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Environmental influences on skilled worker migration from Bangladesh to Canada

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Key Messages

- Environmental hazards that are important drivers of migration within Bangladesh appear to have little or no influence on current Bangladeshi migration to Canada.
- Air and water pollution, sanitation problems, lack of green space, and food adulteration are considerations for many professionals migrating from Dhaka to Toronto.
- Urban environmental problems interact with economic, political, and social factors to influence household migration decisions, to varying degrees.

We conducted focus groups in Toronto with 44 recent skilled worker immigrants from Bangladesh to explore whether their decisions to migrate to Canada may have been influenced by environmental problems. Previous research has documented how floods, cyclones, droughts, and seasonal precipitation variations affect rural-urban migration patterns within Bangladesh, and to its neighbours. Most participants had not experienced such environmental hazards, having lived in Dhaka prior to migrating. However, Dhaka's ongoing problems with air and water pollution, sanitation, lack of green space, and food adulteration were cited by 70% as being relevant considerations for the decision to migrate. The degree of influence varied considerably among participants. Roughly 16% said pollution was their primary motivation for leaving, household members having suffered from illnesses traceable to air pollution or poor sanitation. Another 54% stated that Dhaka's environmental problems were part of a wider range of quality-of-life concerns that had some influence on their decision. The findings suggest that current migration to Canada is not connected with environmental migration that takes place within Bangladesh, but that urban environmental problems combined with other social, economic, and political factors can help drive migration.

Keywords: environmental migration, Bangladeshi migration, migration to Canada, Dhaka, pollution impacts

Influences environnementales sur la migration de travailleurs qualifiés du Bangladesh vers le Canada

Nous avons organisé des groupes de discussion à Toronto avec 44 travailleurs qualifiés nouvellement immigrés du Bangladesh pour vérifier si leur décision de migrer au Canada peut avoir été influencée par des problèmes environnementaux. Une recherche antérieure a documenté la façon dont les inondations, les cyclones, les sécheresses et la variation des précipitations saisonnières influencent les patrons de migration rurale-urbaine à l'intérieur du Bangladesh et vers ses voisins. La plupart des participants n'avaient pas été

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exposés à de tels risques environnementaux puisqu'ils avaient vécu à Dacca avant de migrer. Toutefois, les problèmes récurrents de Dacca sur le plan de la pollution de l'eau et de l'air, de l'hygiène, du manque d'espaces verts et de l'altération des aliments ont été cités par 70 % des participants comme étant des considérations pertinentes dans leur décision de migrer. Le degré d'influence variait considérablement parmi les participants. De façon générale, 16 % des participants ont dit que la pollution était leur principale motivation pour quitter le pays, des membres du ménage ayant souffert de maladies reliées à la pollution de l'air ou à de mauvaises conditions d'hygiène. Par ailleurs, 54 % des participants ont affirmé que les problèmes environnementaux de Dacca faisaient partie d'un éventail plus large de préoccupations concernant la qualité de vie qui ont eu une certaine influence sur leur décision. Les conclusions suggèrent que la migration actuelle vers le Canada n'est pas reliée à la migration environnementale que l'on constate à l'intérieur du Bangladesh, mais que les problèmes environnementaux urbains combinés à d'autres facteurs sociaux, économiques et politiques peuvent encourager la migration.

Mots clés : migration environnementale, migration bangladaise, migration vers le Canada, Dacca, conséquences de la pollution

Introduction

Environmental migration is a rapidly expanding field of research and inquiry that is still very much in its infancy. Although scholars have long been interested in how environmental conditions affect human population patterns, current scholarly approaches to the subject emerged in the 1980s, when political ecologists and natural hazards researchers sought to better understand how famines and population displacements emerged in the wake of droughts, floods, cyclones, and other extreme climate events (Hunter 2005; McLeman 2016). Over subsequent decades, as evidence steadily accumulated about the implications of climate change, land degradation, air pollution, biodiversity loss, ocean acidification, and other types of anthropogenic environmental change, concerns have grown correspondingly among researchers, policymakers, and the general public about the potential for large-scale population displacement and migration in the future (Gemenne 2011).

Impressive theoretical, methodological, and empirical advances have been made in the last four decades, many of them attributable to increasing interaction and collaboration between natural scientists with expertise in biogeophysical processes and social scientists with expertise in social processes and human migration behaviour. Early studies that warned of waves of "environmental refugees" fleeing degraded landscapes and cities (El-Hinnawi 1985; Jacobson 1988) have given way to more nuanced approaches that see environmental factors as interacting in context-specific fashion with cultural, demographic, economic, political, and social processes to shape the livelihoods and wellbeing of households and community, with migration being just one of many possible outcomes (Foresight 2011).

There still remain many areas of environmental migration research that require considerably more theoretical development and empirical evidence. Some examples include questions of perception (e.g., do people take into account environmental factors when they make migration decisions?); connection (e.g., do different types of environmental events or conditions, such as floods vs droughts, have different potential to influence migration decisions?); thresholds (i.e., at what degree of severity or scale do environmental factors become relevant to migration decision-making?); and directionality (i.e., if people do decide to migrate for environmental reasons, where will they move, why, and for how long?). Most existing empirical research on environmental migration has looked at examples of internal (typically rural-urban) migration within countries in the global south, while studies on international environmental migration are most concentrated on cross-border migration between contiguous countries, such as Mexico-United States, Burkina Faso-Cote d'Ivoire, and Nepal-India (Obokata et al. 2014). This is unsurprising, since most migration (environmentally related or otherwise) generally takes place within countries, as opposed to between them, and long-distance international migration is less common than that which crosses shared borders (Samers 2010).

The present paper reports findings from an exploratory study that considers a lightly studied topic—namely, whether environmental considerations influence long-distance international migration. Specifically, this paper describes the outcomes of a series of focus groups conducted with Bangladeshi migrants living in Toronto, in which participants were asked whether environmental considerations may or may not have entered into their decision to migrate. This study was conducted as part of a larger research project that sought to document if environmental events and conditions in other parts of the world have an influence on international migration to Canada and, if so, how. The project deliberately sought to consult recent immigrants to Canada from countries and regions that were identified through a systematic review of scholarly literature as experiencing significant levels of environmental migration and displacement, such as Haiti, the Philippines, Somalia, sub-Saharan Africa, and Vietnam (Obokata et al. 2014).

Bangladesh was selected for this study on account of the numerous existing studies that document how monsoonal flooding, tropical cyclones, soil erosion, and land degradation have had observable effects on migration patterns within the country and to neighbouring countries (Alam 2003; Walsham 2010; Kartiki 2011; Hassani-Mahmooei and Parris 2012; Mallick and Vogt 2012; Joarder and Miller 2013; Penning-Roswell et al. 2013; Martin et al. 2014; Saha 2016). However, as is shown in our findings below, the environmental drivers of population movements within Bangladesh do not appear to have a direct influence on Bangladeshi migration to Toronto, which consists disproportionately of educated urbanites from Dhaka city who migrate via Canada's skilled worker permanent residency program. Very few of the participants in our study had any direct experience with the environmental hazards described above. Instead, their experience with adverse environmental conditions was most often in the context of pervasive air pollution, water contamination, unsafe food, and the lack of green space that has become endemic in Dhaka. The consequent health impacts were, for a small but notable number of focus group participants, the primary motivation for migrating to Toronto. For approximately 70% of our participants, Dhaka's urban environmental problems were described as being part of a range of factors that motivated their decision to migrate, which was most often contextualized as being an opportunity to provide a better quality of life and future prospects for their children. These findings contribute additional insights not only into Bangladesh-Canada migration, but also into the ways in which urban environmental problems influence overseas labour migration in general, an area of study that is becoming increasingly relevant in this era of rapid urbanization in less-developed countries.

Literature review

Environmental influences on migration

In an oft-cited definition, the International Organization for Migration (IOM) describes environmental migrants as being people who, "predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad" (2011, 33). This definition captures a wide range of possible types of migration, from voluntary opportunity-seeking migration to involuntary displacement or forced migration, for periods ranging from temporary to indefinite, and to destinations both near and far. The key criterion that distinguishes environmental migrants from other migrants is that adverse impacts on lives or living conditions, attributable to any type of environmental change, are a predominant factor (but not necessarily the only one) in making the decision to migrate. The IOM's definition has no particular status in international law but, being highly reflective of the current status of scholarly research, is nonetheless a useful starting point for this literature review.

The idea that environmental events and conditions can influence migration is not especially new. In the later 19th and early 20th centuries, there was a relatively strongly held view among geographers, especially those influenced by the German scholar Friederich Ratzel, that the natural environment exerts a strong influence on global human population patterns (Peet 1985; Gemenne 2011). However, by the 1930s, the racial undertones, questionable methodological assumptions, and implicit apologism for colonialism that characterized this "environmental determinist" approach to population

geography eventually led to its abandonment by most geographers and social scientists. Apart from a short burst of research by rural sociologists and economists in North America on Dust Bowl-Era migration (e.g., Taylor and Rowell 1938; Duncan 1940), the relatively modest amount of research done on the environmental influences on migration through the next five decades considered such things as the residential effects of chemical pollution and amenity migration to seek out healthful climates (see Hunter 2005 for review).

The late 1970s and 1980s saw a burst of research on environmental causes of displacement, stimulated by severe cyclones, droughts, famines, floods, and soil erosion in Africa and Asia, with Canadian geographers Ian Burton and Ken Hewitt making important contributions to an emerging political ecology approach to disasters (Burton et al. 1978; Hewitt 1983). The United Nations Environment Programme and the influential environmental think tank, Worldwatch Institute, began warning of impending floods of "environmental refugees" in the absence of concerted action to address global environmental change (El-Hinnawi 1985; Jacobson 1988). Shortly thereafter, the inaugural assessment report of the Intergovernmental Panel on Climate Change suggested large-scale population displacements would materialize in future decades as a result of global warming and rising sea levels (Tegart et al. 1990). An article in *The Atlantic Monthly* with the provocative title, "The Coming Anarchy," suggested that resource scarcity was causing civil conflicts and refugee crises in Africa (Kaplan 1994), and ecologist Norman Myers began offering estimates of future environmental refugees of up to 200 million people or more by the mid-21st century (Myers 1993, 1997, 2002).

Much of the scholarly research in the 1980s and 1990s was descriptive and diagnostic in nature, selecting case studies of obvious environmental disasters and offering broad, normative conclusions and recommendations. In the last two decades, the volume of scholarly research has grown tremendously, with the field of study broadening to look not only at involuntary displacement due to natural disasters or climate change, but as well the longer-term influences of the environment on migration and mobility more generally. While attempts continue to be made to quantify migration at a global scale, increasing attention is being given to migration decision-making processes at the household and community levels. In this latter regard, the potential for environmental conditions to influence migration decisions has been increasingly described in the context of vulnerability and adaptation, with households seen as using migration strategically to reduce their exposure to environmental risks and to build their capacity to adapt through income diversification and remittances (McLeman and Smit 2006; Tacoli 2009; Black et al. 2011). Environmental migration scholars also now engage more closely with theoretical developments that have been made in demography, population geography, and migration scholarship more generally. Stark's "new economic theory of labour migration" (Stark and Bloom 1985), with its emphasis on household risk management strategies, has become particularly popular in this regard (Schade et al. 2015). A far-ranging multi-year study commissioned by the British government (Foresight 2011), and involving dozens of researchers, conceptualized the influence of the environment on migration as taking place within a much wider set of demographic, cultural, political, and socio-economic processes that interact across scales to influence household-level decision making (Figure 1).

Details of the specific workings of relationships and interactions represented in Figure 1 are being slowly filled in by a steady accumulation of research and case studies, which use a variety of quantitative, qualitative, and geospatial methods and reflect a range of disciplinary perspectives. However, there remain a number of significant gaps in knowledge that have yet to be filled. For example, more needs to be known about exactly how environmental risks are perceived by individuals and households and, once this happens, how such perceptions figure into decision-making processes. Recent research by Koubi et al. (2016) suggests different types of environmental risks are perceived differently and stimulate different types of action; sudden-onset events like hurricanes and floods prompt people to act or move when threatened, but slower-developing problems like land degradation or droughts are associated with a similar slowness in perception and action by households. There is also room for more research on the threshold (in terms of severity) at which environmental factors become relevant to migration decision making. Evidence suggests that the same type of environmental event or condition may

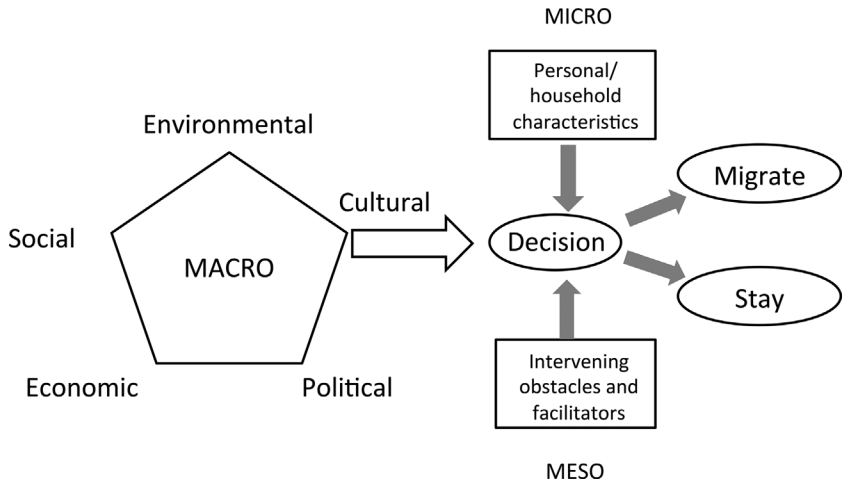

Figure 1
The role of environment in migration as conceptualized in Foresight (2011).

have a different effect on migration depending on the regional context. For example, droughts in Mexico tend to stimulate increased migration from affected rural areas to the United States (US) (Nawrotzki et al. 2015, 2017), but in Burkina Faso, droughts appear to stimulate short-distance, internal migration, and international migration falls (Henry et al. 2004). Studies by Chao et al. (2015) suggest that in heavily polluted urban areas, for people above a certain income or wealth threshold, the desire to avoid pollution may become a greater influence on where they choose to live than income opportunities.

The influence of environmental factors on international migration is not particularly well understood. A systematic review of scholarly literature by Obokata et al. (2014) found that the majority of empirical research on environmental migration focuses on population movements within countries, and that most studies of international environmental migration are focused on cross-border movements between contiguous countries, such as between Mexico and the US, Nepal and India, and between various contiguous countries in East and West Africa. The largest concentration of studies of international migration between non-contiguous countries focuses on migration from Pacific small island states to Australia, New Zealand and, to a lesser extent, the US. Obokata et al. (2014) found that two main conclusions can be safely drawn from existing studies on international environmental migration:

- environmental factors rarely act alone in stimulating migration (consistent with Figure 1); and
- international environmental migration is highly context-specific, in terms of both the environmental context and the socio-economic context (particularly due to factors such as gender relations, social networks, institutional arrangements, wealth, and inequality).

Prior to the launch of the project under which the research being reported here was conducted, there was little empirical information as to whether environmental factors had any influence on migration to Canada. In one of the few statistical reports we were able to find on the subject, a survey of 141 wealthy Chinese individuals who migrated to international destinations (primarily the US, Canada, and Australia) reported that pollution and food security concerns ranked as the second and third most common reasons given for leaving China (20% and 19% of respondents, respectively), trailing only the opportunity for better children's education (21% of respondents) (Hurun News 2014). Through our own project, we have studied environmental influences on migration to Canada from Haiti, the Philippines,

Somalia, and from a number of Francophone nations in sub-Saharan Africa (Mezdour and Veronis 2012; Veronis 2014; Veronis and McLeman 2014; Mezdour et al. 2015; Obokata and Veronis 2018). In each case, the immigration source country had experienced significant environmental events in the past decade that stimulated large movements of people within the country.[i] However, with the exception of Somalis, few migrants from the countries studied experienced directly the impacts of these environmental events or were motivated to migrate to Canada primarily because of them. Such findings reflect, to a certain degree, the nature of Canada's immigration system and how particular groups of people gain admission. For example, Somalis are more likely to have migrated as refugees or as sponsored family members of refugees, and are therefore more likely to have lived in difficult conditions in East Africa, such as refugee camps, rural areas, or informal settlements, in which they were directly exposed to the effects of droughts and food scarcity (Veronis 2014). Immigrants from the other countries studied are more likely to have migrated through the skilled worker program or the live-in caregiver program, or have been sponsored by family members who themselves migrated through one of those programs. Having been selected for immigration on the basis of their skills, training, and ties to Canada, such migrants are more likely to have lived in urban centres in their home countries, and not pursued the types of rural subsistence livelihoods that would expose them to environmental hazards.

That said, each of the aforementioned studies found that environmental factors had some influence on the migration process more generally. In the case of Haiti, an indirect consequence of deforestation and the 2010 earthquake has been a steady influx of poor, rural migrants to cities (Mezdour et al. 2015). This in turn has created growing problems of food insecurity, air and water pollution, lack of housing, and other quality-of-life issues that help prompt urban professionals to consider migrating abroad. Similar dynamics were reported by migrants from several francophone African countries, most of whom lived in urban centres prior to migration (Veronis and McLeman 2014). For Filipina migrants living in Canada, environmental disasters such as Typhoon Haiyan (known as Yolanda in the Philippines) place considerable pressure on them to remit additional money home to support relatives as they either rebuild or relocate (Obokata and Veronis 2018). By doing so, the migrants' own ability to successfully establish themselves in Canada comes under pressure, at least in the short term. In the present study, we sought to add to our understanding of the influence of environmental factors on migration to Canada by studying Bangladeshi migration to Toronto. Although there has been passing mention of environmental factors playing a role in Bangladeshi migration in previous studies (Ghosh 2014a), this is the first study to our knowledge that has looked explicitly at this question.

[i] Haiti = deforestation, hurricanes, earthquake; Philippines = typhoon; Somalia = droughts; sub-Saharan Africa = deforestation, droughts, land degradation.

Environmental migration in Bangladesh

The impacts of environmental events and conditions on migration in Bangladesh are relatively well-documented, with the greatest effects being experienced in rural areas. Much of Bangladesh is situated in a low-lying, coastal delta into which three major rivers flow: the Brahmaputra (or Jamuna), the Ganges (or Padma), and the Meghna. Owing to the highly seasonal precipitation patterns of South Asia's monsoonal climate, an average of 20% of land in Bangladesh is flooded each summer (Paul and Routray 2010). The timing of the planting and harvesting of rice crops and patterns of aquaculture are synchronized with the seasonality of precipitation and flooding, and so, consequently, are rural livelihoods. Large numbers of rural labourers and members of smallhold farm households migrate on a seasonal basis between rural areas, according to agricultural labour demand, or to urban centres, especially during the mongha (or "hungry season") late in the calendar year, when food production is at its lowest (Ahamad et al. 2011; Khandker et al. 2012). Historically this migration was undertaken primarily by men, leaving at home women, children, and the elderly in a highly precarious situation, but in recent years growing numbers of women now migrate to urban areas to work in garment factories and light industry (Cannon 2002; Kartiki 2011; Penning-Roswell et al. 2013). When monsoonal flooding is more severe than usual—a "bad" flood meaning that up to 40% of the country is

flooded—fields, buildings, aquaculture ponds, livestock, and other key rural livelihood assets may be lost or damaged (Banerjee 2010). In such times, there will be a surge in short-term migration to urban centres and neighbouring areas of India as households seek to escape the floods and find temporary jobs to earn the additional cash needed to rebuild (Alam 2003; Brouwer et al. 2007; Lein 2009; Penning-Roswell et al. 2011).

These ebbs and flows of seasonal and flood-related migration are normal in the context of rural Bangladesh. While there is a high and growing rate of permanent rural-urban migration within Bangladesh, economic opportunity seeking and family reunifications are the principal ongoing drivers (Martin et al. 2014). However, additional surges of rural-urban migration are experienced in the wake of extreme storm events and extreme heat events. The former consists primarily of tropical cyclones and accompanying storm surges that periodically cause large-scale damage to housing and rural infrastructure in the low-lying char lands of southern Bangladesh, each event temporarily displacing tens or hundreds of thousands of people (Islam et al. 2010, 2014; Kartiki 2011; Mallick and Vogt 2012; Saha 2016). Where possible, people typically evacuate northwards to urban centres (Lu et al. 2016); whether they return home afterwards or permanently relocate depends on the status of their own homes and property, as well as the extent of damage to the community and its future viability (Paul and Routray 2011; Joarder and Miller 2013). Extreme heat events that trigger drought conditions in rural areas, especially in western Bangladesh, are also associated with sudden surges of people out of affected areas (Gray and Mueller 2012; Hassani-Mahmooei and Parris 2012).

Environmental consequences of Dhaka's population growth

The city of Dhaka is the foremost recipient of environmental migrants, and migration more generally, from rural Bangladesh (Ahsan et al. 2011). The city's population grew by 46% between 2001 and 2011, and is most recently estimated at somewhere between 14 million and 16.8 million (Bangladesh Bureau of Statistics 2014; UN DESA 2014). Rapid urbanization has been associated with a number of positive economic developments. The country's economy has grown at an average annual rate of 6%–7% for the last decade, led by urban-based services and industrial production, to the extent that Dhaka and its suburbs account for more than one-third of Bangladesh's GDP (Hussain 2013; World Bank 2016; Zamir 2016). Since the year 2000, the percentage of the country's population living in poverty has declined from 49% to 32%, although urban poverty as a share of the national total has grown accordingly (*Daily Star* 2014).

Rapid urbanization has generated environmental challenges in Dhaka that affect public health, well-being, and broad-based quality-of-life. With a population density estimated at over 50,000 people per km^2 (UN DESA 2014), air pollution, water pollution, lack of green space, and food and food insecurity challenges have become persistent and ongoing (Jahan 2012). For example, in terms of air pollution, the concentration of fine particulate matter—i.e., particles smaller than 10 microns in size (PM10), and considered to be an important cause of respiratory illness—averages 180ug/m^3 in the air around Dhaka, 9 times the World Health Organization's recommended safe guidelines, and 7.5 times the average in Toronto (WHO 2014). High rates of indoor air pollution due to poorly ventilated housing and use of low-quality cooking fuels exacerbates matters (Ram et al. 2014). Unsurprisingly, respiratory illness rates in Dhaka are excessive, with children being at particular risk. For example, researchers in one study followed the respiratory health of 515 newborn children in a poor Dhaka neighbourhood between 2009 and 2011, and observed an astounding 378 episodes of pneumonia (Homaira et al. 2012).

In terms of water security, the problem in Dhaka is not one of physical availability of water in the immediate environment, but of access to safe water. Surface water in and around the Dhaka area is so heavily contaminated by biological, chemical, and heavy metal pollutants, it is difficult to treat it sufficiently to make it safe for human consumption; as a result, approximately 60% of urban residents obtain their drinking water from tube wells (Bangladesh Bureau of Statistics 2014). This exposes residents to a different set of risks, as groundwater in the Dhaka area has elevated concentrations of arsenic, and there have also been past events of aquifers becoming contaminated by *Escherichia coli* bacteria (Nahar et al. 2014). Access to proper sanitary systems is limited throughout the city, especially in the thousands of impoverished neighbourhoods, compounding a situation where

residents struggle with frequent outbreaks of waterborne disease and general poor health (Joshi et al. 2011; Afsana and Wahid 2013).

Food security challenges in Dhaka include problems with food availability, food affordability, and food safety. The availability and prices of basic food items in Dhaka's local markets fluctuate regularly, hitting the city's poorest residents especially hard (Zingel et al. 2011). An ongoing problem faced by all residents is the illegal adulteration of fish, vegetables, fruit, and other fresh food items in the city's markets. A recent review of existing studies found that the adulteration of fish with the chemical preservative formalin (i.e., liquid formaldehyde, a known toxin and carcinogen) has been rampant throughout Dhaka for many years (Rahman et al. 2015). In some studies, researchers found that half the fish sampled in city markets contained high levels of formalin.

Although these urban environmental problems are felt most acutely in the city's poorer neighbourhoods, the consequences of endemic overcrowding, poor air quality, uncertain water supply, inadequate sanitation, and food adulteration are felt increasingly by all residents, regardless of socio-economic class. These persistent problems are exacerbated by periodic extreme weather events and floods, with Dhaka having been identified as the world's second-most flood-prone city (Balica et al. 2012). The impacts of anthropogenic climate change and sea level rise will amplify the environmental challenges facing Bangladesh (Alam and Rabbani 2007; Rabbani et al. 2011). Agent-based models that combine environmental, economic, and demographic data suggest that the future impacts of climate change could potentially generate millions of additional migrants to Dhaka, particularly from hazard-prone western and eastern districts of Bangladesh (Hassani-Mahmooei and Parris 2012).

International migration from Bangladesh

Bangladesh is one of the world's leading sources of emigrants, with key migrant destinations including neighbouring India, oil-producing states in the Middle East, the United Kingdom (UK), and the US (World Bank 2011). The demographic and socio-economic characteristics of migrants and the nature of their migration experience vary considerably according to each destination, often reflecting the receiving country's migration rules and the status the migrant acquires—or, in the case of unauthorized migration, the lack of legal status (Donato et al. 2016). Estimates of the number of Bangladeshis living in India—likely between 10 and 20 million (*The Economist* 2016)—and the number of migrants crossing the border each year vary widely, with the nature of migration reflecting the complicated post-partition history and politically charged relations between the two countries (McDuie-Ra 2014). Of the non-contiguous migration destinations, Middle Eastern countries are the most common, with approximately 2.5 million Bangladeshis migrating in the decade 2001–2010 (Rahman 2013). This movement began in the 1970s and consists primarily of men migrating to Saudi Arabia,[ii] the United Arab Emirates, Oman, Qatar, and Bahrain to perform low-skilled jobs, with the primary intention of remitting money home. The host countries typically do not permit migrants to remain permanently or allow family members to accompany; one study found the average length of stay to be approximately 6 years (Rahman 2013).

In the case of the UK, large-scale Bangladeshi migration began after World War II, when the UK allowed unrestricted migration from former colonies to help fill labour shortages (Kibria 2009). Initially, most migrants were young men unaccompanied by family members, many originating in rural north-eastern Bangladesh. By the 1980s, the Bangladeshi community in the UK was well-established and migration became more oriented toward family reunification. Today nearly a half-million people of Bangladeshi origin live in the UK, roughly half of them in or near London (Kibria 2009; Office for National Statistics 2013). By contrast, Bangladeshi migration to the US is more recent, and includes a large number of educated and skilled urbanites from middle-class backgrounds, who enter the US under various employment-related visa programs (Kibria 2009). Nearly a quarter-million people of Bangladeshi origin live in the US today, the largest number in and around New York City, with Bangladeshi households tending to have higher levels of education attainment and a slightly higher median income than the national average (Migration Policy Institute 2014).

[ii] Media reports at time of writing suggest that in late 2017 Saudi Arabia will begin reducing the number of its foreign workers.

Bangladeshi migration to Canada

Canada is not as important a destination as others for international migration from Bangladesh. That said, a fairly steady flow of Bangladeshi migrants to Canada has emerged in recent years, the annual totals varying between 2,000 and 4,500 per year (Figure 2). Most Bangladeshi migrants migrate to Canada through Canada's skilled worker immigration program (or as accompanying or subsequently sponsored family members). Under this program, applicants are awarded points according to selection criteria such as age, language ability, education, employment skills and experience, and similar factors. The applicant does not need to have any existing family connections to Canada, although extra points are awarded if these exist. An applicant who accumulates sufficient points under this system qualifies for permanent residence, assuming all other statutory requirements are met. English- or French-speaking adults under age 45, with post-secondary education and experience working in highly skilled occupations, tend to qualify readily under this immigration program.

Toronto is the most popular destination in Canada for Bangladeshi immigrants. The 2011 Census reported 24,325 people living in the city of Toronto whose mother tongue is Bengali, which includes people with origins in Bangladesh and neighbouring states in India (Statistics Canada 2015). The vast majority are Bangladeshi; studies of immigrant landing records indicate that 83% of Bengali-speaking immigrants come from Bangladesh (Ghosh 2007). While Bangladeshi households can be found throughout the city, there is a disproportionate concentration in neighbourhoods in the east end of the city, especially in apartment complexes in the Victoria Park and Regent Park neighbourhoods (Ghosh 2014a). Many of the businesses along local stretches of Danforth Avenue—the main shopping street—have signs in Bengali and English, and offer goods and services targeted at Bangladeshi consumers. Mosques, community service organizations, and the offices of Bengali-language newspapers are also concentrated in this area.

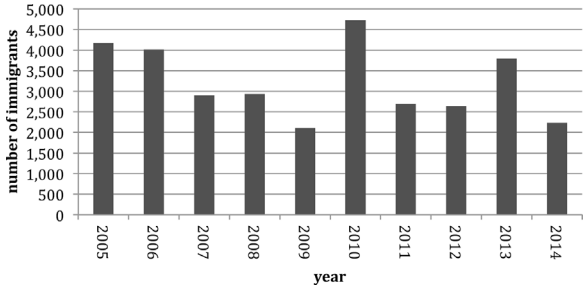

Figure 2
Bangladeshi immigration to Canada, 2005–2014.
DATA SOURCE: IRCC (2016).

The presence of a large, concentrated population of Bangladeshi immigrants in particular neighbourhoods is an important feature of Bangladeshi migration to Toronto, which gathered momentum in the 1990s. Bangladeshi migrants tend to rely heavily on family, friends, and extended community contacts in Toronto to gather information about immigration to Canada, and to find housing and employment after arrival (Murdie and Ghosh 2010; Ghosh 2007, 2014a, 2014b). Being able to settle in a neighbourhood where a large number of Bangladeshis already live is thus seen as attractive. As with Bangladeshi migrants to New York, those moving to Toronto tend to have high levels of education, with more than 70% having a post-secondary education as well as experience working in professions requiring a post-secondary education prior to immigrating to Canada (BIES 2013). Previous studies by Ghosh (2007, 2014b) found that many Bangladeshi migrants describe their motivation for moving to Toronto in terms of securing their children's future, often putting a premium on the value of a western education. Migrants to Toronto include people who come directly from Bangladesh, as well as those who have lived or worked in other countries. Bangladeshi migrants to Toronto tend not to rely on migration agents or employment recruiters (i.e., meso-level actors in Figure 1), but come independently, drawing upon family, friends, and larger community resources in Toronto on arrival (Ghosh 2014a, 2014b). Down-skilling—that is, having to work in jobs below one's training and skills—is a common challenge for Bangladeshis in Toronto; community labour market surveys suggest that less than 20% of recent migrants are able to obtain professional employment, with one-third working in jobs notably below their skill level (BIES 2013). While allusions are made in Ghosh (2014b) to possible environmental motivations behind Bangladeshi migration, this area of inquiry has not previously been explored in great detail.

Methods

Methodological approach and participant recruitment

This study took a grounded theory-type approach (Charmaz 2004), whereby we engaged with community members in an open and iterative process, in which study participants collectively discussed and debated, through focus groups, the possible linkage between environment and the migration decision-making process. Specifically, in the summer and autumn of 2014 we held four focus group sessions on four separate occasions with Bangladeshi immigrants living in the Victoria Park–Danforth area. These groups were organized and participants recruited with the assistance of the manager of a local community group (a co-author on this paper), an individual who actively organizes social activities for Bangladeshi families in the Victoria Park area, and the manager of a local Bengali-language newspaper. Each of these community assistants was told in general terms about the purpose of the project and was asked to assist with recruiting participants who had migrated as adults from Bangladesh to Toronto within the previous ten years; no further requirements were stipulated. Recruitment was done via word-of-mouth, e-mail, and flyers posted in a community centre. Participants were not paid, but were given public transit tokens, and a pizza lunch followed each group meeting. There was no overlap of participants between focus groups, and the nature of recruitment was such that most participants in each group were not well-acquainted with participants in other groups, and had not heard from others about the project or the questions likely to be asked. Three meetings were held in community centres in the Victoria Park neighbourhood, and one was held in the meeting space of the aforementioned newspaper.

None of the focus group participants were known previously to the focus group leaders. Although participants were invited to participate in English or Bengali, all participants spoke and understood English fully, and only two expressed themselves in Bengali. The focus groups typically ran between 90 and 120 minutes, were audio recorded, and later transcribed. The transcriptions were later manually reviewed line-by-line and systematically coded according to a standardized structure designed to distinguish various influences on migration decision-making identified by participants. The coding categories included political conditions in Bangladesh, economic or employment-related considerations, personal safety or security considerations, health considerations, environmental considerations, and education for self or children.

Description of participants

Forty-four people participated, almost evenly split between men and women (23 males, 21 females). The socio-economic characteristics and migration experiences of participants were generally reflective of those of the wider Toronto Bangladeshi community, as described above. With one exception, all had received permanent resident visas through the skilled worker program as principal applicants or accompanying spouses, or through subsequent family sponsorship; the one exception came to Canada as a graduate student. None of the participants had received permanent residence in connection with the business immigration program or refugee/humanitarian programs. For the majority of participants, the move to Canada was their first and only migration experience. Some, however, had had previous migration experience: six had completed graduate studies in other western countries (two in the UK, two in the US, and one each in Australia and France); three had worked abroad (one in the US, one in the Caribbean, and one in Australia and Japan); and one had a spouse who had once worked in the Middle East. One participant had worked temporarily in Canada before returning to Bangladesh and applying to immigrate to Canada several years later. Prior to migrating to Canada, two participants had migrated within Bangladesh, both from southern cities to Dhaka, for employment reasons.

Roughly one-third of participants had worked in education in Bangladesh, another one-third in public service jobs, and the occupational background of the remaining one-third of participants was split evenly between health care and private-sector managerial positions. The average age of participants at time of immigration to Canada was 39 years old, the youngest having been 19 and the oldest 56 years of age. With the exception of one participant who had settled briefly in British Columbia upon arrival in Canada, all other participants had migrated directly to Toronto. The most common reasons given for choosing Toronto over

other Canadian destinations included the presence of a strong and vibrant Bangladeshi community, a word-of-mouth reputation for being a good place to find skilled employment, and its mild climate relative to other Canadian cities. In this regard, the choice of Toronto is generally consistent with findings made in other research on Bangladeshi migration to Canada (Ghosh 2007, 2014a, 2014b). Three participants described having seriously contemplated migrating to countries other than Canada (Australia, the UK, and the US), but for other participants Canada was the principal choice of overseas destination.

Conduct of focus groups

An advantage of a focus-group approach is that it allowed us to obtain from migrants detailed answers and qualitative descriptions of their migration experiences, which in turn stimulated additional reflection and descriptions from other participants. There are inherent challenges to a focus group approach and potential biases in the information collected. For example, the researcher does not truly control the provision of information by participants; any given participant may influence another's contributions, and some participants can deliberately or by happenstance dominate the conversation. If care is not taken to address these risks, what appear to be findings from a group can end up reflecting the views of a much smaller number of participants (Smithson 2000). To address this, we would deliberately return later in each meeting to previously asked questions about migration motivations, which allowed us to gauge whether participants' views had changed following the intervening discussion. In this respect, we found that the answers were generally consistent, the later answer often being more precise or refined. We did not have any participants who, for example, at the start of a discussion said they moved primarily for one reason and then later gave a different reason. In each group we conducted, certain individuals were more eager than others to speak out, and so care was taken to deliberately and regularly solicit input from less talkative participants.

Another important methodological consideration is how much to tell participants regarding the purposes of the focus group. An option in our case would have been to tell participants nothing more than that we had a general interest in reasons for immigrating to Canada. This would have allowed for a highly free-flowing discussion, which might never have arrived at the question of interest given the limited time people are willing to spend in a focus group meeting. We instead decided to advise participants on arrival about our general interest in environmental motivations for migration, which created a risk that participants would be "primed" to discuss particular topics in more detail or reach different conclusions than might have been the case had we concealed our interests. Priming is a common challenge when conducting behavioural research and is not unique to the present study or technique (Podsakoff et al. 2003). Whether in a quantitative survey, interview, or focus group, the simple act of posing some questions and not others inevitably guides subjects in particular directions. Regardless of whether the data collected are qualitative or quantitative, the challenge for the researcher is therefore to strike the appropriate balance between guiding subjects toward the topic being researched, while allowing them the freedom to provide truthful and reliable information of their own choosing.

We implemented a number of strategies to lessen the priming effect on discussions. First, participants were directed to answer all discussion questions by reflecting on their own migration experience and that of their immediate families, and to not speculate about the actions of others. Participants were also clearly directed—and this was critical—that the researchers were not seeking to prove or disprove a particular hypothesis about migration causality, and that it would be a perfectly acceptable and valid outcome to find that environmental factors play no meaningful role in the decision-making process. Indeed, it was emphasized by the focus group leaders that participants should not try to please the researchers by providing information they think or guess the researchers might be looking for. The focus group leaders also took steps to deliberately mix in questions unrelated to environmental factors, and encouraged discussion of other topics such as the challenges of finding employment in a new country. Participants were encouraged to reframe the open-ended questions that were used to guide each focus group meeting, and to discuss other influences or outcomes of the migration process in as much detail as they saw fit. This did indeed happen, with the groups often taking time to discuss political and economic conditions in Bangladesh, challenges in adapting to the cold

Canadian winter, the unwillingness of Canadian employers to recognize foreign credentials, and other topics related to their experiences. It is worth noting that the focus group methods used here are consistent with those used in published research studies with other immigrant communities carried out under the larger umbrella of this project and discussed above (Veronis 2014; Veronis and McLeman 2014).

Findings

Consistent with previous studies by Ghosh (2007, 2014a), a common theme throughout all focus group discussions was a theme of "thinking of the next generation," with even those participants who were unmarried and without children at the time of migration to Canada expressing such interests. In terms of possible environmental considerations underpinning their decision to migrate to Canada: 70% (31/44) of participants said that concerns about air pollution, water pollution, and/or food insecurity in Dhaka had at least some influence on their migration to Canada, most of them characterizing these as secondary or minor considerations; 30% (13/44) said that environmental considerations played no significant role in their migration decision. Overall, only 16% (7/44) said that environmental considerations were their primary motivation for migrating; for these participants, air pollution, water quality, and/or food safety had had direct impacts on the health of a family member. One quarter (11/44) said that environmental considerations were the second-most important motivating factor, and 30% (13/44) said that environmental considerations were among three or more factors that influenced their decision, but that environmental considerations were not as important as the other factors. Such findings suggest that environmental conditions in Dhaka may indeed be a relevant consideration for many professionals migrating from Dhaka to Toronto, but that the nature of the environmental influence is contingent upon other factors that vary according to household experience.

The following quotation provides an example of information given by a participant[iii] for whom air pollution was a key consideration in the migration decision:

> And among the most important reasons for me was environmental degradation. Because I have dust allergies. I was suffering from asthma [in Dhaka]. I had to take an inhaler all the time. All the time I had to keep an inhaler in my bag. Some days I had to use a nebulizer. [When] I went to different countries for study purposes or for consultancy purposes, I observed that I was not suffering from that when I was there. I was feeling better when I was there [i.e., not in Dhaka]. The first time [was when] I went to Australia in 1998. And then I went there for the second time in 2009. When I was in Manitoba [on a temporary stay], the temperature was like -50, -60 [degrees Celsius] but I was not suffering from coughing, or asthma or allergies.

In this case, the participant and spouse decided to migrate to Toronto after discussions over several years about the trade-offs between the participant's respiratory health and their careers, in the end deciding that the participant's health concerns outweighed the benefits from their highly successful professional careers in Dhaka. Although both have found employment in Toronto since immigrating, neither is currently employed at the same level as they had been in Dhaka. This participant's experience is consistent with Chao et al.'s (2015) findings regarding labour migration decisions made in areas of high pollution.

A participant in a different focus group provided this account of the decision to migrate to Toronto:

> I had an opportunity to go to Australia, too. I could pick Australia, Canada or the US. So I chose Canada for myself. [*Question: Why?*] I would say that the weather and the cleanliness, the trees, green everything. When I went back to Bangladesh, I told people I want to be an immigrant in Canada. People said to me, it would be suicidal. "There is snow. We have floods, they have snow". Actually I am not worried about that. I never saw snow in Bangladesh. It was like a gift for me. Fall [in Toronto] is like our spring time in Bangladesh, which we call "Basanta." [Then there's] the pure water [in Canada. I tell people in Dhaka that in Canada] I drink the tap water. [They say] "Oh my God, are you guys drinking from the tap?" [and I say] "Yeah it's highly purified. No problem."

This participant's contributions differed from the previously quoted participant in that the emphasis

[iii] Quotes were selected that are unlikely to reveal information about participants' identities. Quotes are verbatim; "[sic]" was not used to indicate when text is grammatically incorrect.

was on the attractiveness of the environmental amenities in Canada, compared with the previous participant who placed emphasis on the environmental disamenities of Dhaka. This likely reflects the fact that the participant quoted first was suffering from acute environmental health issues, whereas the latter participant was simply more disenchanted with Dhaka's pollution in general.

By way of contrast, the following quote is from a participant for whom environmental factors were a secondary reason for deciding to migrate:

> Higher education was the main reason [for me] to come here. I wanted to get a degree from North America. Severe air pollution in Dhaka also motivated me to think to move to a good place. In Dhaka, if you go outside you will feel you are inhaling carbon, lead. We don't want to die early. That is one of the reasons. Also water contamination. The reason we moved here are a better life here, healthy environment, food security. In Bangladesh all types of foods are contaminated, adulterated. The drainage system is also not good. If you go out after the rain you will see boats in the street. The water after the rain is so much dirty because of the poor drainage system.

In this case, the focus group leaders returned to the participant later in the discussion and asked for an explicit ranking of specific motivations. The participant reiterated that the quality of post-secondary education opportunities in Toronto was the primary reason for migrating, followed by concerns about air pollution and traffic congestion in Dhaka, and lastly, general concerns about social and economic conditions in Dhaka. Note that the environmental concerns were cited as reasons for leaving Dhaka, and not necessarily for selecting Toronto as the destination. Another example comes from the following quotation from a different participant:

> To be honest the main reason for coming here [was] economical. The second reason is environmental: food pollution, air pollution and sound pollution. Directly and indirectly my family members were affected by the pollution and suffering from diseases. Some of my family members were suffering from asthma. When we visited to the doctors, we were advised that many problems were food related or pollution related. Some of my family members died earlier [by "earlier" respondent means "prematurely" or "young"].

Here again, health concerns tied to environmental factors are described, but in this case, the participant later explained that the perceived long-term economic opportunities for the participant's children was the factor that catalyzed the decision to apply for immigration to Canada. Despite having been in Toronto for five years, this participant continues to work in a much lower-skilled job than the one left behind in Dhaka.

Finally, the following are brief quotes from four different participants who discussed environmental problems in Dhaka, but advised these were less important or unimportant considerations, when they decided to migrate to Toronto:

> Honestly, mine [my main reason] was opportunity, I got [an employment] opportunity and I took that. The second one was environment.

> [I immigrated] because of the political situation [in Dhaka]. There is no security over there. I am peace loving. I found by searching the internet that Canada is a peaceful country to migrate. So I decided to migrate for the security of my family. I was good in Bangladesh. My spouse had a high-ranking job there. I have one child. We were very good economically, financial. But the reason we came is social security.[iv]

> In terms of job security we were hundred percent secure [in Dhaka]. Financial solvency, career and jobs all were fine for us. The reason we came here is the political [situation] as some of my colleagues have mentioned here, and also for the environmental issues.

> For me it was more emotional issues. Nothing bothered me in my country. My [spouse] wanted to come.

As the above quotes suggest, a reasonably wide range of migration motivations were discussed and reflected upon by focus group participants. Although the emphasis in the present study is on environmental motivations, these need to be considered within the broader range of factors that influence migration out of Dhaka, which are discussed in further detail below.

Participants that described environmental factors as having influenced their migration decision were asked to provide additional details. The most

[iv] This quote has been partially redacted to protect the participant's identity.

common response, given by one-half of participants (22/44), was to cite the combined effects of multiple forms of pollution (air, water, and noise). Only 11% (5/44) identified a single form of pollution as affecting their decision to migrate, each one singling out air pollution specifically. This was typically mentioned in association with a description of how the participant and/or a family member were prone to respiratory illnesses while living in Dhaka, as illustrated in the preceding quotations. For 14% (6/44) of participants, concerns about food safety were described as being an influence on their migration decision, each referring to formalin adulteration of food specifically. Even those who did not cite this as being a stimulus for migration agreed that formalin adulteration of food was a worry for them when they lived in Dhaka. The following quote from a participant describes the food security situation in Dhaka quite clearly:

> Bangladesh is an overpopulated country. And we have lots of demand of foods. So we have to import from different countries like China, India, Myanmar and from different countries. So when they send those foods, they keep those foods with formalin. So these are not rotten. So when these foods come to Bangladesh, we had to take that because we do not have that much production of food to feed all the people. So we have to take those things. What is my experience? I came here [to Toronto] in 2011. From 2010 I didn't bring any fruits in my house to feed my kids. Because I know it is almost covered with formalin or carbide. Everyone knows these things. We didn't bring imported fruit [home]. We brought locally grown fruit. Like guava, which is popular there [and] some other sour fruits, berries. I brought those fruits in my house. So this is one of my concerns, food security for my kids. So what they will eat. Sometimes I find that meat we buying from the butcher, from the market, these are also filled with chemicals so they are not rotten. Like fish in the market. These are the things that really scared [me] also.

Two female participants cited the lack of green space and general overcrowding in Dhaka as reasons for migrating, making reference to the impacts on their children's overall well-being. The following quotation illustrates one of the participant's concerns:

> I came [to Toronto] for my child. I lived in a very populated area in Dhaka. Everywhere is house and house. No place for playing. No field [or] playground for children. No playground in the school as well. There are many kindergartens in the city for the children. They do not have any playground. They do not think about prime motor activities. Only studying by sitting on a chair. So I saw that my son spend his time only at home watching TV or using computer. No opportunities for physical activities. My relative is living in Canada for 10 years. So I talked to him and I heard Canada has lot of parks. Children can play. I was thinking a park in a community, how it can happen? It is very different from my country. So when I came to Canada [for a visit] and I saw, yes, children has lot of opportunities for the physical activities.

One participant stated that flood damage to his home was a factor in his migration decision. Although environmental migration literature about Bangladesh routinely cites natural hazards like floods as being important stimuli for migration, this was the only person among 44 participants to mention any sort of natural hazard event as having affected his or her migration decision. Virtually all participants in all focus groups discussed how land degradation, climate change, droughts, floods, and other natural hazards were likely stimulating much of the rural-to-urban migration that takes place within Bangladesh, and that this in turn contributes to the overcrowding in Dhaka. However, none believed that such factors are first-order causes of migration to Canada of professionals like themselves. Rather, the general feeling was that by helping drive the steady influx of migrants into Dhaka and eroding the quality of life in Dhaka, environmental hazards and land degradation act as indirect influences on migration out of the country.

Of the non-environmental reasons given for leaving Bangladesh, the most common (provided by 53%, or 23/44) related to personal safety, health, and/or security. Examples included perceptions of a growing rate of street crime, poor quality health care systems, and frequent illnesses; female participants emphasized a lack of safety for women as being an important consideration. Roughly 41% (18/44) stated they were motivated for reasons relating to education, either for themselves or their children, and most other participants agreed with them that a secondary or post-secondary education in a western country is perceived as being highly desirable among Bangladeshi professionals. Reasons related to political instability in Bangladesh were described

by 39% (17/44) of participants, typically in conjunction with safety and security reasons noted above. Only 23% (10/44) listed a belief that their economic situation would improve in Canada as one of their main motivations for migration. Although this might at first glance seem odd when discussing migration from one of the world's poorest nations to one of the world's wealthiest, the reality is that most focus group participants were already very high up the socio-economic ladder in Dhaka. Although they came from a poor country, they themselves were not poor by local standards. Most realized before embarking on the migration process that, at least in the short term, there was a very good chance they would be less affluent in Toronto relative to their position in Dhaka, although all agreed that the transition has been even harder than imagined. Four participants (9%) stated that they migrated primarily to accompany or join a family member who had already migrated as a skilled worker. (Note: the cumulative sums exceed the total number of participants because participants were invited to describe as many reasons as they wished when explaining their migration decisions.)

While all participants agreed that pollution levels in Dhaka had reached levels where residents' health is being significantly compromised, the general tone in the focus groups was that, with the exception of those families who experienced severe respiratory illnesses or whose children had suffered from sanitation-related diseases like typhoid, pollution alone would not have been sufficient to cause them to leave Dhaka. Rather, what made pollution a factor in the migration decision-making process is a general lack of hope that it will be controlled and reversed in the foreseeable future, given the corrosive political situation in Bangladesh. A very clear undertone in each of the focus groups was that the majority of participants left Dhaka reluctantly. A significant amount of time in each focus group was spent discussing the good aspects of life in Bangladesh, such as the climate, the quality of locally produced food (if one can obtain it directly and unadulterated from the producer), and, most importantly, the relatively high standard of socio-economic well-being they enjoyed in Dhaka.

The vast majority of participants—we would subjectively estimate up to 90%; we did not collect enough data for a precise measure—are currently employed in occupations below their level of education and training. Many are working in what the groups described as "survival jobs," meaning low-income jobs in the retail or service sectors. For some, this is because post-secondary credentials received in Bangladesh are not formally recognized by Canadian licensing bodies (particularly in the case of health care workers), while for others it is a case of lacking the local social networks and Canadian labour market experience needed to gain entry to higher-skilled occupations. The degree of down-skilling can be quite significant; for example, one participant who was a senior administrator in Dhaka works today in a fast food shop serving coffee, and recounted:

> [When I lived in Dhaka] I do not know how to make coffee, how to serve coffee. Because somebody served coffee to me. Somebody was there sitting for me. I just rang the bell. They come and serve the coffee. I do not know these skills. I know other skills. But [in Toronto I am] not using those skills.

Despite the general disappointment in their slow career progression in Canada, none of the participants are actively considering migrating back to Dhaka. One participant did return once to Dhaka with the intention to stay, but returned to Canada after a short time, having realized that the conditions that prompted him to leave Dhaka in the first place had not improved. This participant explained,

> I passed half of my life back in my home in Bangladesh. I considered the future of the next generation. Then I took the decision and took the challenge. It was not so easy for me to take the decision. I came here [to Toronto] in 2010. I didn't like it much. I returned to Bangladesh and [took up a new job] and then again came back [to Toronto]. But I must say, environmental issues, they were very, very crucial in making my choice of coming here the second time.

Participants explained that although life in Toronto was a financial struggle in comparison to Dhaka, when they considered the long-term future well-being of their children, there was no way they could go back to living in Dhaka. This sentiment was expressed even by participants who do not yet have children but hope to. As one participant explained,

> [In Dhaka] we had good jobs. I am engineer, my spouse a doctor. We had servants, drivers, but we had to take the decision. It was a big decision to take. In Bangladesh every time we need to think whether the

> children are safe at school. Whether they will return safely. In our office most of the times we were engaged to get information whether they are safe at school.

Said another participant,

> Everybody is coming [here to Toronto] for their kids, for their better future. The problem we are facing in Canada [is that] everybody is looking for good job in their same profession. That is the main struggling. Otherwise everything is nice. Food and other things all are nice here.

Each focus group was asked to discuss their reasons for selecting Toronto as a migration destination, instead of other alternatives. Most had not visited Canada before immigrating, but for the small number who had, positive experiences on their previous visits had been an important incentive, as seen in quotations shown above. For the others, their choice of Canada was influenced by the nature of Canada's skilled worker immigration program, which allows people to immigrate without having a sponsorship from an immediate family member, and by information received from Bangladeshi-Canadians via social networks. The choice of Toronto as a specific destination in Canada was based on a combination of: (1) the presence of a large and vibrant Bengali-speaking community; (2) its mild winters (by Canadian standards); and (3) the size of the city's labour market, seen as presenting more potential employment opportunities than other Canadian cities.

Discussion and conclusions

As discussed in the preceding literature review, the influence of environmental events and conditions—particularly cyclones, droughts, erosion, floods, and highly seasonal precipitation patterns—on migration within Bangladesh and between Bangladesh and India has been well documented. However, these types of environmental factors do not appear to have a significant influence on Bangladeshi migration to Toronto. Only one participant described such an event, a flood, as having influenced his migration decision. Because Bangladeshi migrants coming to Toronto are, for the most part, skilled and educated professionals from Dhaka, they were not exposed to the same types of environmental hazards as rural Bangladeshis or poor people living in the more hazard-prone districts around the city. Their exposure to environmental problems has instead been to high levels of air pollution, poor water quality, noise, lack of green space, and food that is adulterated with toxic chemicals to prevent it from spoiling. For some families, these urban environmental problems have had direct impacts on the health of family members, to a degree that it became a primary motivation for leaving Dhaka. For a larger number of other participants, these environmental problems become part of wider quality-of-life concerns that help them conclude their future prospects in Dhaka are less promising than they would be abroad. For still others, Dhaka's pollution and related problems are tolerable, and had no bearing on their migration decision.

As well as providing additional insights into the migration experience of Bangladeshis moving to Toronto, our study also contributes to the broader scholarship on environmental migration and suggests new potential lines of inquiry. For example, the question of thresholds was raised earlier. Whilst Dhaka experiences among the worst levels of air pollution of any city, it would appear the absolute level is less relevant than the specific impacts at the household level. For people who experience acute respiratory illness, pollution in and of itself may be sufficient reason to leave Dhaka; for other households, air pollution may be seen as little more than a nuisance. More extensive research into the connections between environmental health in Dhaka (or indeed, other cities experiencing similar environmental problems) and international migration to Canada and other destinations seems warranted. A worthwhile future exploration might be made by health geographers, of the incidence rates of respiratory illnesses among Bangladeshi migrants to Canada before and after migration. This would enable the investigation of whether differences exist and, if so, the possible connections of these differences to migration decision making, settlement needs, and other relevant aspects of the migration experience.

Also meriting further exploration is the role of the perception of environmental problems by current residents of Dhaka and their views of the environmental quality of life offered by destinations like Canada, and how these considerations enter into the migration decision making process. These linkages could only be looked at retrospectively in our study,

with participants reflecting on their past experiences. It is possible that, having experienced comparatively good environmental conditions in Toronto for some time, the contrast with Dhaka may have become magnified, and so the importance of environmental problems as an initial motivational factor may seem greater in hindsight. It would be very interesting to conduct research in Dhaka with people who are thinking about migrating abroad, fit similar socio-economic profiles as those who migrate to Canada under the skilled worker program, but have yet to finalize their decision. It is clear that those who migrate to Canada do so in considerable part because they have considered their children's future and decided it would be better served in Canada. Our exploratory study showed that environmental considerations are relevant, but only further research will show more precisely how strong the effect is.

Our study reinforces the conclusions made in other research surveyed by Obokata et al. (2014), and shown in Figure 1, that the role of environmental factors on international migration is highly context-specific, and when we discuss "context," we must think of it in terms of the international, the household, and scales in between—namely, the macro, meso, and micro levels in Figure 1 (Foresight 2011). In this regard, comparative studies of Bangladeshi migrants to New York, London, and Toronto would be very useful in terms of shedding more light on the role of context. Given that Bangladeshi migrants to New York and Toronto share similar socio-economic characteristics, this would be a particularly good starting point for a comparative study.

For the majority of our study participants, migration decisions were based on a number of economic, family, and quality-of-life considerations directly relevant to their own household (i.e., micro-level considerations in Figure 1), combined with concerns about current and future socio-economic stability, political insecurity, and environmental trends in Dhaka (i.e., macro-level processes in Figure 1). While our findings are, therefore, generally consistent with the processes described in Figure 1, there is room for further exploration of how the interactions unfold. For example, if future outlooks for Dhaka were to improve, would we observe return migration from Toronto? Despite the fact that many of our study participants find themselves working in "survival jobs" and are frustrated by the lack of recognition of their qualifications by Canadian employers—a phenomenon experienced by other immigrant groups in Canada (Bauder 2003)—they do not return to live in Dhaka. The one study participant who did soon migrated back to Canada a second time, citing concerns about pollution. This suggests a connection between Stark's "new economics of labour migration" theory (Stark and Bloom 1985) and Chao et al.'s (2015) findings that, in severely degrading urban environments, income maximization is no longer the primary driver of labour migration for households above a given income threshold. On this basis, we may assume that future levels of interest in migration to Canada from Bangladeshi professionals and skilled workers will have a positive association with the direction of future trends in environmental quality in Dhaka.

Overall, this study is consistent with others that suggest that, in the context of international migration to Canada, the influence of environmental factors is far more subtle than is suggested by the "environmental refugee" paradigm, which sees migration as an involuntary response to environmental disasters. Even in a country such as Bangladesh, in which there are clearly documented incidents of environmental migration and displacement, migration to Canada appears to be unconnected. Canada's immigration programs simply do not facilitate the movement of the types of people who are most commonly exposed to severe environmental risks in Bangladesh. Our project has made similar findings for other countries. As growing numbers of vulnerable people in less fortunate countries experience the impacts of climate change, biodiversity loss, land degradation, and other environmental challenges, the international community will increasingly want to know what Canada's response will be. At present, Canada does not appear to be a safe refuge from global environmental change. Canadians may wish to reflect on this.

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