

## URBANIZATION

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### Summary

This chapter explores the phenomenon of urbanization and its relationship to sustainable development. The evolution of urban centers in the North and South is reviewed. The concept of sustainable development is discussed, and its application to urbanization is considered. Factors that could facilitate, or obstruct, sustainable urbanization are identified. The article concludes with reflections on the nature of sustainable urban centers.

### 1. Introduction

Urbanization presents one of the greatest challenges to sustainability. In the year 1800, just 5% of the world's population lived in urban centers. By 1900, the proportion had risen to approximately 15%. By 2000, approximately 50% of the world's population lives in urban settlements of some kind. These settlements are part of an urban hierarchy that comprises villages and hamlets in rural areas, cities of various sizes, and metropolitan regions of global importance. For the purpose of this article, these places are called *urban centers*.

The process of economic and population growth concentrated in urban centers is called *urbanization*. Urbanization occurs when new urban centers are created, usually in formerly rural areas, and when established urban centers grow in size and importance. Urban centers evolve. Changes in economics, demography, and politics are important determinants of the location, amount and pace of urbanization. The type of urbanization varies from region to region and among nations in the South (developing nations) and the North (developed nations). Urbanization is linked to high population growth rates. The fastest rate of urbanization is occurring in Asia, the slowest in Europe.

Despite the plethora of material published on sustainable development, for the most part, urbanization does not follow the principles of sustainable development. Urbanization is commonly characterized by sprawling, low-density development; over-use of non-renewable natural resources; social inequities, including poverty and economic hardship; and pollution of air, water and soil. The effects are experienced in urban centers themselves, as well as in adjacent regions and often globally. However, there are recent efforts by urban centers, especially in the North, to adopt more sustainable approaches to development. Sustainable urbanization comprises forms of development that are high density, make optimal use of existing services and facilities, minimize pollution, and enhance the integrity of the ecosystem.

The concept of sustainable development emerged in 1987 with the publication of “Our Common Future” by the World Commission on Environment and Development (the Brundtland Commission). This document articulated essential principles which would lead to a better balance between environment and development. The focus of sustainable development is on the long-term consequences of current actions on three key elements: the natural environment, the social environment, and the economy. Sustainable development seeks to minimize the negative effects of development while maximizing quality of life and environmental integrity. Decisions made and actions taken in any of these three elements of the sustainable development triangle affect the others. This philosophy of development is captured by the phrase “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

This article examines the phenomenon of urbanization, and explores ways in which new, as well as existing urban centers, can become more sustainable. The experience with urbanization in the North (developed nations) and in the South (developing nations) is compared and contrasted. The article concludes with a vision of sustainable urbanization.

## **2. Urban Centers and Urbanization**

Urban centers play many roles. They are primary locations for commerce and industry, politics, education and culture. They are the national and international foci for innovation, research and development. Urban centers exist in a hierarchy. Depending on their size and position in the hierarchy of urban centers, their influence can be relatively limited or it can extend beyond the host region to the national and international level.

Size is a relative concept when considering urban centers. For example, a city in Canada might be considered a town in Asia. In general, small urban centers provide services to

adjacent regions. For example, towns and villages have historically supported regional economies based on agriculture or natural resource exploitation. Mid-sized centers provide a broader range of more sophisticated services such as finance, culture and recreation, and health services. Large urban centers can be part of a national and international network of cities and city-regions. These are centers of regional, national and international commerce. These places offer the most sophisticated (or higher order) goods and services.

Typically, urban centers become larger because of economic growth and related factors, such as political stability. Simply put, growth attracts more growth. However, urban centers can also experience decline. This has been the case in Europe and North America, where manufacturing centers or resource communities lost their traditional dominant position as national and regional economies shifted from traditional manufacturing activities to a knowledge and services based economy. This pattern has been complicated by significant political upheavals in the South and parts of the North (e.g. the demise of former Communist Bloc nations).

The economic activity that occurs in urban centers attracts investment and people, drawn by the prospects of growth and a bright future. Compared with many rural regions, and smaller urban centers, larger urban centers offer greater choice in lifestyle and employment. Urban centers can be exciting and stimulating places, full of variety. They generally provide (or hold out the promise of) a better quality of life for their residents. Services in urban centers such as health care and education, recreational and cultural amenities, and infrastructure, are typically superior to those available in rural areas or small places where they are comparatively limited or non-existent.

### **3. Urbanization – North and South**

In 1995, the world's total population was estimated at 5.7 billion. This represents an annual growth rate of 1.7% per annum between 1975 and 1990, a rate that decreased to approximately 1.5% annually in the 1990s. In part, this decrease is explained by fertility rates that have declined in most nations, although the pace of change differs greatly by region. The exception is Africa, where high fertility rates continue.

The urban hierarchy has changed considerably over the past half-century (i.e. since the early 1950s) with the emergence of a new category of urban center, the “world city” with populations the size of many nations. The average population of the world's 100 largest cities was over 5 million inhabitants by 1990, compared with 2.1 million in 1950 and less than 200,000 in 1800. There are also hundreds of millions of ‘rural-dwellers’ who live in settlements surrounding large urban centers. While about 40% of the world's population lives in cities, the share varies widely between world regions. North and South urban settlement patterns are similar, and yet very different. Urbanization in the South and North is primarily the result of demographic forces, such as migration and high fertility rates. In addition to demography, growth in Northern urban centers is caused by more intense economic development.

In many cases, the rate of population growth in urban centers has exceeded that of the nation as a whole. An estimated 80% of world population increase between 1990 and

2000 occurred in urban centers. There have been considerable population increases in a few very large cities, and in urban centers with a population of one million or more (“millionaire cities”). The very large world cities receive considerable attention. However, a significant proportion of the world’s urban population continues to live in small and medium urban centers. For example, the majority of the urban population in the South is located in mid-sized cities with a population of less than one million.

Typically, urbanization is caused by two phenomena related to population: natural increases, and migration to urban centers from rural areas. More recently, urban centers in many nations of the South and North have attracted large numbers of immigrants. Indeed, the total urban population in nations of the South is larger than the total population of Europe, North America and Japan combined. The migration flows can be two-way. In a process called “counter-urbanization”, more people are moving out of the city proper to exurban or rural areas in recent years. Another significant trend is that of urban to urban migration.

Asia accounts for three-fifths of the world’s population and almost three-quarters of its rural population. Despite being predominantly rural, Asia has more than two-fifths of the world’s urban population and more than two-fifths of the world’s population in cities with one million or more inhabitants. While Asia is still largely rural, it has almost half of the world’s “millionaire” cities and continues to urbanize at a rate in excess of three percent annually.

The variety and complexity of politics, economies and cultures make it difficult to generalize about urbanization trends in Asia. However, it is possible to identify two patterns of urbanization that explain different roles for Asian cities. Those urban centers with economies closely linked with the global economy, such as Hong Kong, tend to grow rapidly. Cities associated with political and economic functions of the nation-state such as Delhi, experience slower rates of growth.

Africa is still the least urbanized region. However, about a third of its population is urbanized. Its rapid rate of urbanization (between three to five percent annually), combined with the least capacity and resources of all regions to manage growth, has created inevitable social, economic and environmental crises. Latin America, with an annual rate of urbanization of nearly three percent, is the most urbanized region in the South. Approximately three quarters of its population already lives in urban centers, most of them long-established.

Urban centers in Northern, Southern and Western Europe have traditionally had the slowest population growth rates of any of the world’s regions. They have experienced a steady decline in annual average growth rate since World War Two. In much of Europe, inter-urban and inter-regional migration exerts a greater influence on urbanization than does natural population increase. In fact, the fertility rate in much of Europe is well below replacement level. “Push” factors such as civil war, political and economic turbulence, and “pull” factors such as buoyant regional economies explain this phenomenon of migration.

Latin America has experienced slower population growth, smaller increases in levels of

urbanization, and much slower rates of growth in many of the largest cities of the region since 1980. In Latin America, the larger the urban center, the lower the fertility rate. This is a function of improved and accessible health services including family planning, and generally high education levels. Large cities in Latin America tend to have a lower proportion of children and a higher proportion of persons of working age than the national population. It is interesting to note that more women than men migrate to urban centers, whereas men move to resource regions in search of work. Here, as in other world regions, migration tends to be more urban to urban rather than rural to urban.

In North America, both the United States and Canada have experienced low to moderate increases in population over the past two decades. Instead of natural population increases, the redistribution of population in both nations is the most important contributor to urbanization. This process is driven by internal migration and by immigration.

People in Canada and the United States move often. They shift in response to improved economic opportunities and general lifestyle preferences. Therefore, urban centers in the Southern and Western United States, and in Alberta and British Columbia in Western Canada, have experienced considerable growth because they offer a benevolent climate, affordable cost of living, plentiful employment opportunities, and a good quality of life. In contrast, many older industrial communities in Eastern and Northern United States that have not been able to provide the conditions necessary to improve their quality of life have declined in economic importance and population.

#### **4. Macro Trends, Urban Impacts**

The manner in which urban centers become more sustainable is determined by changes in four essential variables: economics, demography, technology, and political/institutional capacity. The quality of life in an urban center, and the integrity of the natural environment, are also affected by the same variables.

##### **4.1 Economic Change**

Historically, urbanization has been influenced by shifts in regional economies from a traditional base in agricultural and resource exploitation, to manufacturing and services-based economies. This was the pattern in the 20<sup>th</sup> century in all parts of the world, in the North and South; this trend continues today. Recent changes in the global economy have affected the economies and roles of urban regions. These changes include economic restructuring, the emergence of free trade, and less market protectionism.

The results of these changes are varied. Successful urban centers are poised to take advantage of new markets and economic opportunities. Urban centers with a diversified economy and a significant foundation in advanced technologies, knowledge-based industries, and high-level services fall in this category. However, urban centers without the necessary social capital (human resources) or financial capital are less competitive and face the loss of comparative advantage in economic development. These places become less attractive to private sector investors. As investment declines, fewer jobs are created, fewer buildings are built, fewer taxes are collected, and the economic stability

of an urban center is diminished. This is a cycle that is very difficult to reverse once underway.

Debt management is a major issue. Many urban centers in both North and South must contend with crippling debt levels, the result of declining self-generated resources, reduced or non-existent financial transfers from senior governments, and the rising costs of providing services and infrastructure.

This is especially true of older industrial urban centers that need to address obsolete infrastructure, a poorly educated workforce, and a poor quality of urban life. Within urban centers, inner cities often struggle (usually unsuccessfully) with suburban communities for regional political and economic power.

Typically, senior governments lack the fiscal resources, the mandate and/or the political will to intervene in urban matters.

Planned investments in expanding city infrastructure and services are often among the first expenses to be reduced during an economic recession. Public services in many urban centers can be reduced or cancelled because of severely constrained financial resources. It can also be difficult to secure alternative, non-public sources of funding for major urban infrastructure because projects such as highways, water and sewage treatment systems are long-term investments with a commensurate long-term amortization period. This has limited appeal to private sector investors.

#### **4.2 Demographic Change**

Demography is the study of characteristics of populations in a geographic area – for example, a city, region or nation. Variables such as age, sex, level of education, race, religion and language are monitored. Trends in these variables can be determined through the collection and analysis of census data. The findings help urban planners and governments identify issues that need to be addressed through appropriate programs, policies and projects.

Demographers understand that people of different ages and life stages have different needs. Many urban centers in Northern nations must prepare for an aging population. In the South, higher birth rates and a younger population on average than in Northern urban centers fuel rapid population growth. Both trends have implications for the kinds of housing, amenities, health care and education that are needed.

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### **Biographical Sketch**

**Mark Seasons** is an Assistant Professor with the School of Planning, University of Waterloo. He joined the University in 1998 following twenty years of professional planning experience in Alberta, Ontario and New Zealand. Mark holds the degrees of Master of Environmental Design in Planning from the University of Calgary, and a PhD in Regional Planning and Resource Development from the University of Waterloo. He was President of the Canadian Institute of Planners (2000-2001), and he is a member of the Ontario Professional Planners Institute, the Canadian Evaluation Society, and the Canadian Regional Science Association.