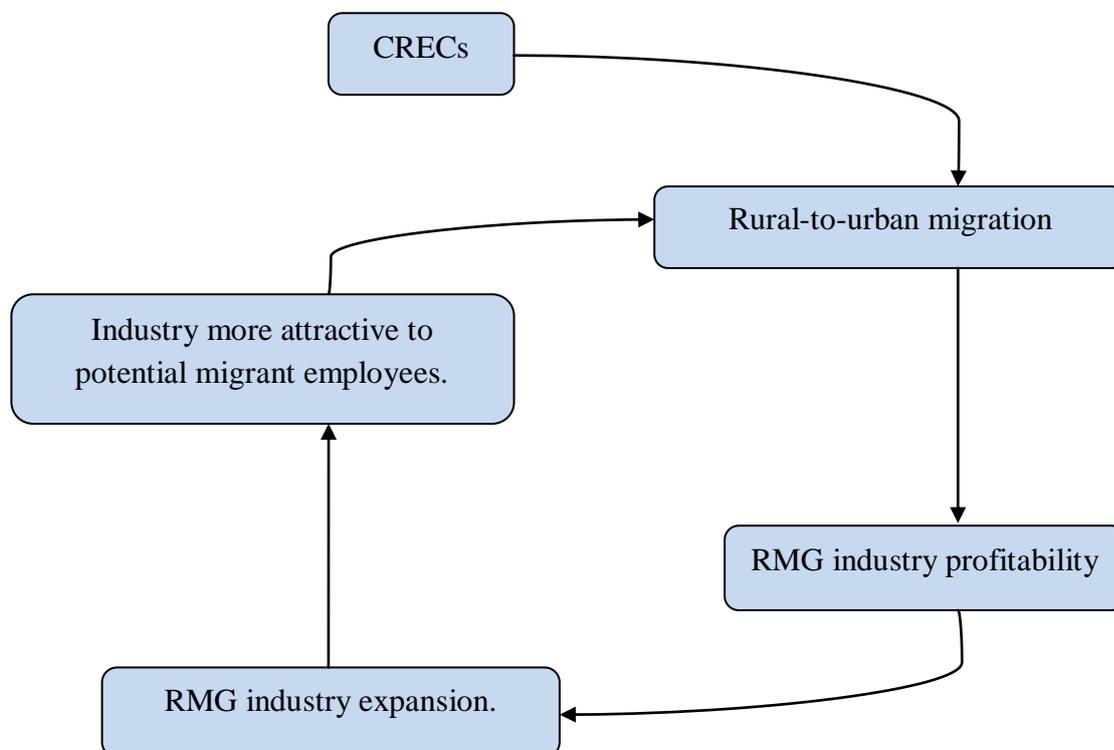


Figure 2: A visualisation of how CREC migration could contribute to the attraction of more migrants to RMG factories by promoting the growth of the industry.

5.1.4. A push and pull factor: Gendered employment opportunities

Most sectors of formal employment in Bangladesh are largely dominated by men. Women have few options for formal employment and work mainly in domestic help or garment factories (Salway et al. 2003, 884-5). The pull factor here is that these job opportunities tend to be concentrated in cities. The push factor is that there are few opportunities in rural areas for women to engage in wage employment.

Seventeen of my interviewees were migrating to Dhaka with the intention to seek wage employment, and all have been formally employed in Dhaka at some stage. Conversely, before moving to Dhaka, only two interviewees reported having been engaged in some kind of wage employment, and still for one of these women, this employment was only sporadic. For the majority of my interviewees, they (and their family) were entirely dependent on the income of a male member of the family when living in their village.

The participants reported having experienced great difficulties in providing for their family in their rural areas with income from only one person [always male, usually her husband].

Hosneara:

My husband worked in construction. It's not enough for our expenses. I thought that if I joined in a garment factory I could contribute some money to our family.

This suggests that it is not only the concentration of job opportunities in Dhaka which encourages families to migrate, but it is the concentration of job opportunities where *women* may *also* find employment. By employing such a large portion of women, the RMG factories offer families the opportunity to have two incomes, rather than just one. As such, the RMG industry specifically constitutes a major financial pull factor for women. Out of the seventeen women who said they were migrating to Dhaka to seek wage employment, eleven reported that they were specifically seeking employment in the RMG factories. I will return to this issue of a lack of employment opportunities for women in rural areas in section 5.2.

It is important here to recognise the way this financial pull factor interacts with the financial CREC push factor addressed in point 5.1.2. Financial issues play a central role in determining migration decisions (supported by migration literature, such as McLeman 2014). CRECS and

the RMG industry act as complementary financial persuasion for women (and their families) to move to Dhaka.

5.1.5. A pull factor: The crucial role played by Dhaka's rural-to-urban migrants in facilitating the migration of family

The push and pull factors described so far outline a tendency towards urban migration. The role of family in migration decisions further encourages this trend. The level of help provided to new migrants by family located in Dhaka suggests two key things. Firstly, the help of family based in Dhaka may allow or encourage a CREC affected person to migrate to Dhaka where they otherwise would have had to find a way to adapt in their rural area. Secondly, CREC migrants based in Dhaka may facilitate the further rural-to-urban migration of non-CREC migrants

Eleven out of my eighteen interviewees had family member/s in Dhaka prior to their arrival. These family members provided much needed support on arrival in Dhaka, such as financial support, initial (and sometimes permanent) accommodation and help with finding employment.

Hosneara:

At that time [when Hosneara was new to Dhaka] I used to stay at my mother's house. My mother helped me with finding a job.

The assistance from family was not only helpful in finding a job, but was often a significant factor for a factory to decide to hire them. According to my interviewees, factories are more inclined to choose to hire a person who is a friend or relative of an existing employee.

Poly:

With the help of the supervisor I got the job. [...] I knew the supervisor through my sister. [...] I think most of the people who come here to their relative's home find it easier to get a job.

Furthermore, as Marx argues, remittances sent from urban labourers to family living in rural areas financially facilitate the migration of more people from agricultural areas (Marx [1867])

2010, 480). At least six²¹ of the participants have been (at some point) sending remittances back to their family in their village. While I did not pose many questions with regards to remittances (and so have limited primary information of this matter), I can verify that one interviewee, Bonnya, was financially dependent on remittances from her Dhaka-based brother until he suggested that she move to Dhaka as well, supporting Marx's claim.

Bonnya:

I came to my brother's house for a visit and then he suggested to me to come Dhaka and start working in the garments factory. [...] he suggested to me that I move here as I had poverty in family - stay here in Dhaka for a few days and see if it works.

Similar to the way in which many of the participants were helped by family members when they arrived in Dhaka, six of the eighteen interviewees reported having directly helped another family member migrate since they have been based in Dhaka. Chameli talks about helping her brother-in-law when he arrived in Dhaka.

Chameli:

Chameli: He came here because he has difficulties finding a job in the village. That's the reason he migrated here.

Translator: Did you help him when he came here?

Chameli: Obviously, he came here through the community with me [...] [H]e used to live with us and we used to provide him with food. I provided him with a job. We also helped get him a new house.

This section considers how the support offered by family members already living in Dhaka plays a crucial role in addressing many of the practicalities of migration. CREC migrants living in Dhaka may facilitate the migration of more family members to Dhaka.

Furthermore, people who work in RMG factories (or who have friends/relatives who work in RMG factories) facilitate the employment of more people specifically in the garment industry.

²¹ I did not pose a question regarding remittances to all the interviewees, so the frequency for this is likely to be a lot higher.

This suggests that for CREC-affected people living in rural areas who might want to migrate to Dhaka, the factor of whether or not they have family already living in Dhaka plays a big role in determining whether or not migration is an achievable aspiration.²² In particular here, I wish to address the topic of the potential migration of rural-based relatives of Dhaka-based CREC migrants. If CREC migrants living in Dhaka offer support for the migration of family members who would not have migrated to Dhaka without such support, then the number of people brought to Dhaka largely (or in part) due to rural CRECs extends beyond those who personally experience CRECs, and further to include the family (and friend) networks of those originally affected by CRECs. It is thus possible that CRECs are responsible for the migration of a larger number of people than those who they directly affect.

5.1.6. Conclusion to section 5.1: Encouragement to move to Dhaka and seek RMG employment

Section 5.1 (summarised in Table 1) asserts that after the experience of CREC damage, there are many interacting factors at play which can influence a woman and her family toward a decision to move to Dhaka. Further to this, the central role played by family in facilitating a person's migration may encourage more (potentially non-CREC-affected) people to move to Dhaka.

²² This assertion is consistent with my own experience assisting with a colleague's research, talking with rural climate affected women. These women claimed that moving to Dhaka is only possible for people who already have family there. As such, for these particular women, they did not consider migration to Dhaka to be an option for them.

Table 1: Summary of migratory push/pull factors.

Physical CREC push factor.	Property damage making a home less liveable.
	Fear for physical safety.
Financial CREC push factor.	Property damage requiring replacement or repair.
	Loss of crops intended for personal consumption.
	Loss of crops and livestock as productive assets.
	Loss of employment.
Urban employment pull factor.	Difficulty to repay (with interest) loans taken in response to CREC damage.
	Opportunity to relieve rural financial hardships.
Gendered employment.	Dhaka as a location with a mass of employment opportunities.
	Push: lack of female employment opportunities in rural areas.
	Pull: female employment opportunities concentrated in the urban garment factories.
Family support as encouraging further migration and further RMG employment.	Dhaka as an option for a family to have two incomes rather than one.
	Family facilitation of the migration of a CREC-affected person who may otherwise be forced to adapt in the rural location.
	Dhaka-based CREC migrants facilitating the migration of additional (perhaps non-CREC-affected) family members.
	RMG factories employing new migrants through these family ties.

The most crucial conclusive point here is that it is possible that there is a climate mobilised labour army working in Dhaka's RMG factories. The size of such an army is difficult to measure (and that is not the task of this thesis), but I can conclude from the information here that CRECs are a significant motivating factor in migration into urban RMG employment. This labour supply contributes to the overall size of the exploitable surplus labour population based in Dhaka, and as such, according to theory, may play a key role in determining the working conditions and profitability of the RMG industry in Bangladesh. If the effects of climate change exacerbate according to predictions the rate of this kind of migration can be expected to quicken, contributing to an ever-increasing²³ exploitable surplus labour population (within the limits of the size of the rural population). This issue will be explored further in the discussion section (part 6).

²³ Or stable, rather than ever-increasing, depending on the proportion of the surplus labour population that is simultaneously absorbed into employment.

5.2. This migration process is significant for Dhaka's RMG factories

This section asserts that in its current form, the employee make-up of RMG factories is contingent upon this kind of migration, as they tend to hire specifically female migrants (Kabeer and Mahmud 2004). It also addresses how this may be the case due to the greater level of vulnerability and lack of alternative employment opportunities for women.

5.2.1. A female dominated industry, and an emerging workforce

The interviews highlighted two key connected reasons why women are employed so disproportionately over men in the RMG factories: firstly, men have a wider range of employment opportunities, and secondly, men are less inclined to accept the poor working condition associated with the RMG industry such as verbal abuse and low wages (comparatively for a man).²⁴ The interviewees suggested that men are more likely to strike in cases where women would passively continue to work. The tolerance of RMG working conditions by female employees seems inherently related not only to the gendered dynamics of power within the factory, but also to the limited employment opportunities available to women as compared to men (previously addressed in section 5.1.4). Women have less freedom to act in a way that might risk losing their employment.

Nodi:

What should I say about males? They think like “we can work anywhere we want”. But for women it's difficult to fit anywhere for work because we can't move freely.

Chameli:

Female workers can work more than the male workers. The male workers are always in very aggressive mode. They always intended to make a strike. [...] If sometimes the supervisor scolds them they get angry. If the salary is late they become aggressive.

In *Capital*, Marx ([1867] 2010, 474-6) discusses the tendency for men to leave employment which hires predominantly from the female population, as women are cheaper labourers and thus drag down the income of the male employees. The implication here is that men have

²⁴ Recall the literature and primary quote regarding RMG factory conditions in section 2.3.

greater employment opportunities, and so can find better work in other locations, whereas the work which women can access is limited, and thus they are paid less than in other industries. This seems consistent with the RGM case I present here.

The key point in this section is that women from rural areas come to Dhaka due to the financial vulnerability and lack of opportunities for employment they face in rural areas, and it appears that the RMG factories employ specifically these women because these vulnerabilities and the lack of opportunity make them more accepting of their working conditions.

5.2.2. A migrant dominated industry: poverty and a lack of alternative opportunities

My interviews suggest that a large portion of the people employed in Dhaka's RMG factories are migrants from rural areas of Bangladesh. This assertion is supported through existing literature (for example, see Sikdar et al. 2014, 175). Further to this, my interviewees talked about the fact that the migrant employees are harshly affected by poverty, and that this is a key reason why they seek employment in the RMG factories - the assumption being that their desperate situation would lead them to accept an undesirable job with low pay and difficult working conditions. Similar to the case of gender, it seems that migrants may be preferable employees due to their vulnerability and lack of better opportunities.

Shokhina:

[...][T]here are many people who are coming to Dhaka due to poverty and they have no choice but to get a job at the garments factories. People are doing it because they have to survive - get food and clothing and shelter. It's a really tough job moving from your place and coming here. It is very difficult.

If someone's decision to seek work in RMG factories and accept the industry's working conditions is connected to the intensity of their experience with poverty, then it can be expected that the RMG employment will be sought by a greater number of rural migrants as the effects of climate change exacerbate.

5.2.3. Conclusion to section 5.2: A migration process which is significant for Dhaka's RMG factories

Section 5.1 concluded with the assertion that CRECs form strong encouragement for rural women (and their families) to move to Dhaka and seek RMG employment. This section (5.2) suggests that the RMG industry tends to hire both women and migrants due to their lack of opportunities to find better work.

I make three central assertions related to this. Firstly, the RMG industry financially benefits from the vulnerability and gendered lack of opportunity typical to CREC migrants, as female migrant employees seem willing to accept lower wages and higher pressure working conditions than other demographics. Secondly, due to this, the phenomenon of female rural-to-urban migration is essential to the RMG industry in Dhaka in its current employee demographic composition. Thirdly, by encouraging people to move to urban areas, and by increasing their financial hardships prior to moving, CRECs play an important role in allowing the RMG industry to financially benefit from this vulnerability and gendered lack of opportunity. As the effects of climate change intensify, it can be expected that this CREC-facilitated labour supply to the RMG industry will also strengthen.

The point I make in this section regarding the working conditions in the RMG industry having a close relationship to the mobilisation of the rural female latent reserve has previously been discussed by Kabeer and Mahmud (2004). They attribute the RMG factories' long hours and documented poor working conditions to:

[...] the availability of an apparently unlimited supply of female migrant labour willing and able to work the long hours demanded for little pay until it has to be replenished by fresh recruits from the countryside. As long as there is this reserve pool of labour *willing to put up with* the exploitative conditions associated with a strategy of primitive accumulation, employers have few incentives to change their strategy.

(Kabeer and Mahmud 2004, 146, emphasis added)

In this excerpt, Kabeer and Mahmud specifically identify women – migrant women to be precise – as “willing to put up with” the “exploitative conditions” of the garment industry

(ibid.). But what is it about migrant women that makes *them* willing to accept this rather than other demographics? They later make the connection between this and female economic marginalisation, especially in rural areas, stating that

“the garment industry is addressing the gender dimension of poverty by providing wage employment to a section of the labour force which has faced considerable discrimination and which was previously confined to the margins of the labour market and was part of an invisible reserve army of labour.”

(Kabeer and Mahmud 2004, 153)

What Kabeer and Mahmud do not discuss in this context is the influential role CRECs play in exacerbating the impacts of gender based rural economic marginalisation, which is an important precursor to the RMG industry’s ability to access these women and tap into this economic vulnerability.

5.3. Encouragement to stay in Dhaka and stay in RMG employment

The size of the surplus labour population in Dhaka with regards to migration is contingent on two key variables: the number of people who move to Dhaka; and the number of those people who stay in Dhaka. Section 5.1 addressed the former issue, arguing that CRECs provide strong incentives for some people to move to Dhaka, and this section will address the latter with regards to factors that may encourage CREC migrant RMG working women to stay in Dhaka and continue with their work in the factories. In comparison to migratory ‘push’ and ‘pull’ factors, in this section I refer to ‘lock-in’ factors.

5.3.1. A lower level of vulnerability to climate change in Dhaka and a continued physical CREC pushing force²⁵ from rural areas due to CRECs

It is important to note that vulnerability to CRECs continues to be an issue for some people in Dhaka, as the bastis often lie on the most flood prone land. Nine of my eighteen interviewees

²⁵ The term ‘pushing force’ I use here is not synonymous with the ‘push factors’ referred to in migration literature. It is closely related to the physical push factor mentioned in section 5.1.1, but instead of referring to a force which compels people to move, I am referring to a force which repels people from returning to the area from where they came, encouraging people to stay in their present location. I use this term as opposed to ‘lock-in’ here as I perceive the force as having direction.

have been affected by CRECs since moving to Dhaka, causing temporary displacement, property damage and contamination of water supplies.

Bonnya:

Sometimes we get storms [in Dhaka] but they are not severe. We get a little water in our homes, like drain water, but it goes down after two or three days.

In all eight cases, these experiences of CRECs in Dhaka were not as severe as the challenges my interviewees faced due to CRECs in their rural area. For those who took the decision to migrate to Dhaka as a response to their high level of rural vulnerability to CRECs, I consequently recognise that they have been successful in reducing their vulnerability to CRECs.²⁶

For some people, aspects of the physical CREC push factor addressed in section 5.1.1 continues to play an influential role in discouraging migrants living in Dhaka from returning to their villages. Nazneed reflects on both the impracticalities of returning to her village due to property loss, and a fear for physical safety.

Nazneed:

We lost our house in a cyclone once. People and animals both died in that storm. [...] Many families lost four to five people. [...] I was in Dhaka when it happened. [...] I don't want to go back because of the possibility of the storm. Also, another problem is that I don't have any house in the village now.

The combination of the reduction of vulnerability, and the continued CREC related discouragement to return to the rural area forms a strong climate related lock-in factor, encouraging previously CREC affected migrants to stay in Dhaka.

5.3.2. Stability of urban RMG employment

As addressed earlier in section 5.1.2, most families experienced a great deal of instability of employment in their rural area due to CRECs and a dependence on wage employment

²⁶ This is marked by decreased exposure and sensitivity, and an increase in adaptive capacity, in line with McLeman and Hunter's (2010) definition of vulnerability (refer back to section 4.2.3).

primarily in the agriculture. However, in Dhaka, in the RMG factories, their employment seems to be generally consistent and stable, providing that the employee was not absent from work, and did not refuse to stay for overtime. Even in periods of low production in the factories, the participants reported that their positions and wages were not under threat.²⁷ Instead, at such times, they either work at a more relaxed pace or go home earlier, with no wage deductions.

Rokeya:

Translator: Can you tell us what happens when your factory does not get many orders?

Rokeya: *At those times we were told leave early as there was not much work to do.*

Translator: Was your pay reduced or any other staff when there was no work?

Rokeya: *At that time they didn't used to reduce staff, but now we don't know about the current situation.*

It seems probable here that the stability of employment in RMG factories compared with the instability of rural agricultural work (which fluctuates with seasons and CRECs), forms a continued financial lock-in factor, encouraging people to continue working in the factory which provides a comparatively more reliable income.

5.3.3. A willingness to leave Dhaka but a financial inability to do so

In *Capital*, Marx ([1867] 2010, 437-438) had argued that the “greater attraction of labourers by capital is accompanied by their greater repulsion”. In accordance with this, my fieldwork showed that most of the women I interviewed (at least thirteen) did not want to stay in Dhaka permanently. Most women expressed the desire and intention to move back to their rural area, usually with the plan to buy some land or a small business.²⁸ As such, they intended to stay in Dhaka until they could save enough money to do so.

²⁷ The stability of employment is contradictory to what Marx would expect in such a case. There have been consequential debates (for example, see Magdoff and Magdoff 2004, 21) around the profitability of *keeping* an employee in times of low production to save on the time and cost of training a new one when orders pick up, however, I do not explore this debate in this thesis.

²⁸ While I do not include this in my analysis, I feel that it is important to mention that many women mentioned the fact that their family doesn't own land in the rural areas as a key reason why they faced financial difficulties in response to CRECs and/or chose to move to Dhaka. It seems that these women deem the purchase of land or business as essential to being able to get by in rural areas.

Maya:

We have to live in Dhaka. We have no options right now. If one day we have enough money to build a house in our village then we might think about going back.

However, another extremely common theme is an inability for these women to provide for their family's basic needs or save money in Dhaka.

Nodi:

There are a lot of problems. All our money is being spent by us for our needs here. [...] Sometimes we need this or that thing. We can't save money as we have poverty in our family. Sometimes my children get sick and because of that I have to spend my money.

The financial difficulties faced by these women prevent them from being able to save money, which prevents them from feeling able to move home and purchase land or a business, as they desire. This is an ironic lock-in factor: women lack the money to meet their basic expenses so seek employment in RMG factories; after finding employment in this industry, women still lack the money to meet their basic expenses and so must keep their employment in the RMG factories. They end up not only locked into living in Dhaka and locked into RMG employment, but also locked into a cash economy within which they were less integrated before. Marx ([1867] 2010, 430) had also predicted such a situation, stating that "wage labourers will become increasingly dependent on the industry in which they work".

Shokhina:

When I was still in my village I thought it would be good for me to move to Dhaka because I will find a job here. It would be a good source of income for us. I would be able to buy necessary things. But there are still problems. [...] Although I don't like staying here, I have to keep on living here because I need the money.

RMG employees are prevented from saving money and thus the loss of employees who may wish to return to their village is also prevented. It is likely that there are job seekers who would have filled the positions of people who wish to leave their employment and move back to their village, but have remained unemployed as the original employees lack the financial

capacity to move. I thus deduce that (all other things being equal²⁹) this may further contribute to there being a proportionally large exploitable working class in Dhaka.

When considering this alongside Marx’s theory that a proportionally large surplus labour population is a precondition to low wages³⁰, I see this lock-in factor as a reinforcing cycle, and have demonstrated this in Figure 3.

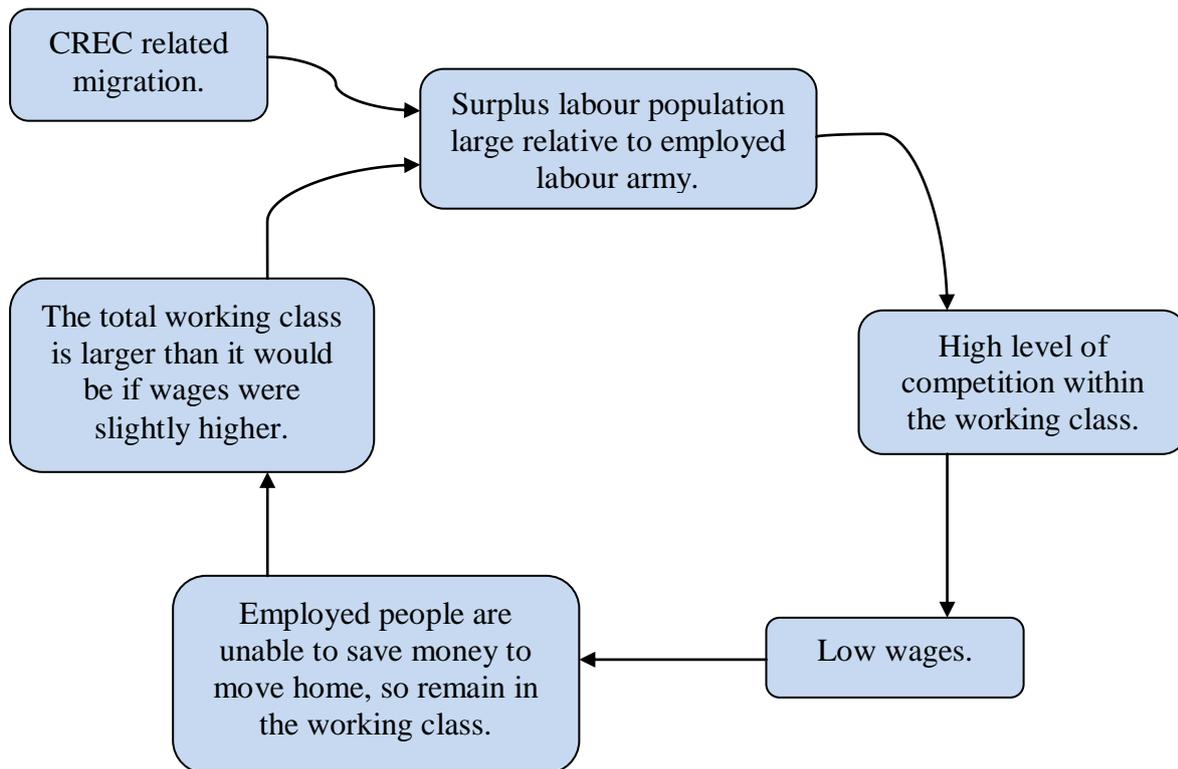


Figure 3: A depiction of the financial reinforcing lock-in factor.

While the RMG factories attract and employ people who are vulnerable and needy (5.2), their low wages keep people vulnerable, needy, and more importantly... working (5.3.3). This reinforcing cycle not only keeps people from moving out of Dhaka (contributing to the mass of the exploitable surplus labour population), but also acts as a perpetual force to keep wages to a minimum. According to Marx ([1867] 2010, 446), the payment of low wages is essential

²⁹ All other things are obviously not always equal, and there are several factors including the expansion of the RMG industry (the increase in the total number of employment positions), and the tendency for the floating reserve (unemployed people) to migrate to and from Dhaka city, which could influence whether or not this lock-in factor actually increases the proportion of the surplus labour population. It goes beyond the bounds of this thesis to test these variables here, so this proposition remains hypothetical.

³⁰ “[T]he general movements of wages are exclusively regulated by the expansion and contraction of the industrial reserve army [...] They are, therefore, not determined by the variations of the absolute number of the working population, but by the varying proportions in which the working class is divided into active and reserve army, by the increase or diminution in the relative amount of the surplus population, by the extent to which it is now absorbed, now set free.” (Marx [1867] 2010, 440).

to production in order to keep the working class obedient and hardworking: “[e]verything [...] depends on making hunger permanent among the working class”. Therefore, this cycle can also be said to promote the productivity and subordination of the workers – another benefit to the profitability of the garment industry.

5.3.4. Conclusion to 5.3: Encouragement to stay in Dhaka and stay in RMG employment

The central point I wish to make in this section is that after a CREC migrant woman has found employment in an RMG factory in Dhaka, there are several strong factors (summarised in Table 2) which would discourage her from leaving the Dhaka labour force, despite a probable willingness to move home.

Table 2: An overview of the lock-in factors addressed in section 5.3.

Climate related lock-in factor.	Less severe experiences with CRECs in Dhaka. Continuation of physical CREC push factor.
Income stability lock-in factor.	RMG employment is experienced as more reliable and stable than other income sources in rural areas.
Inability to save lock-in factor.	Employees are perpetually trying (and failing) to save money to be able to leave Dhaka.

My main conclusion here is that if CREC migrant women tend to stay in Dhaka, as this section suggests, the size of the surplus labour population which is exploitable (located in Dhaka) is likely to continue to increase or remain high.³¹ If this is the case, the competition for employment in Dhaka (and specifically in Dhaka’s RMG industry) is likely to remain high, repressing wages and working conditions, and promoting the industry’s profitability.

5.4. Conclusion of analysis (part 5)

This thesis is primarily focussed on the profitability of the RMG industry as it relates to the size of the exploitable surplus labour population. More specifically, it seeks to understand the role played by climate in the mobilisation of the rural latent reserve. The information gathered in the interviews conducted suggests that CRECs can create multiple interacting incentives for a climate vulnerable person to migrate to Dhaka (5.1). This alludes to the

³¹ My information on this matter is somewhat limited given that I have only spoken to women still living in Dhaka, not any who have managed to move back to their village.

existence of a climate mobilised labour army which will have contributed to the size of the exploitable surplus labour population in Dhaka. Also in relation to the size of the surplus labour population, the interviews suggested that the CREC migrant women working in Dhaka's RMG industry lack the financial capacity to leave Dhaka's labour army, and experience continued climate related discouragement to do so (5.3). This suggests that the size of Dhaka's labour army may be unlikely to shrink. Furthermore, with the exacerbation of the effects of climate change, the push factors encouraging rural-to-urban migration (5.1), and the lock-in factors related to climate and the relative size of the population (5.3), are likely to intensify, contributing to the further growth of the exploitable surplus labour population. The growth of the size of the exploitable surplus labour population can be expected to support the profitability of the RMG industry through an increase in competition for employment which could repress working conditions and wages (Marx [1867] 2010).

The interviews also indicated that the vulnerabilities of migrants (CREC migrants in particular), and the gendered lack of employment opportunities in rural areas, makes migrant women more accepting of harsh working conditions and low wages, offering an explanation for the high proportion of employment of migrant women in Dhaka's RMG factories (5.2). The way in which Dhaka's RMG factories currently run can consequently be seen as contingent upon the lack of employment opportunities for women in rural areas, and the coinciding CRECs, financially encouraging women to seek work in the city.

6. Discussion

In section 3.1 I addressed Marx's ([1867] 2010, 428-499) theory for how an unemployed surplus labour force is an essential prerequisite to profitability. Given the dramatic expansion of the RMG industry in Dhaka over recent years (BGMEA, 2015), and the documentation of poor wages and working standards in the RMG industry which are consistent with Marx's theory regarding cases where profitability is determined by a relatively large industrial reserve army, I queried what could be determining the size of the exploitable surplus labour army. More specifically, I questioned what could be mobilising the rural latent reserve army, and I looked specifically to climate change for further investigation.

The primary data analysed in the previous section suggests that there may be a climate related factor influencing the size of the surplus labour population in Dhaka, and that that the RMG industry tends to employ the kinds of people mobilised into Dhaka's industrial reserve army (at least in part) by CRECs. Now I shall discuss this potential kind of profitability in the context of cyclical capital accumulation – a context wherein the process of capital accumulation itself *creates* the surplus labour army.

6.1. Returning to Marx: How is the rural latent reserve army mobilised?

As mentioned in section 3.1.4, Marx considered the capitalisation of rural agricultural systems to be the primary reason for the mobilisation of the rural latent reserve army (Marx [1867] 2010, 443-4). It is important here to note (although I did not focus on this in the analysis) that the lack of land ownership did come through in the interviews as a crucial reason as to why the CRECs had such a dramatic financial impact on the interviewees and thus why the financial push factor was so strong. So, to a certain extent Marx is probably correct in his assertion that the rural latent reserve is mobilised by the capitalisation of agriculture, whereby peasants come to rely on wage labour by working land for a capitalist, rather than working land for their own consumption, and there are fewer jobs in the countryside, encouraging people to shift to urban areas. However, in the case I study here, this engagement in capitalised agriculture was only a crucial push factor when combined with the effects of CRECs leading to employment or income loss. Thus, for my interviewees, the capitalisation of agriculture on its own was not the deciding push factor, as Marx had suggested, but it was at least the combination of this with CRECs.

This section goes on to consider the way climate change relates to the mobilisation of the rural latent reserve army as cyclical wherein the rural latent reserve is not mobilised due to the *introduction* of the capitalist system to agriculture (as is Marx's claim), but rather, due to the *process* of capital accumulation.

6.2. Capital accumulation via the expansion of the industrial reserve army

6.2.1. Marx and the ‘setting free’ of labourers

In *Capital*, Marx (1867] 2010 428-299) proposed just one central theory to address the way in which he thought the *process* of capital accumulation expands the relative size of the surplus labour population: the process of the ‘*setting free*’ of labourers. Instead, in the case I shall present here, I argue that *climate change* could be part of a cyclical process of expanding the exploitable surplus labour population. But first, I shall describe the theoretical process of the ‘setting free’ of labourers, with key quotes from Marx footnoted.

In *Capital*, Marx clearly describes his theory of the ‘setting free’ of labourers which regards the way in which capital accumulation perpetuates itself via the expansion of the industrial reserve army (see Figure 4). With capital accumulation and industrial expansion comes both an increase in the demand for labour (referring to the amount of work/‘labour power’, rather than the number of labourers) and a simultaneous expulsion of labourers from employment as their roles are replaced by machinery which requires a fewer total number of workers to operate them.³² The replacement of workers by machinery is a consequence of the allocation of an increasingly greater proportion of capital to the materials for production (what Marx terms ‘constant capital’), over/rather than the cost of labour (mainly referring to wages: termed ‘variable capital’).³³ This investment in machinery, resulting in the expulsion of workers constitutes (at least in part³⁴) the “forcible means” by which the mass of the surplus labour population is expanded beyond its “natural limits” or natural rate of growth (Marx [1867] 2010, 438).³⁵ The increase in competition for employment caused by this high level of unemployment/underemployment (expansion of the reserve army) in proportion to the

³² “What are set free are not only the labourers immediately turned out by the machines, but also their future substitutes in the rising generation, and the additional contingent, that with the usual extension of trade on the old basis would be regularly absorbed. They are all now ‘set free’ and every new bit of capital looking out for employment can dispose of them.” (Marx [1867] 2010, 442).

³³ “The production of a relative surplus population, or the setting free of labourers, goes on therefore yet more rapidly than the technical revolution of the process of production that accompanies, and is accelerated by, the advance of accumulation; and more rapidly than the corresponding diminution of the variable part of capital as compared with the constant.” (Marx [1867] 2010, 440).

³⁴ In my own reading of Marx, I have interpreted the ‘setting free’ of labourers to be the only type of ‘forcible means’ by which capital expand the surplus population beyond its natural limits. However, he is not explicit about this, and as such, I cannot be certain that he does not also consider the mobilisation of the rural latent reserve through the capitalisation of agriculture to also constitute ‘forcible means’.

³⁵ In regards to a case of the slow advancement of capital accumulation: “it found a check in the natural limits of the exploitable labouring population, limits which could only be got rid of by forcible means to be mentioned later.” (Marx [1867] 2010, 438).

number of jobs occupied puts pressure on those who are in work to accept low wages and long hours, providing the initial desired extra labour (amount of work).³⁶ The greater amount of labour garnered for lower wages increases profits, leading to further capital accumulation and further industrial expansion. Therefore, the process of capital accumulation is cyclical via the expansion of the industrial reserve army.

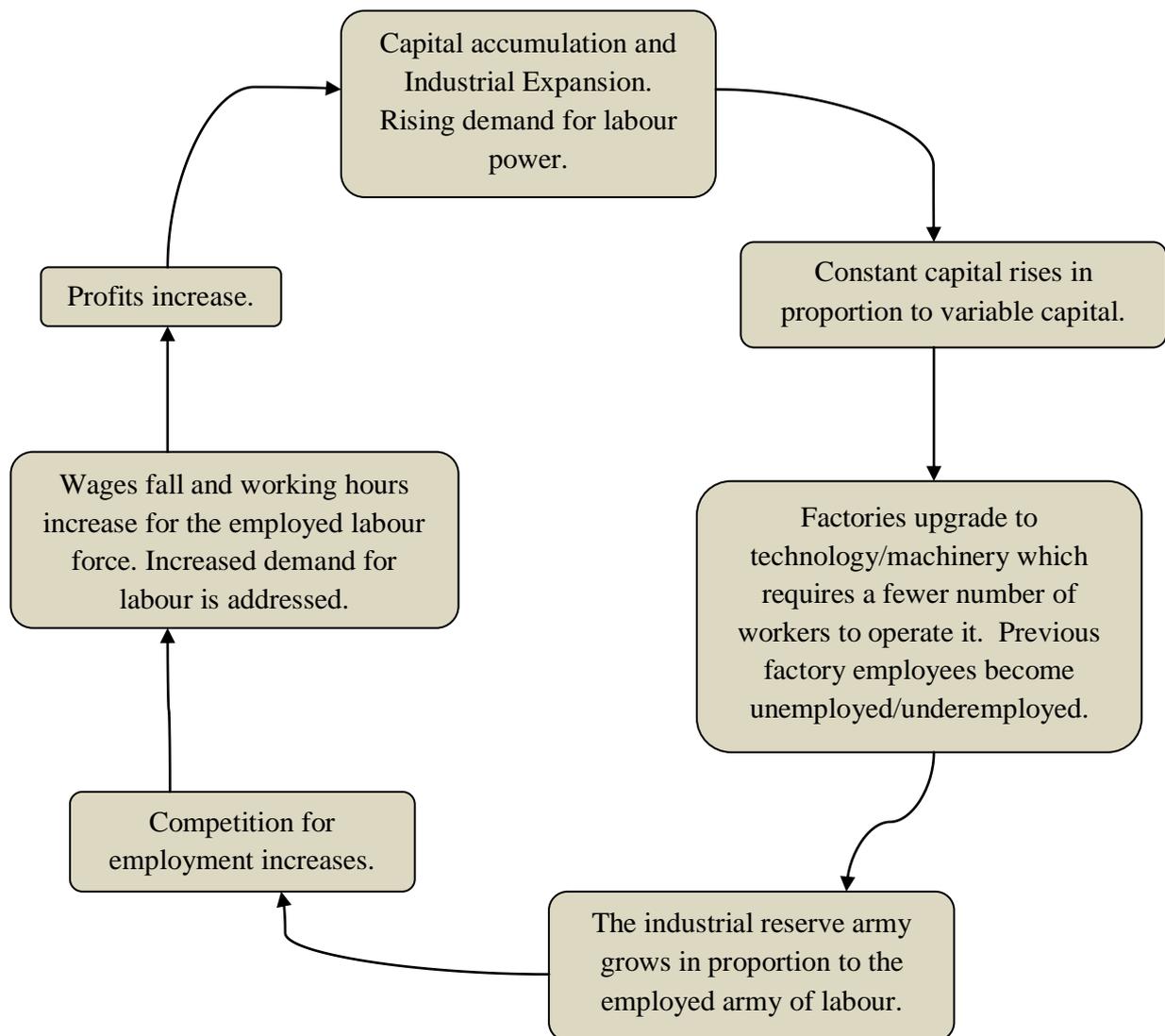


Figure 4: Visual depiction of cyclical capital accumulation via the ‘setting free’ of labourers. My creation, derived from Marx ([1867] 2010, 428-499).

One of the key restrictions to this process, as highlighted by David Harvey (2006, 124) is that it is only likely that employees would be replaced by machinery if the cost of the labour is

³⁶ “Capital works on both sides at the same time. If its accumulation, on the one hand, increases the demand for labour, it increases on the other the supply of labourers by the ‘setting free’ of them, whilst at the same time the pressure of the unemployed compels those that are employed to furnish more labour,” [work longer hours] “and therefore makes the supply of labour, to a certain extent, independent of the supply of labourers.” (Marx [1867] 2010, 442).

more expensive than the cost of the machinery. This system of ‘setting free’ labourers would therefore tend to be applicable in cases where the industrial reserve army is drying up. It is thus possible that this process may not be currently active in the Bangladeshi RMG industry, given that the factories still tend to hire from the influx of previously unemployed female rural migrants (latent reserve army) (previously discussed in sections 2.3 and 5.2).

6.2.2. A climate related interpretation of the cycle of capital accumulation

When considering the role of climate change in the expansion of Dhaka’s industrial reserve army, Marx’s theory of cyclical capital accumulation can be reformulated (see Figure 5). Capital accumulation still seems to perpetuate itself via the expansion of the industrial reserve army (concurrent with Marx’s theory), but instead of existing employees being ‘set free’ by replacement machinery, climate change leads to the expansion of the industrial reserve army via the mobilisation of the rural latent reserve army. The capital accumulation and industrial expansion (which result from the expanded reserve army) further exacerbate the effects of climate change, making the process self-perpetuating.

Obviously this loop can only be cyclical within the limits of the absolute size of the rural population. This is unlike Marx's 'setting free' loop which proposed the creation of a surplus labour population *independently* of the limits of the absolute size of the population. When the total surplus labour population (CREC mobilised or otherwise) begins to dry up, the process of 'setting labourers free' may set in (Harvey 2006, 165). Yet alternatively, in the case of the RMG industry in a world-systems context, it seems more likely that once the rural latent reserve army has dried up (and the price of labour risen accordingly), foreign direct investment (FDI) will relocate to another nearby Asian country (or perhaps further afield) which has a large exploitable surplus labour population (and the low wages that go with it) (Taplin 2014). The prospect of divestment from the Bangladeshi RMG industry is something I consider further in section 6.4.

6.3. A world-systems perspective on climate change and the Bangladeshi RMG industry

The primary data collected for this study concentrates on the lower section of the loop depicted in Figure 5: the portion related to CRECs and migration into employment. I will now briefly discuss the theory behind the top portion of the loop with relation to consumption and inequality.

6.3.1 Inequality and a Core culture of consumption

A culture of consumption exists in the Core, wherein the compulsion to consume manifests as an addictive emotional desire, and the act of consumption is considered socially indicative of a person's identity and social status (Schor, 1998).³⁷ This consumer culture is deeply rooted in "capitalist commodification" oriented around the pursuit of perpetual capital accumulation (Foster et al. 2010, 393). Dhaka's RMG industry caters to, and consequently reinforces/facilitates the Core consumer culture through the business of "fast-fashion" which aims to sell a high quantity of goods for low prices (Taplin 2014).

³⁷ I understand the inherent difficulties posed by first categorising 'Core' countries as if all countries cleanly fit into a single category in the Core-Periphery analysis, and second, talking about a 'Core consumer culture' as if all culture around consumption is homogenous in Core states, and that such cultural ideas around consumerism do not permeate into Peripheral countries. For the sake of argumentation I have chosen this language in order to be able to discuss the general differences between people and spaces where ideas behaviour and privilege around consumption are overall vastly different.

The Core consumer culture is closely related to domestic inequality within the Core, as “needs and aspirations” are “activated by social differentiation and demands for status” (Baudrillard 1998, 64). Furthermore, Gross international inequality is integral to this facilitation of the Core culture of consumption, especially in the case of fast fashion, which is typified by the outsourcing of manufacturing from the Core to the Periphery, and the consequential poor employment conditions brought about by a race to the bottom in the Periphery (Taplin 2014).

Consumer culture in the Core, which is in part supported by the global RMG industry, is beneficial to the accumulation of capital in the Core (at least in the short term) and destructive to the environment (Foster et al. 2010).³⁸ Of particular relevance/interest to this thesis, is the way in which the Core culture of consumption encourages the excessive consumption of fossil fuels, contributing to climate change.³⁹

Citizens of the Core consumer culture can be considered (partially) responsible for climate change through emissions embodied in trade. By accounting for carbon emissions according to consumption (rather than production) the Core-located end consumer of a readymade garment, becomes accountable for the emissions “from the factory where the [garment] was sewn, from the power plant that supplied the factory with electricity, and further back the supply chain” (Malm 2012, 149). This consumer-based accountability for carbon emissions extends beyond readymade garments to all consumer products sourced from and/or manufactured in the Periphery.

Core consumerism and the inequality it is built on can consequently be considered responsible for supporting the continuation of climate change. In Bangladesh, I consider the case that climate change may facilitate the profitability and growth of the RMG industry. The clothes produced from this then make their way to Core consumers and further strengthen the Core culture of consumption.

³⁸ Given the context of this thesis, I focus centrally on damage to the environment through climate change, yet there is a plethora of other types of environmental damage which can be attributed to capitalist pursuits coupled with the Core consumer culture.

³⁹ While I recognise that the Core culture of consumption can also be held responsible for many other forms of environmental damage, it is the issue of fossil fuels and climate change that is of particular relevance to this thesis.

6.3.2. World systems in a case of cyclical climate change and capital accumulation

There are two layers of reserve army which need to be considered with regards to the potentially cyclical case of climate profitability I consider in this section. Previously, this thesis has been concerned with the size of the surplus labour population on a *domestic scale* within Bangladesh, and the impact that might have on local wages. Now I wish to turn to the concept of the reserve army on a *global scale*.

The insatiable thirst of capitalism for fresh supplies of labour accounts for the vigour with which it has pursued primitive accumulation, destroying, transforming and absorbing pre-capitalist populations wherever it finds them.

(Harvey 2006, 443)

David Harvey (2006, 165) holds that Core economies are reaching their limits with regards to the number of people in the domestic latent reserve who could still be mobilised into the labour army. As I have discussed in section 3.1, this is likely to result in wage increases and rising production costs. However, as Harvey (2006, 165) notes, there are still “massive reserves of labour power in other parts of the world” - that is to say, in the Periphery. Where there is a large surplus labour population (in this case, in the Periphery), production costs are minimised, as was also discussed in section 3.1. They are minimised through the competition for employment driving down the expenses of wages and working conditions. On a global scale, this offers a reserve army based explanation for what is called ‘the race to the bottom’. It is argued that this process of outsourcing which is typical to neo-liberalism is neo-colonial (Foster et al. 2011). Luxemburg had long ago made similar arguments regarding traditional colonialism and the Core’s search of the Periphery for surplus labour armies, particularly in the form of slavery (Luxemburg [1913] 2003, 343). Consideration of the global context, I conclude, is crucial when discussing reserve labour armies and for whom they support profitability. It becomes clear in the case of the Bangladeshi RMG industry, that the participants of this study are part of a reserve army which not only supports Bangladeshi profitability, but also (and perhaps more importantly) supports Core profitability.

What is the significance of this in the context of climate change as it is considered in this thesis? As climate change facilitates the mobilisation of Bangladesh’s latent reserve, not only is this significant in the Periphery (on a domestic level) for those who own the means of

production in Dhaka, but this is also significant (on a global scale) for those in the Core who own the means of production via the allocation of foreign direct investment. If the effects of climate change exacerbate according to predictions, the disparities between Core and Periphery and between rich and poor can consequently also be expected to widen.

6.4. Does climate change support capitalism, or undermine it?

The case I am considering, wherein climate change could be integrated in a process of perpetual profitability, becomes particularly interesting when considered in the context of James O'Connor's 'second contradiction of capitalism' (1998, 158-177). O'Connor argues that capital will inevitably eventually undermine its own existence through ecological over-exploitation. Capital becomes unable to replicate its own material conditions for production, and according to O'Connor, at some point the environmental damage caused by industrial expansion will break the cycle of capital accumulation. Climate change and its effects are a central example in this contradiction.

Examples of capitalist accumulation impairing or destroying capital's own conditions hence threatening its own profits and capacity to produce and accumulate more capital are many and varied. The warming of the atmosphere will inevitably destroy people, places and profits, not to speak of other species life. [...] Salinization of water tables, [...] and soil erosion impair nature and profitability.

(O'Connor 1998, 166)

In breaking the cycle of capital accumulation, climate change would be disrupting the processes which led to its occurrence. However, in the case I consider in this thesis, where climate change could be both a prerequisite and a consequence of capital accumulation (see Figure 5), this disruption of production could be prevented or delayed. This raises a question as to whether ecological bounds will actually restrain the replication of production conditions in the case of Bangladesh's garment industry, as O'Connor proposes.

Indeed, perhaps now or in the future, ecological limits could restrict the expansion of the Bangladeshi RMG industry. For example, the costs involved in fabric and machinery production could rise due to a number of ecological factors, such as a scarcity of raw materials caused by over-exploitation or (in a case more relevant to climate change) CREC

related crop damage. Climate change may also limit the profitability of Dhaka's RMG industry if fuel scarcity or carbon caps force the Core garment industry to localise its manufacturing, leading to divestment from Bangladesh. Another case might be if CRECs elsewhere in the Periphery mobilise a migrant labour army which is greater in mass and has fewer alternative economic options than those in Bangladesh, and could be harnessed at a cheaper cost. A further possibility is that the impact of climate change could physically impact Dhaka in a way which increases production and transport costs, encouraging investors to reinvest in a less climate-vulnerable area. Even if climate change does support the profitability of the RMG industry through the provision of a migrant labour force, any of these scenarios, or a combination, could still outweigh the profitability of migration, and lead to the demise of the industry in Dhaka. In such a situation, O'Connor's theory would ring true. However, when considering the case of climate migration *alone*, the 'second contradiction of capital' is disputed, as it appears that climate change may promote rather than hinder the profitability of the Bangladeshi RMG industry.

It thus seems that climate change has the ability to both support and undermine capitalism. In the long term, I am inclined to agree with O'Connor, that due to ecological limitations, business as usual cannot proceed indefinitely in the case of the Bangladeshi RMG industry. But what about this window of profitability which seems to present itself now? If the profitable processes which have caused climate change cannot necessarily be halted by the effects of climate change, what are the implications of this for humanity's collective ability to reign in carbon emissions?

6.5. Looking forward

Marx and O'Connor remain optimistic about the prospect of mobilisation for change in response to the issue of capital's exploitation of labour and environment, respectively. Marx ([1867] 2010, 442), expected the working class to "organise a regular co-operation between employed and unemployed in order to destroy or to weaken the ruinous effects of this natural law of capitalistic production on their class". O'Connor (1998, 171) expects to eventually see "powerful social movements demanding an end to ecological exploitation."

The hypothetical case I present of climate change perpetuating itself via migration and capital accumulation suggests that the driving forces behind climate change are probably more

intricate and complex than is currently understood. If Core countries hope to take effective action to prevent runaway climate change, the issue must consequently be considered through a detailed systemic global perspective. Yet as John Bellamy Foster notes, this does not currently seem to be the situation.

We are constantly invited by those dutifully serving “the gods of profit and production” to turn our attention elsewhere, to downgrade our concerns, and to view the very economic system that has *caused* the present global degradation of the environment as the *solution* to the problems it has generated.

(Foster 2002, 25)

Let us not be simplistic in our assessment of the challenges that lay ahead in the pursuit to tackle climate change. I hope the contribution of this thesis will be to encourage people to further deconstruct the environmental complexities and tragedies of business as usual, and to think creatively and radically⁴⁰ about alternative paths for the future.

7. Conclusions and Recommendations

The aim of this thesis was to investigate and understand how rural-to-urban migration could be part of a relationship between climate change and Dhaka’s RMG industry. Further to this, I sought to explore such a relationship with the use of theory regarding the industrial reserve army.

The interviews conducted for this study indicate how CRECs interact with other factors concerning finances, family and gender in a way which is likely to encourage rural women to move to Dhaka and seek RMG employment. They also suggest that the RMG industry, in its current form, has a tendency to employ such vulnerable female migrants, and describe how once a migrant has found employment in a garment factory, several factors limit the ability for these women to return to their rural village. Collectively, these findings allude to the

⁴⁰ I use word ‘radically’ in the way that it derives from the Latin word ‘radic’, meaning ‘root’. I encourage people to think in terms of addressing the *roots* of a problem.

existence of a climate mobilised labour army which may contribute to the size of Dhaka's surplus labour population.

The application of reserve army theory in this case suggests that profitability in the garment industry may be high due to a high level of competition for employment which acts to drive down labour-related production costs. The outcome of this is likely to be the undermining of workers' rights in RMG factories, and a concentration of profits in the Core, and among Bangladesh's rich (who own the means of production). It seems this would act to exacerbate the disparities and unequal power dynamics between Core and Periphery, and between rich and poor. Finally, and in contrast to existing Marxist narratives on the topic of climate change and capitalism, this thesis finds that through the process of migration into RMG employment, climate change could have the ability to support profits, and in doing so, support its own exacerbation through a positive feedback loop.

The central outcome of this thesis is thus the conclusion that the relationship between climate change and capitalism is complex, and so equally nuanced approaches must be taken to understand and tackle the issue of climate change. This thesis further indicates that the issues of climate vulnerability and labour rights are not discrete, and so providing support to ensure basic labour rights (limits on hours, liveable wages, the right to organise, and so on), is an essential dimension to offering support for climate vulnerable/affected people. Furthermore, it becomes important to consider what might happen if environmental factors (or any other factor, for that matter) lead to the decline of Dhaka's RMG industry. Dhaka's employed RMG labour army currently stands at four million (BGMEA 2015). What will be the consequences for these people – for the women I interviewed – if foreign direct investment is withdrawn or relocated elsewhere? How can these women be supported?

For further academic inquiry, I would recommend the application of this study and its methods to other areas of Dhaka. Valuable perspective could also be gained by conducting interviews in rural areas with people who are considering moving to Dhaka, and with any people who have returned from Dhaka to live in their village again. Further investigation into climate migration and global commodity production chains should also be carried out in other Peripheral contexts where climate change is expected to have a great impact.

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9. Appendixes

9.1. Appendix 1: Interview questions and prompts

Basic info - questionnaire

Name?

Location?

Hometown? District/sub-district/union/Mauza or village

Age?

Marital Status?

Years of schooling?

Religion?

Migrated to Dhaka how long ago?

Employment status prior to migration?

Who migrate with?

How many times migrated rurally before coming to Dhaka?

Got a job in garments how long after arrival in Dhaka?

Current employment?

Job role in RMG factory?

How long working in garments industry in total?

Total how many factories worked in?

How much paid in factory? Beginning/end

Hours/day? How many days/week?

Pre-migration questions

Can you describe what the **landscape** is like in the area where you lived before coming to Dhaka?

Eg. island/char, river, coastal, hills, flatlands

Tell me what your **life** was like prior to moving to Dhaka.

Housing location/standard, **living with, income, subsistence**

Tell me about your **family**.

What they **do**? **Where** located/when?

Describe the **weather and seasons** in your area.

Tell me about your experiences with **flooding** before moving to Dhaka.

When? You/family affected? respond?

Describe your experiences with **storms** before moving to Dhaka.

When? You/family affected? respond?

Can you describe any times when your community experienced **drought**?

When? You/family affected? respond?

Tell me about any times when you had difficulty accessing clean **drinking water**.

When? You/family affected? respond?

Tell me about any **erosion** that happened in your area.

When? You/family affected? respond?

Tell me about the **harvests** in your home area. Which crops? Any difficulties?

How do you feel about the **cost of living** in your home village? Expenses? Changes?

Describe any times or situations in your home village when you found it difficult to **provide for your family's needs**.

Tell me about **why you decided** to move to Dhaka? **Push? Pull?**

Tell me about any other **alternatives** you had to moving to Dhaka. Why no alternatives? Why not did that?

*Tell me about the **previous times you migrated** before coming to Dhaka. Why? Why not again?

Explain what triggered you to make the **final decision** to move.

What were your **intentions** for when you came to Dhaka? How **long** for? What **do** here?

*Why was garments work your **preference**?

Tell me about any **family or friends** from your village who were already living in Dhaka when you moved.

Why had they come here? Did they help you/how? Would you have come if they weren't here?

Migration / Gaining Employment

Explain the process of **planning** and preparation between your decision and your actual move.

How long? Finances.

Describe any **financial difficulties** you faced throughout this process and how you managed these.

Fund the move? Obligations (rent/support/remittances)? Cost of living?

What happened when you got to Dhaka? What help did you get? **Who** did you meet with? **Where** stay?

Describe your experiences in **looking for work** once you got to Dhaka.

What were your **thoughts and feelings** throughout the process of migration and looking for work?

Pre-migration/ just arrived before employed/ just employed.

Why do you think you found it **difficult to find work?*

What kind of people do you think end up **succeeding** in finding a job in the garments industry and why?

In what ways do you think work in the garments factories would be **different to the work you ended up doing?*

Living in Dhaka

Tell me about how **life** is for you living in this area. How end up here? Migrate within Dhaka previously?

How well does your **housing** suit meet your family's needs?

Tell me about what happens in Dhaka when there are **storms**.

Tell me about any **flooding** you've experienced in Dhaka.

Describe any times when you have had difficulty accessing **clean drinking water** in Dhaka.

Explain to me what **needs and expenses** you have in Dhaka and how you manage them.

Any difficult time? How respond (loan?)

How do you feel about the **cost of living** in Dhaka? Expenses? Changes?

*Tell me about your **husband's work** role and income.

Describe your **life** working in the garment factories.

Tell me about any **other jobs** you have/have had. How does this **compare to other work** you have done?

How do you feel about how much you are **paid**/were paid in the past for your job?

Describe to me what happens in your factory when someone feels they deserve a **raise**.

What if someone asks early? Why not granted? What can an employee do? Example? Self/others.

Tell me about workers **strikes** at your workplace. Had any? Why/what happened? Why not?

What have been your experiences with **labour unions**. Are the workers organised? How does the employer feel?

Tell me about **getting paid, overtime and bonuses**. Always on time? Correct amount?

Can you explain what happens in your factory when there are **not many orders**? Keep jobs and pay?

Describe the experiences of any women you know who work in the garments factories, during **pregnancy** and nursing. Time off? Pay?

Describe to me what happens over time as an operator becomes more experienced/**skilled**. Role change? Raise?

Tell me about the other **rural migrants** you know who work in garments, and **why** they decided to move to Dhaka.

Do you think the employers hire **more rural migrants** or people from **Dhaka**? Why?

Why do you think that **more women** than men work in the garment factories? Employer **preference**? Why?

Tell me about the **differences between men and women** in your work.

Job roles? Pay? Privileges (tea/smoke)? What opinions do you have about this?

Tell me about the **age range** of the people you work with. Employer **preference**? Why?

If you could **change anything** about your job, what things would you change?

Tell me about the workplace health and safety at your work. How could the **working environment** in your factory be improved? Injury. Exits. Fire extinguishers. Training

Tell me about any times you have had to **evacuate** the building.

What were your feelings, thoughts and reactions to the collapse of **Rana Plaza**?

Tell me about **inspections** of the factory/s you have worked at. How often? Changes when the inspectors come?

Tell me how you feel about the way your **supervisors speak** to you. Does it change? What do they say?

Can you describe what happened at any time when someone in your factory **lost their job**?

Tell me about what happens when the **factory is very busy**. Longest shift. Why no other worker instead?

Describe how **lunch breaks** work at your factory. Food? How long? Always? Why not?

Tell me about how **bathrooms breaks** work at your factory.

Reflections

What has life been like for your family/community who still live in your **home village since you left**?

Describe to me what you think your **life would have been like** if you had stayed in your village?

Tell me about any other **family or friends** from your home village who have **migrated** to Dhaka since you left.

Why did they leave? Did you help them?

Describe any way in which life in Dhaka is different to what you had **expected** it would be.

Tell me about your **plans for the future** regarding where you want to live and what you want to do.
Overall have you found it easier to meet you/your family's **needs** in Dhaka or in your village?
On reflection, what do you **prefer** about life in your **home village** compared to Dhaka?
On reflection, what do you **prefer** about life in **Dhaka** compared to your home village?
Overall, how do you **feel about your decision** to migrate?

9.2. Appendix 2: Complimentary quotes to the analysis (section 5)

6.1.1. CRECs form a strong physical push factor.

Mira:

Before coming Dhaka I experienced one flood. That time water came into our house. At that moment I decided to move on Dhaka to get away from the flood. [...] I took the decision because of that flood. Our home was destroyed.

Swarnali:

It [flooding] wiped out our home. There was a huge flood and we got water in our home and it washed away. [...] It remained for months after I came here to Dhaka. When I was leaving the flood was still there.

6.1.2. CRECs have a strong financial impact on climate vulnerable families in rural areas. This forms a strong financial push factor from rural areas.

Loss of income caused by CRECs:

Chameli:

During floods we had to face lots of problems. Nobody could go outside. Those who worked as farmers, they had to face a lot of problems. They can't work in any other sources.

Roxanna:

...I have moved here because of the poverty in my family. [...] we don't have any land so he [the interviewee's husband] was being hired by others. [...] At that time there was no work so he used to sit idly. It rained a lot at that time so most of the time we couldn't go out. [...] He would spend his savings to run the family. [...] I had problems getting food. Suppose I needed extra money to repair my home [damaged due to flooding]. Where would I get that from while I was facing problems managing food? I have also come to Dhaka for a better life.

Shokhina:

He [the interviewee's husband] was only in the job when there were crops but other than that he didn't have any jobs. We would run our family with the amount of money we received due to that work. When he didn't have any work, we would face difficulties. [...] There were times when we wouldn't see any rain and the crops would be damaged because of that. [...] Since the drought would affect the crops eventually it would affect us. It's not only a problem for the land owners but for us too. [...] We couldn't get enough food of the day. Sometimes it was two meals and other times it was just one meal a day. My children were starving. I thought if I could come to Dhaka I could find work and get enough food. [...] You can say we faced more problems during the time of the natural disasters. We didn't have the financial back up or own land to do farming. If we had all that we would not have suffered. We came to Dhaka since our financial condition was bad.

Loans taken in response to CREC damage:

Poly:

We took some money from others and we wished to give the money back to the owners. But we failed when the crops were burned [dried up during drought] and we couldn't give back the money.

Roxanna:

Our house was badly affected and it dropped and fell apart. [...] We couldn't rebuild it at once. We had to cook outside of the house. Our kitchen fell apart but our main house was quite fine. [...] We borrowed money from people to rebuild it. [...] I had to give back the money with interest otherwise no one would give me the money. [...] I had to pay them monthly according to percentage, 10 taka [1.1 SEK/0.13 USD] per month. And normally if we borrowed 500 taka [55.27 SEK/6.42 USD] we had to give rice back as repayment.⁴¹

Roxanna eventually managed to pay off her loan after two years of working in Dhaka - three years after the initial loan was taken.

⁴¹ Currency conversions based on exchange rates as of 30/03/15.

6.1.3. The prospect of employment in Dhaka offers potential economic relief from financial hardships. This forms a strong financial pull factor toward Dhaka.

Sadia:

We were struggling and suffering from poverty. [...] I didn't want to work anywhere else because I had some experience related to tailoring that's why I prefer garments. And there are lots of garments [factories] all over in Gazipur and Savar so the chances of getting a job are very high.

Nodi:

There was nothing to do for income and it was hard to feed ourselves. So I thought let's see if we can find anything in Dhaka and came to here. [...] So that I can have a better life, to give my children better life and clothes to live, education, to live in peace. How many days could I stay with my mother? She has her own home and I have to make my own. [...] I decided to work in a garment as I have to run my family here and feed the members.

Bonnya:

We moved to Dhaka [...] as we couldn't meet our family's needs. [...] I was thinking that if I could get a job in a garment factory then it would be better for me. [...] maybe I would stay for two or three years. It depended more on my savings, and I would save money as much as I could.

6.1.4. Gendered employment opportunities. Push: there is very little opportunity for wage employment for women in rural areas. Pull: the RMG factories attract women seeking an income.

Rural difficulty surviving on one income:

Chameli:

My husband's income was not sufficient for my family. That's the reason I moved to Dhaka. I thought if I moved to Dhaka I might earn for my family. I might educate my children. I could provide them better lifestyle.

Roxanna:

Translator: Why did you move to Dhaka?

Roxanna: *For the economic development of my family. It's really hard to run a family on one person's income.*

Roopali:

Translator: Why did you come to Dhaka?

Roopali: *Because of poverty. We don't have any earning member except my husband and also we don't have any boy who may be able to earn, just three girls.*

6.1.5. Family already located in Dhaka plays a crucial role in facilitating migration.

Family provided support for the interviewee when they first arrived in Dhaka:

Poly:

During my initial time here I had to stay with my sister. Later on, after getting the job, I moved on. I contribute my salary to her family.

Mira:

My two sisters and one of my uncles used to live here. [...] They came here before the flood and storm. [...] When I first came here my entire family used to live with them. They helped my husband with finding a job.

RMG employers preferring people who have family links to the factory:

Mira:

The luckiest women get a job after coming to Dhaka if they have their family person in the garments. They could get a job very easily.

The participants have helped other people migrate to Dhaka:

Monica:

Monica: *I came here and then let other people know about this place.*

Translator: So does this also happen in the case of getting a job? Do you let people know about the job vacancies?

Monica: *Yes, if we don't earn how are we going to live?*

Translator: So basically you help people from your village?

Monica: *Yes.*

6.2.1. A female dominated industry, and an emerging workforce.

Employment opportunities in the wider economy are greater for men and lesser for women:

Nazneed:

Men can do different types of jobs everywhere. But women cannot. That is why women mostly work in the garments factories.

Bystander at Rokeya's interview:

Men are not satisfied with the amount of the money [in RMG employment] and they have better options but women have not many options.

Swarnali:

I don't like working in the garments [factory]. If I could find any other work then I would not do a garments job. I don't have any option to switch.

Women are more passive in an RMG work environment:

Shokhina:

...two thirds of the total workers are female and the rest are male. Women are more encouraged to work in the garments factories now. [...] Men are less controllable. If the supervisor does anything wrong they [men] will protest straight away. But if any woman tries to protest against anything, they will just shout at you and you won't be able to say anything. They take advantage of this fact and make us work more than usual - because we cannot say anything. Otherwise they will stop giving me cards [This could refer to labels, or a workplace ID card]. That is why they take women more than men.

Mira:

The authority used to take women workers more than men, because they prefer women the most. The male workers are always ready to strike. They're always in aggressive mode. That's the reason women are more preferred than men.

6.2.2. RMG factories employ predominantly migrants from rural areas. Migrants are dependent on these jobs due to poverty and a lack of alternative opportunities.

Nazneed:

People from Dhaka don't do much of this work. So, most of the people are from outside of Dhaka. [...] Because people coming from outside Dhaka are poor and they need jobs. I think people from outside Dhaka go for work in the garments factories more often. That is why they get the job more than people from Dhaka.

Joshna:

Joshna: All my co-workers have moved from rural areas to this city in search of a better job and life. They were all are struggling in their village and faced many hardships to fulfil their family's needs. [...]

Translator: Why do you think your employer employs people from rural areas?

Joshna: We people from the rural areas are poor and we will do anything and everything which people from Dhaka won't do.

Hosneara:

People who live in Dhaka get a job as a supervisor. The migrants are needier. Actually the people who live in Dhaka don't need any kind of work that's the reason they don't go or search this kind of job. Basically rural women search for this kind of job.

6.3.1. A lower level of vulnerability to climate change in Dhaka and a continued physical CREC pushing force from rural areas due to CRECs.

Experience of CRECs in Dhaka:

Joshna:

Translator: What happens in Dhaka when there is a storm?

Joshna: The ceiling of tins blows away during storm. And we leave this place and take shelter to some big building.

Translator: Did you face any flooding in Dhaka?

Joshna: Yes our house went under water in the previous place where we used to live. And here it was under water but we hadn't settled in yet.

[...]

Translator: Can you compare how flooding affected you in Dhaka in your other house compared to your own village?

Joshna: In the village it is very tough as there is too much mud, untidiness and concrete being made [perhaps in reference to construction]. In Dhaka we could go to a big building to take shelter and some people provided us with food.

Continued physical CREC push factor:

Monica:

Translator: If you had the option to migrate back to your village, would you have gone?

Monica: Yes but now my village is under water [due to river erosion].

6.3.2. Stability of urban RMG employment.

Hosneara:

Translator: What happened when there were not money orders in your factory?

Hosneara: *At that time I used to only work until 5:00pm. During those times there was no overtime.*

Translator: Were the staff reduced?

Hosneara: *No, no employees were reduced from the job.*

6.3.3. A contradiction between a willingness to leave Dhaka and a financial inability to do so.

Desire to return to village:

Nodi:

I want to go back home when I have saved enough money. I will not stay here forever and I don't have any plan to do that. I can't stay here forever as I need to get my own address back in my home village. Maybe I will buy a land if I have enough money.

Roxanna:

I have decided that if I have enough money to open a small shop I will go back to my village. [...] I don't like to stay in Dhaka and I don't want to stay here forever. Let's see if I can save some money but the problem is I can't save money.

Inability to save:

Monica:

Now we can earn money in Dhaka but still struggle to survive with this much amount of money. Sometimes we cannot pay fees properly. [...] What should I say? Whatever we earn we spend here. If we earned some more we could have save some money for the future.

Roxanna:

I think my financial situation is now better now. I have rebuilt my house, paid all my loans and planning to open a shop in village. Now I am thinking if I could save some money I would go back to my village. [...] but the thing is I can't save any money at the end of the month. I used to have to pay 2500 taka [282.81SEK/32.11USD] as a room rent. Now it is 3000 taka [339.37SEK/38.53USD] per month and then I have to pay money for my children's education. Then I have food expenses.⁴²

Swarnali:

I thought I would earn more and give money to my home. My parents are still happy but my expectations have not been fulfilled. [...] If I cannot bear my own expenses here then how could I send money home? [...] For food I have to pay 2200 taka. So everything I earn goes away. If I do over time I can't even send 1000 taka per month for my family.

⁴² Currency conversions based on exchanges rates on 10/04/15.