Migration: a cause for urban growth

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Representatives from 132 nations assembled in Vancouver in June of 1976 to convene HABITAT, the United Nations Conference on Human Settlements. The Conference was a global inquiry into solutions of the critical and urgent problems of human settlements created by the convergence of two historic events: unprecedentedly high rates of population growth and massive rural to urban migration.

Migration - the key issue

Migration and its influence on human settlement patterns has received wider attention recently as annual rates of urban population increase have grown to twice those of total population growth. Scholars have recognized the increasing necessity of studying the changing patterns of location of people and the impact of their geographical distribution on society.

Such a spatial approach to demography is being analyzed by IIAAS's Human Settlements and Services Area. Research in the Migration and Settlement Task combines the spatial dimension of population growth with its time dimension. It is not enough to know how many people will need food, energy, education, health care, and employment. Societies must also know where these will be needed in order to be able to plan for them. India, for example, currently has 80% of its people living in rural areas. Studies at IIAAS indicate that India's principal urban areas will soon increase greatly in size as a consequence of rural to urban migration. It is likely that by the time zero population growth is achieved in India, at least 60% of its population will be concentrated in cities. Such a drastic redistribution of the population will obviously affect the entire social and economic fabric of the nation.

Many questions need to be asked by planners in order to enlarge their understanding of who migrates, why, and with what consequences. The different orientations of scholars in various sciences have resulted in a great diversity of migration studies, which have not yet been fused into an interdisciplinary approach. Demographers have typically looked upon migration as a component of net population change; economists have examined it as a mechanism enabling an individual to adjust to new socioeconomic opportunities; geographers have been primarily interested in the description and explanation of spatial patterns of mobility; and sociologists have focused on the motivation of an individual to move, the relation between migration and the social structure, and the assimilation of migrants in new communities.

Four research topics

Out of the growing literature on migration, IIAAS has identified four related research subtasks that are of particular relevance for spatial demography and that bring together the diverse scientific approaches to the study of human settlements.

- Dynamics - The evolution of every spatial human population is governed by the interactions of births, deaths, and migration. These events and flows enter into an accounting relationship in which the growth of a regional population is determined by the combined effects of natural increase (births minus deaths) and net migration (immigrants minus out-migrants). The dynamics subtask has focused its research on such relationships, concerning itself with the advancing of the current state of the art in spatial mathematical demography, model schedules and populations, sensitivity analysis, spatial zero population growth,

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Spatial demography and its uses

Spatial demography is concerned with the analysis of multiregional population systems, primarily with respect to their size, age, and regional composition, and the changes of these over space and time. This perspective allows one to study the demographic interactions between the urban agglomerations that shape national human settlement-patterns. Its focus on the migration between regions and on regional differences in fertility, mortality, and age composition is of particular importance for forecasting local and multiregional populations.

Multiregional population systems may be composed of two regions (for instance: urban and rural), many regions (such as states or provinces), or a single region. This means that conventional mathematical demography, which does not consider internal migration, is in fact a special case of multiregional mathematical demography. Since 1975, when this research activity began at IIASA, considerable progress has been made in developing a consistent methodology, and the scope of the field has been broadened. Particular progress has been made in measurement of migration, in multiregional life table construction, in stable (steady-state) population analysis, in techniques for evaluating the short-, medium-, and long-term demographic impacts of changes in vital rates, and in reducing the size and complexity of large-scale population projection models.

This new field has attracted wide interest from scientists and planners in many countries, and IIASA-stimulated studies on internal migration are under way in a number of NMO countries. In addition, new projects applying this methodology are being established by national scholars in several NMOs.

But the methods of multiregional demography are of practical use in much more than multiregional population forecasting. The methods may be applied to describe and project a population by marital status and to study health care demands, and they also have important uses in manpower and educational planning. In collaboration with other groups at IIASA, the Human Settlements and Services Area is exploring new applications.

Comparing migration and settlement

In December 1975, a workshop was held at Laxenburg to bring together scientists from East and West with a common interest in the study of internal migration and spatial population growth. As a result of this meeting it was decided to carry out a comparative study with the aim of contributing to our understanding of the relationships between geographical mobility, urbanization, and national development by assembling, summarizing, and analyzing data on migration and spatial population growth in a number of developed and developing countries. The emphasis of this study is therefore on empirical research. By using new demographic methods recently developed by IIASA scholars, the Institute and its collaborating institutions have already achieved a number of important results.

First, a number of computer programs have been published which allow the computation of multiregional life tables, projections of multiregional populations into the future, fertility and migration analyses of both stationary and stable populations, and evaluation of the demographic impact of alternative paths to zero population growth.

Second, IIASA has initiated, as part of the comparative study, a methodological investigation of ways to estimate missing data, since frequently parts of the considerable amounts of data required for the analyses are not available. This investigation comprises both a critical review of existing methodology and the development of new methods. The results will be of particular importance for developing countries and various units of the United Nations, such as its Population Division.

Migration and the future

Scholars and policymakers often disagree on the desirability of current rates of rapid urbanization and massive rural-to-urban migration in the less developed world. Some see these trends as effectively speeding up national processes of socioeconomic development, whereas others believe their consequences to be largely undesirable and argue that both trends should be slowed down.

Because demographers in the past have accorded migration a status second to fertility and mortality, analytical studies of the spatial dimension of population growth have not provided policymakers with an adequate understanding of the determinants and consequences of spatial population growth. The Migration and Settlement Task therefore is striving to carry out policy-relevant studies of the geographical dimensions of present and future populations in order to develop better analytical tools for assessing the probable consequences of alternative population and economic policies.