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# An urbanization bomb? Population growth and social disorder in cities

Halvard Buhaug [a,b,1,*], Henrik Urdal [a,2]

[a] Peace Research Institute Oslo (PRIO), PO Box 9229 Grønland, NO-0134 Oslo, Norway
[b] Department of Sociology and Political Science, Norwegian University of Science and Technology (NTNU), NO-7491 Trondheim, Norway

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ABSTRACT

For the first time in history, the majority of the world population now lives in cities. Global urbanization will continue at high speed; the world's urban population is projected to increase by more than 3 billion people between 2010 and 2050. Some of this increase will be the result of high urban fertility rates and reclassification of rural land into urban areas, but a significant portion of future urbanization will be caused by rural-to-urban migration. This migration is expected to be particularly prevalent in countries and regions most affected by the changing climate. While urban populations generally enjoy a higher quality of life, many cities in the developing world have large slums with populations that are largely excluded from access to resources, jobs, and public services. In the environmental security literature, great rural resource scarcity, causing rural to urban migration, is seen as an important source of violent conflict. This study investigates how population growth affects patterns of public unrest in urban centers within the context of crucial intervening factors like democracy, poverty, economic shocks. It utilizes a newly collected event dataset of urban social disturbance covering 55 major cities in Asia and Sub-Saharan Africa since 1960. The empirical analysis provides little support for the notion that high and increasing urban population pressure leads to a higher risk or frequency of social disorder. Instead, we find that urban disorder is primarily associated with a lack of consistent political institutions, economic shocks, and ongoing civil conflict.



> And the cities keep growing. I got a general sense of the future while driving from the airport to downtown Conakry, the capital of Guinea. The forty-five-minute journey in heavy traffic was through one never-ending shantytown: a nightmarish Dickensian spectacle to which Dickens himself would never have given credence. The corrugated metal shacks and scabrous walls were coated with black slime. Stores were built out of rusted shipping containers, junked cars, and jumbles of wire mesh. The streets were one long puddle of floating garbage. Mosquitoes and flies were everywhere. Children, many of whom had protruding bellies, seemed as numerous as ants. When the tide went out, dead rats and the skeletons of cars were exposed on the mucky beach. In twenty-eight years Guinea's population will double if growth goes on at current rates. Hardwood logging continues at a madcap speed, and people flee the Guinean countryside for Conakry. It seemed to me that here, as elsewhere in Africa and the Third World, man is challenging nature far beyond its limits, and nature is now beginning to take its revenge. Robert Kaplan (1994, p. 2).

## 1. Introduction

For the first time in history, the majority of the world population now lives in cities. By 2050, current projections indicate that two in every three persons will live in urban areas and that all population growth during this period, around 3 billion people, will be absorbed by cities (UN, 2010). Most of this growth will take place in Sub-Saharan Africa and Asia. Considering the impending consequences of global warming, such as sea-level rise and more extreme weather patterns, even these far-reaching projections may turn out to be too conservative. Rapid growth of city populations puts significant demands on the societies' ability to provide public services like adequate housing, electricity, water supply, health care, education, and jobs. Widespread shanty towns around major cities in the developing world epitomize the challenges of accommodating a growing population. According to a recent survey, many governments of developing countries now explicitly discourage strong urban population growth; 77 percent

* Corresponding author. Tel.: +47 2254 7763; fax: +47 2254 7701.
*E-mail addresses:* halvard@prio.no (H. Buhaug), henriku@prio.no (H. Urdal).

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[2] Tel.: +47 2254 7720; fax: +47 2254 7701.

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of African and 66 percent of Asian countries have implemented policies to reduce migrant flows to large cities (UN, 2010, p. 13). However, while trying to slow urban growth may be politically desirable, it rarely works (UNFPA, 2007, p. 13).

Urbanization, or the increase in the urban share of the total population, is determined by three phenomena: natural growth, rural–urban migration, and reclassification of areas from rural to urban. Urban population growth holds a central place in the environmental security literature. There are at least two aspects to this. To some extent, rural-to-urban migration is seen as a consequence of high and increasing population pressure in the countryside, leading to rural scarcity of renewable resources like cropland, forests, and freshwater (Homer-Dixon, 1999). Various forms of environmental degradation, including desertification, prolonged droughts, and soil salinization, are other factors that might deteriorate agricultural livelihoods and push people to the cities. Climate change may accentuate such developments (e.g. Grimm et al., 2008; Lobell et al., 2011; UK Government Office for Science, 2011). On the other hand, high urban population growth may cause serious environmental problems in cities: water scarcity and contamination, land shortage, and insufficient sanitation. Although opportunities for employment are usually better in urban areas, the labor market may struggle to absorb fast-growing populations. The higher perceptible inequality in income and privileges among city dwellers is another latent source of urban frustration. Grassroots demands for democratic and economic reforms and a gradual fading of the rural experience are potential contributing risk factors. Strong urban population growth is not necessarily a significant threat to peace and stability; yet, earlier work suggests that strong urban population growth within the context of economic stagnation, little job creation, and poor governance can result in increased risks of violence and political turmoil (e.g. Goldstone, 1991; Gizewski and Homer-Dixon, 1995).

This study explores the empirical impact of high population growth on political violence in cities. In so doing, the article not only contributes to the prevalent environmental security literature, it also responds to calls for more systematic research on societal and security dimensions of climate change, which are severely under-researched and where the discourse so far is shaped by bold conjectures and incompatible scientific findings (Buhaug, 2010a; Salehyan, 2008). A key contribution of this article is a carefully designed quantitative analysis that places focus squarely on cities and their unique demographic features, as opposed to relying on overly aggregated country data. This is possible thanks to a new events dataset of urban social disorder in major Asian and African cities for the 1960–2006 period. The article's approach differs fundamentally from previous historical case studies as well as quantitative country-level studies, which in most cases are limited to studying major armed conflict with direct state involvement.

The article is organized as follows: In Section 2, we discuss recent trends in population growth and urbanization and develop an argument for how and under which conditions rapid city population growth might lead to increased levels of political unrest. We then present the data and estimation techniques (Section 3) before outlining and discussing the findings from the empirical analysis (Section 4). Section 5 concludes the article with a consideration of future research priorities.

## 2. Urbanization, urban population pressure, and political violence

### 2.1. Trends and projections in global urban population

The world presently hosts around 7 billion people and the number is rising. In 2010, the global population increased by an estimated 77.5 million. Although the global population growth rate has halved since it peaked in the early 1960s, in absolute terms the absolute population growth today is not much smaller that the peak of the late 1980s (about 87 million per year) according to the US Census Bureau. Strong population growth coupled with concern for the sustainability of renewable natural resources has set the stage for Malthusian doomsday predictions (e.g. Ehrlich, 1968; Kaplan, 1994) and also continued to dominate the environmental security discourse today. Yet, issues of composition and distribution of major demographic trends have received far less attention in the security discourse (notable exceptions are Goldstone, 1991, 2010; Cincotta et al., 2003). One demographic 'megatrend' that will have major social, economic and political impact is urbanization (Goldstone, 2010). According to UN statistics, the global share of the urban population increased more than fourfold during the 20th century, and while overall population growth is slowing down, urbanization remains a persistent force (UN, 2010).

Urban population growth has three complementary drivers: reproduction rate, migration, and reclassification of rural land. While natural increase due to a high birth-to-death ratio is an important factor contributing to urban population growth, rural–urban migration is the most important contributor to urban growth in many developing countries, where the concentration of investment and employment opportunities are important pull factors (UN, 2010). Kahl (2006) estimates that in developing countries, rural–urban migration currently accounts for 40–60 percent of annual city growth. As fertility is continuing to decline, migration will become a relatively more important cause of urban growth in the future.

Urban population growth is historically linked to development (UN-HABITAT, 2010) and some of the most rapidly urbanizing developing countries over the last fifty years, such as Botswana and the United Arab Emirates, have also experienced high economic growth rates. However, rapid urban population growth has also more recently taken place in much less affluent contexts, and particularly in Sub-Saharan Africa, high urbanization rates seem primarily to be driven by high population growth rates than by economic growth (e.g. Cincotta et al., 2003, p. 55). In both more and less developed contexts, market access and cost of communication and infrastructure imply that job opportunities become disproportionally located in cities. Urban centers also tend to offer better health care and other social services, while personal insecurity, poverty, and environmental degradation may force people to flee the countryside. With global warming and associated processes, such as sea-level rise, more extreme weather, and deterioration of agricultural productivity in vulnerable regions, the rates of migration and urbanization might increase further (Black et al., 2008; Piguet et al., 2011). Picking up on this possibility, a report by Christian Aid (2007, p. 1) warns of a "human tide" and considers migration "the most urgent threat facing poor people in developing countries." Other studies are much more cautious in their wording (e.g. Piguet et al., 2011; Raleigh and Jordan, 2010). The multi-causal nature of human migration implies that any attempt to quantify the mass of future 'environment-induced' urban population growth will be fraught with uncertainty (UK Government Office for Science, 2011). Regardless of the importance of environmental push factors relative to economic and other motives, however, the crucial reality remains; all global population growth within the next few decades will be absorbed by cities.

### 2.2. Population pressure, unrest, and political violence

Proper management of urban population growth and changing population structures is key to preserving human security. Rapid population growth can seriously constrain local governments' ability to provide basic services, including employment, housing, electricity, water, sanitation, enforcement of law and order, and