BRITANNICA GLOBAL GEOGRAPHY SYSTEM

Overview

BGGS Overview

BGGS is the ***Britannica Global Geography System,*** a modular electronic learning system which combines the latest pedagogical approach to geography learning with interactive multi-media materials enabling students and teachers to immerse themselves in exciting geographic investigations. BGGS is made up of the following components:

- *Geographic Inquiry into Global Issues* (GIGI) Student DataBooks
- Teacher's Guides with Overhead Transparencies in a three-ring binder
- Laminated Mini-Atlases to accompany each module
- BGGS CD-ROM with User's Manual
- 3 BGGS Videodiscs with Barcode Guides
- 3 thematic posters

This section of your Teacher's Guide will examine each component and demonstrate how the components work together to facilitate some very exciting geography learning for you and your students!

I. GIGI

Geographic Inquiry into Global Issues (GIGI) is the foundation of the BGGS. GIGI is a series of modules developed at the Center for Geographic Education at the University of Colorado at Boulder. The modules are independent of one another and can be presented in any order.

They use an inquiry approach and are organized around ten world regions:

South Asia
Southeast Asia
Japan
Former Soviet Union
East Asia
Australia/New Zealand/Pacific
North Africa/Southwest Asia
Africa-South of the Sahara
Latin America
Europe

Each GIGI module is centered around a particular question, such as "Why are people in the world hungry?" and "Is freedom of movement a basic human right?" The lead question is explored in one region of the world, then, in most modules, in a second region, before being investigated in North America.

The modules can be used in geography classes, or selected modules can be used in other courses, such as Earth Science, Global Studies, or Economics. Twelve modules constitute ample material for a full year's geography course. Each module is accompanied by sets of laminated mini-atlases which students can write on with dry-erase markers (provided by the teacher), then wipe clean to be re-used by the next class. This activity works well with cooperative groups of students.

Each module comprises a Teacher's Guide in a three-ring binder which includes Handouts and Activity masters for duplication and Overhead Transparencies; twenty-five Student DataBooks (additional Student DataBooks available) and the Mini-Atlases all packaged in a sturdy box suitable for storage when the class moves on to the next module. Since the Student DataBooks are soft-covered three-hole punched, non-consumable books, we recommend that each student have a binder to protect them. BGGS binders are available from Britannica, or you might ask each student to obtain one at the beginning of the course to keep the books in good condition for the next group of students that will use them. As the class completes a module, you can collect the Student DataBooks, place them in their storage box, and distribute the next module's DataBook to be placed in the student's binder.

GIGI print materials are organized in a unique fashion. The Teacher's Guide explains procedures to use in presenting the material found in the GIGI Student DataBook. Miniature layouts of student pages show the teacher how many pages of student material correspond with a given Teacher's Guide page. The Teacher's Guide includes Activities and Handouts to be copied and passed out to the class and Overhead Transparencies to enhance each lesson. All of a module's Activities, Handouts, and Overheads are located behind the third tab divider in each Teacher's Guide.

The teacher needs to become familiar in advance with both Teacher and Student material in order to effectively engage the class in meaningful geographic inquiries. There is a comprehensive "Memo to the Teacher from the GIGI Staff" in each Teacher's Guide which explains in detail the goals and principles behind the inquiry approach to geography learning.

The electronic components of the ***Britannica Global Geography System*** further empower students and teachers alike to engage in meaningful investigations. They are explained in detail in the following section.

II. BGGS CD-ROM

The **BGGS CD-ROM** is a resource manager and reference tool designed to help both teachers and students get maximum impact from the ***Britannica Global Geography System.*** This CD-ROM contains the text of the GIGI Student DataBooks in both Spanish and English, as well as Britannica's innovative geography reference program Geopedia™ all on a single disk. Here are some of the ways you and your class can use this software:

- When preparing to teach a module, you can access the GIGI Student DataBook on the CD to find which other elements of the BGGS are keyed to that lesson. For example, if you are teaching Lesson 3 in the Population and Resources module (What is overpopulation and how is it distributed?), accessing that lesson on the CD-ROM will reveal that there is one clip on the *Economic Development* videodisc called "Population/Wealth Correlation." With this information, you can plan when to reserve your department's videodisc player to preview the clip and show it to your class.

Furthermore, you will discover that there is one GIGI mini-atlas activity related to this lesson, five articles in the Geopedia database, ten entries in

Geopedia's World Data, five maps in the Geopedia Atlas, and five learning activities in the Geopedia BrainTeasers. You may want to assign each student or small group of students a research project using these extra resources to be done over the course of the module, or you can create a set of questions which the students must complete using the information found in Geopedia.

These activities can serve as a performance-based assessment of what students have learned in studying each module.

Since many schools have a limited number of computers with CD-ROM drives available, you may wish to devise a rotating schedule or sign-up system to ensure that each student has a chance to get at the BGGS CD-ROM. If it takes 15 class periods for a class of twenty-five students to do one module, students working in pairs can each have one turn at the computer if they schedule their time at the outset of the module. Using the CD-ROM's resource managing capability, you will have a very good sense of what resources you have at your disposal and how to make the most of them.

- All GIGI lessons are indexed by word and by key topic. If your class is studying food shortages in the Hunger module, you can key in the word hunger, and immediately learn where else in the GIGI modules this word or key topic appears. You can go directly to those occurrences in the text. You will also be directed to appropriate Geopedia references and Brain Teaser activities. Figures, Maps and Tables from GIGI print modules do not appear in the CD-ROM. However, the caption describing each of them is part of the online text.
- If Spanish is the primary language of your students, GIGI lessons can be accessed and printed out in Spanish from the BGGS CD-ROM. The BGGS Videodiscs have a Spanish soundtrack as well.

III. BGGS Videodiscs

More than ever before, today's students are visual learners. The GIGI modules explore issues and regions of the world with which many students are unfamiliar. With this in mind, we have produced three videodiscs, one to correspond to each of three major strands we have identified in GIGI: *Earth's Environment and Society; Economic Development;* and *Global Political and Cultural Change.*

These videodiscs, with English and Spanish soundtracks, can take you and your class to the parts of the world you are investigating with the wave of a barcode wand. Your class will hear how Amazon native peoples feel about the exploitation of the tropical rain forests where they live, witness the eruption of a volcano, and see first-hand the environmental disasters human beings have brought about.

The Barcode Guide which accompanies each disc enables you to access with a light pen or barcode reader, segments which pertain to the lesson being investigated. The Guide includes barcodes in both English and Spanish. Teachers can use the segments to enrich lessons, and students can make use of segments to enhance a report or group presentation.

There is a full-color poster to accompany each videodisc cluster which engages the students by asking "How do these images connect to you?" The posters can provide a colorful springboard for classroom discussion.

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BRITANNICA GLOBAL GEOGRAPHY SYSTEM

GIGI

Geographic Inquiry into Global Issues

Urban Growth

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TEACHER'S GUIDE

Regional Case Study
Latin America

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Memo to the Teacher from the GIGI Staff

You have in your hands the GIGI Teacher's Guide. Teaching with GIGI is a departure from teaching with a conventional textbook. By taking the time to study this memo—about 30 minutes—you will gain a good understanding of the kind of teaching that's needed to be successful with GIGI. We hope you have a rewarding and enjoyable experience!

Goals

The three major goals of *Geographic Inquiry into Global Issues* (GIGI) are to help you teach your students the following:

1. Responsible citizenship
2. Geographic knowledge, skills, and perspectives
3. Critical and reflective thinking

We believe you can accomplish these goals as well as others by teaching real-world issues. GIGI presents these issues with an inquiry approach, using the information, concepts, skills, and perspectives of geography.

GIGI and the Britannica Global Geography System

GIGI offers you two instructional modules for each of ten world regions (Figure 1 on pages vi and vii). There is no necessary sequence of modules; each one is independent, so you can use them in any order you wish or put together smaller clusters of modules to fit your needs. A leading question frames the issue of each module, and student inquiry proceeds through a sequence of lessons, each of which requires one or more daily periods of class time.

Color photographs at the beginning and end of each Student DataBook graphically illustrate the topic under inquiry.

Modules typically begin with a broad introduction to the global issue. Then, a major case study of three to four lessons examines the issue in a real place within the selected world region. Students also explore, usually in a single lesson, a comparative case study in a *different* region, which gives a variant of the issue and a sense of its global nature. Modules also bring the students "back home" to focus on the issue as it may appear in the United States or Canada. We do this because although North America is not one of the 10 GIGI

regions, frequent comparisons to North America throughout each module achieve additional instruction on this "home region."

Each GIGI module requires from two to three weeks of teaching time (10 to 15 class periods of 50 minutes) and contains a Student DataBook, Teacher's Guide, and Mini-Atlas. These GIGI print materials are at the heart of the Britannica Global Geography System (BGGS), which extends and enhances the inquiry approach to real-world issues with a CD-ROM and three videodiscs.

The BGGS CD-ROM puts the text of the GIGI Student DataBooks on line in both English and Spanish, then enables both teacher and students to search the text by lesson, key topic, or word to find the resources in the system that will enhance each. Geopedia™, Britannica's multimedia geography program, is provided in the CD-ROM for follow-up research. It features an atlas with more than 1,000 new maps, an encyclopedia with more than 1,200 geography-related articles, statistical information on every country from Britannica World Data Annual, a chartmaker for creating charts and graphs, a selection of video clips exploring cities and regions, and an electronic notepad allowing teachers and students to clip and edit text right on the screen.

Three videodiscs, designed to electronically transport students to the regions of the world where GIGI case studies are focused, are another part of the BGGS. The discs emphasize three major strands of the GIGI investigations: *Earth's Environment and Society, Economic Development,* and *Global Political and Cultural Change.* Each videodisc has two soundtracks, English and Spanish, and is accompanied by a Barcode Guide that enables teachers and students to access the segments that accompany the GIGI lesson with a wave of the barcode reader. A poster accompanies each videodisc to reinforce the connnections between your students and the issue being studied.

A full explanation of the Britannica Global Geography System components and how they work together is located in the BGGS overview in the front section of this Teacher's Guide.

Geographic Inquiry into Global Issues (GIGI)

Issues, Leading Questions, and Case Study Locations

South Asia	**Population and Resources** *How does population growth affect resource availability?* Bangladesh (Haiti)	**Religious Conflict*** *Where do religious differences contribute to conflict?* Kashmir (Northern Ireland)
Southeast Asia	**Sustainable Agriculture** *How can the world achieve sustainable agriculture?* Malaysia (Cameroon, Western United States)	**Human Rights** *How is freedom of movement a basic human right?* Cambodia (Cuba, United States)
Japan	**Global Economy*** *How does trade shape the global economy?* Japan (Colombia, United States)	**Natural Hazards** *Why do the effects of natural hazards vary from place to place?* Japan (Bangladesh, United States)
Former Soviet Union	**Diversity and Nationalism*** *How do nations cope with cultural diversity?* Commonwealth of Independent States (Brazil, United States)	**Environmental Pollution** *What are the effects of severe environmental pollution?* Aral Sea (Madagascar, United States)
East Asia	**Population Growth*** *How is population growth to be managed?* China (United States)	**Political Change** *How does political change affect peoples and places?* Hong Kong (South Korea, Taiwan, Singapore, Canada)

* Under development

Figure 1 Matrix showing GIGI modules. Geographic issues are in bold and leading questions are in italics. Major case study locations are followed by comparison examples in parentheses.

Geographic Inquiry into Global Issues (GIGI)

Issues, Leading Questions, and Case Study Locations

Australia/ New Zealand/ Pacific	**Global Climate Change** *What could happen if global warming occurs?* Australia and New Zealand (Developing Countries, U.S. Gulf Coast)	**Interdependence*** *What are the causes and effects of global interdependence?* Australia (Falkland Islands, United States)
North Africa/ Southwest Asia	**Oil and Society*** *How have oil riches changed nations?* Saudi Arabia (Venezuela, Alaska)	**Hunger** *Why are people hungry?* Sudan (India, Canada)
Africa—south of the Sahara	**Building New Nations*** *How are nation-states built?* Nigeria (South Africa, Canada)	**Infant and Child Mortality** *Why do so many children suffer from poor health?* Central Africa (United States)
Latin America	**Urban Growth** *What are the causes and effects of rapid urbanization and urban growth?* Mexico (United States)	**Development** *How does development affect peoples and places?* Amazonia (Eastern Europe, U.S. Tennessee Valley)
Europe	**Regional Integration*** *What are the advantages of and barriers to regional integration?* Europe (United States, Mexico, Canada)	**Waste Management** *Why is waste management both a local and global concern?* Western Europe (Japan, United States)

* Under development

Figure 1 (continued)

The **Student DataBook** contains the following features:

- Memo to the Student from the GIGI Staff
- An overview of the key questions and places explored in the module
- Lesson objectives
- Data presented in a variety of forms, including text, maps, graphs, tables, photographs, and cartoons
- Questions
- Glossary
- References

Students are not expected to learn the GIGI curriculum through the Student DataBook alone. Rather, they derive meaning from the DataBook when you use the Teacher's Guide to work through the curriculum with them. You may want to explain this process to students. Point out that you will be directing them to carry out various activities that are not specified in their text but are important in the sequence of learning.

Prior to teaching the first lesson, be sure students read the "Memo to the Student from the GIGI Staff" and the two-page overview, which gives the module's objectives in question form. Point out the Glossary and encourage its use as you work through the module, noting that glossary words are listed at the beginning of each lesson. So that students will know what they are expected to learn, they need to read carefully and understand the objectives listed at the beginning of each lesson.

This **Teacher's Guide** contains the following sections:

- Preparing to Teach This Module, a synopsis of the module's leading question, themes, and activities
- Module Objectives
- Number of Days Required to Teach the Module
- Suggestions for Teacher Reading
- Extension Activities and Resources

Most lessons include the following sections:

- Time Required
- Materials Needed
- Glossary Words
- Getting Started (suggested anticipatory sets)
- Procedures (for group and individual work)
- Modifications for older or younger students (in a different type face, printed in color)
- Questions and Answers (shown in tinted boxes)
- For Further Inquiry (suggestions for extensions and/or assessments)

- Masters of Overhead Transparencies and Activity masters and keys (located at the back of the Teacher's Guide)

Each module has its own accompanying **Mini-Atlas,** which provides four-color maps designed especially for use with that module. The Teacher's Guide explains how to use these maps. No additional atlases are required to teach the module, but large wall maps are highly recommended for your classroom. In addition to the maps in the Mini-Atlas, you will find numerous maps in the Student DataBook.

Intended Grade Levels

We believe GIGI enables you to probe global issues in various degrees of depth. This allows for the modules' use both over several grade levels (7–12) and over varying lengths of time at a grade level. The Teacher's Guides suggest alternatives for modifying instruction for different grade levels where appropriate. The reading level varies within each module: The Student DataBooks are approximately at grade 9 level, but some extracts from other sources are more challenging. These extracts are important because they show students that many people have contributed to the data, but younger students may need more time and help to understand them. The Teacher's Guides also include extension activities and resources that can maximize the grade-level flexibility of each module. Using the visuals included in the BGGS videodiscs and the activities built into the CD-ROM, you can further tailor instruction to your students. Obviously, you will determine whether particular lessons suit your students' abilities. When a range of required teaching time is given for a module, for example, 10 to 12 days, the greater amount of time should be planned for younger students. If you believe a lesson might be too difficult for your students, eliminate or simplify it. Rarely will the elimination of a lesson render a module ineffective. On the other hand, try to utilize the suggested extensions if the lesson does not adequately challenge your students.

Issues-Based Geographic Inquiry

In order to foster active learning and higher-level thinking, GIGI stresses issues-based geographic inquiry. Inquiry is essentially the method of science and of good detective work: It poses questions and proposes answers about the real world and it tests its answers with real data. Students do this with GIGI. Because this approach may be different from what students are familiar with, you may wish to pre-

pare them by describing the process and its connection to the real world. Also, their reading and discussion of the "Memo to the Student from the GIGI Staff" will help them understand the inquiry approach. GIGI is based on Frances Slater's inquiry activity planning model (1993). To reach GIGI's goals, your students study specific global issues by pursuing answers to geographic questions (Figure 2). They answer these questions by analyzing and evaluating data, using geographic methods and skills. This "doing geography" approach leads to significant outcomes in knowledge, skills, and perspectives. The progression from questions to generalizations "is crucial as a structure for activity planning and as a strategy for developing meaning and understanding. Meaning and understanding define the process of tying little factual knots of information into bigger general knots so that geography begins to make sense, not as a heap of isolated facts but as a network of *ideas and procedures*" (Slater 1993, page 60).

In truly free inquiry, students work independently, but with GIGI posing questions and providing data, you and your students explore the issues together. This approach supports and encourages your students in learning geography.

By using issues-based inquiry, you promote the development of a critical perspective in your students. They learn the habits of critical and reflective thinking. Multiple and opposing positions are inherent

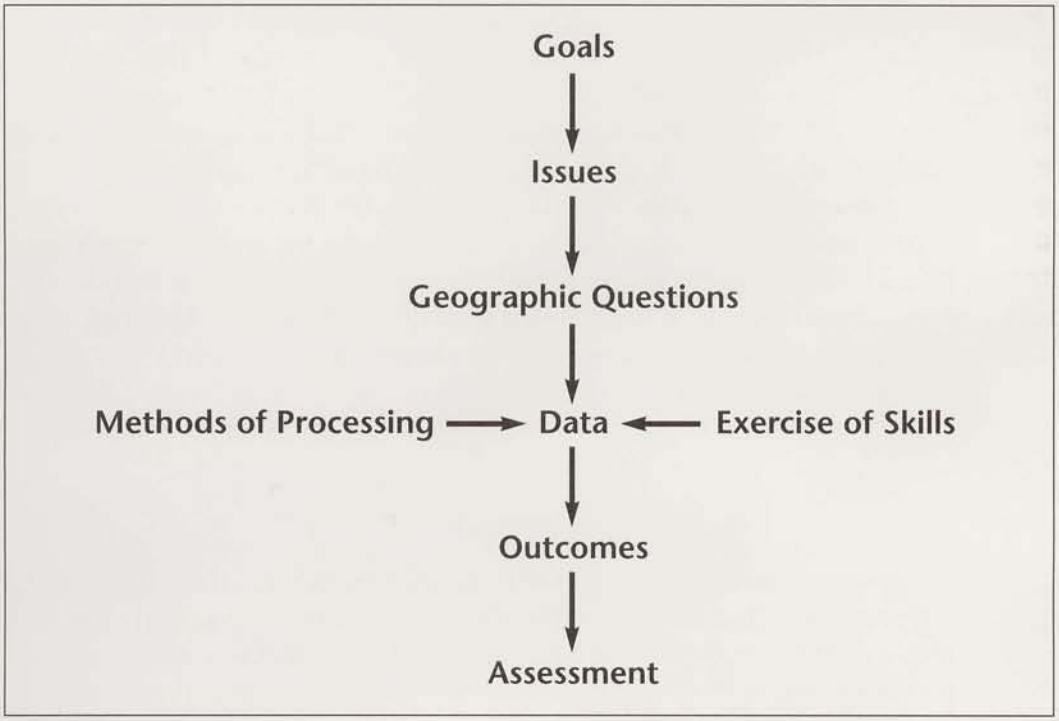

Figure 2 GIGI's model for issues-based geographic inquiry (after Slater 1993).

in these issues. Facts can be used to support different points of view. This is the context in which the habits of the critical perspective can develop, and *interpretation* is the key activity. With GIGI you foster these habits and abilities as you help your students interpret data guided by hypotheses, propositions, arguments, or questions.

An essential element of data-based, issues-oriented inquiry is to challenge your students by giving them opportunities to

- raise new questions,
- question the quality of the data,
- seek more useful or current data,
- articulate relationships they perceive,
- explain their processes of investigation, and
- defend their positions, decisions, and solutions.

Why These Issues Were Chosen

In planning GIGI, we sought timeless issues that are truly global in scope and that are of special concern to geographers. In this way, GIGI fosters what the National Geography Standards calls "the geographically informed person" needed by modern global citizenry (Geography Education Standards Project 1994).

The major case study, chosen to give solid grounding to the issue, is focused on a region where the issue is clearly expressed. The secondary case studies, based in other regions including the United States and Canada, show the *global* scope of the issue.

It is important to stress that, although GIGI contains a wide selection of case studies in all major regions (Figure 1) as well as frequent references to the global distribution of many geographic phenomena, GIGI is not a traditional regional geography. It does not attempt to provide basic geographic information for each region, such as one finds in traditional regional geography textbooks. In teaching a GIGI module, it is important to keep the emphasis on the issue and not get distracted with extraneous regional information.

Role of Questions

Each GIGI module is divided into six to eight lessons, each titled by a question; subquestions head individual sections of the lessons. Questions guide inquiry in order to merge the process of investigation with the drawing of conclusions. Directly linking questions and answers helps achieve an intellectually satisfying understanding of a problem (Slater 1993). When students are asked to learn only conclusions without learning how they are drawn, we perpetuate the tradition of an answer-centered education bereft of higher-level thinking. Therefore, it is important that students understand they are not

always expected to answer the questions when they first appear, but rather to keep them in mind as guides when they are reading or discussing.

GIGI asks both convergent and divergent questions, trying to reach a balance between the two. Supplement the questions in GIGI by asking your students many more of the types of questions suggested by Slater (1993). These are questions that encourage

- recall,
- classification and ordering,
- the use of data to draw conclusions,
- awareness of the limitations of data or of evaluation of data, and
- awareness of the processes of reasoning used.

According to the National Geography Standards, the "geographically informed person applies a comprehensive spatial view of the world to life situations" (Geography Education Standards Project 1994). In order to foster such a view of the world, GIGI asks *geographic* questions that ask where things are and why. By asking such geographic questions and by having students learn to ask them, you will reinforce GIGI's approach. A good question to begin with is: Where is this issue located? Then proceed to questions such as the following:

- Why does it take place there?
- How and why does this issue affect the people in this place?
- In what other places do people confront this issue?
- How and why are these places related?
- What alternatives do people have to improve their situation, and which alternatives do you recommend?

Fundamental Themes of Geography

In recent years, many geography teachers have learned that the five "fundamental themes" (Joint Committee on Geographic Education 1984) help them ask geographic questions. The theme of **Location** asks where things are and why things are located where they are. **Place** is the theme that inquires into human and physical characteristics of locations. **Human-Environment Interaction** examines how and why humans both adapt to and modify their environments as well as the consequences of these actions. **Movement** investigates not only how and why places are connected but also what is the significance of those interactions. The theme of **Region** seeks to identify and explain similarities and differences among areas and how and why these form and change. An extended explanation of the themes and their concepts, interrelationships, and applications is

given in Hill and McCormick (1989). The themes are useful because they encourage the kinds of questions required to help students develop the geographic perspective.

Importance of Local Examples

GIGI is a world geography, but it shows that issues work at various geographic scales—personal, local, regional, national, and global. Because it is sometimes difficult for younger students to identify with faraway places, success with GIGI in part depends upon the ability of both you and your students to relate the issues to examples in your local community. We strongly recommend that you refer in class to local examples of the issue being investigated. Just as important, we encourage you to have your students conduct local field studies related to this issue whenever possible. Issues having important geographic dimensions abound in every community (see the Extension Activities and Resources section at the end of this Teacher's Guide for examples). Peak educational experiences often come when students see things in the field that relate to their classroom studies. We discuss other reasons for local involvement in the next section.

Familiar people can be as important as familiar places in motivating students. The quality of personal engagement is at the crux of successful instruction. Using the BGGS videodisc segments that accompany most GIGI lessons is a powerful way to help your students find relevance by identifying the GIGI issues with real people. Similarly, you can connect GIGI issues to everyday life at a human scale, especially at the students' own age levels, by using current newspaper accounts or magazines that address the student's perspective.

As you gain familiarity with teaching local examples, as you develop field exercises for your students, and as you learn how to put a human face on these materials, you will begin to customize the GIGI modules to fit your particular environment. Our trial teachers reported that the more they taught GIGI modules, the more comfortable they became in adapting them to fit their needs.

Fostering Optimistic and Constructive Perspectives

The seriousness and complexity of the global issues studied in GIGI can overwhelm students unless you take care to foster optimistic and constructive perspectives toward issues. "Gloom and doom" needs to be balanced with examples of success and prospects for positive change. It is important to help your students develop a

sense of personal efficacy, an attitude that their actions can make a difference in solving global problems. The maxim, "Think Globally, Act Locally," speaks to the need to help students organize and conduct constructive actions that address local variants of the issues they are studying. As we noted earlier, student involvement in local projects enriches their educational experience. There is also good evidence that it actually produces an optimistic feeling—that their actions *can* make a difference—to help them deal with the often difficult and sometimes depressing world issues. GIGI modules often include lessons and activities to show possibilities for positive action.

Certain perspectives foster student optimism and constructive behavior. Geography students, especially, should learn to respect other peoples and lands, and they should come to cherish environmental unity and natural diversity. They should also learn to be skeptical about simplistic explanations, such as the theory that attempts to explain human characteristics and actions in terms of the physical environment alone, which geographers call "environmental determinism." Most important, optimistic and constructive perspectives accompany the development of empathy, tolerance, and open-mindedness. These traits are fostered by avoiding sexist and racist language, discouraging ethnocentricity, and challenging stereotypes, simplistic solutions, and basic assumptions.

References to Data

Unlike most textbooks, GIGI attributes its sources of data with in-text citations and full reference lists, which is another way of encouraging the critical perspective. In the Student DataBook, material that has been extracted from original sources is indented and printed in a different typeface. Long extracts are highlighted with background color. Use of these sources helps your students learn that real people construct ideas and data and that their concepts and information are not immutable. Instead, they often change through the critiques and interpretations of various people. By using these scholarly conventions, we intend to encourage your students to appreciate the tentativeness of knowledge and to value scholarship and academic integrity.

Updating

Real data quickly become obsolete. GIGI addresses this fact by discussing historical trends of data and by stressing concepts. You should reinforce this bias for concepts and also freely acknowledge the datedness of information by explaining why it is still used (for example, the lags between research and writing and publication and

use; the lack of more recent data). Whenever possible, guide students to update materials. Britannica's Geopedia, on the BGGS CD-ROM, contains data based on Encyclopædia Britannica's World Data Annual, which is also available in print form. Have students use these sources to supplement and update GIGI data.

Assessing Learning

Evaluation of student achievements with GIGI can be focused on two broad areas. The first is the developing ability of students to undertake geographic inquiry. The second is the acquisition of knowledge and perspectives about the module issue.

The ability of students to undertake inquiry in geography can be related to the primary questions that guide geographical study. They are noted earlier in this memo. As students work through the module, they are likely to become increasingly adept at asking and answering geographic questions. Seek to extend your students' competence in several clusters of skills that facilitate geographic inquiry. These clusters include the following:

- Identifying problems and issues. This may be done through observation, asking questions, brainstorming, reading, and in other ways.
- Inquiring into the problems and issues in many ways such as through map reading and interpretation, making surveys, and using results of surveys done by others.
- Making decisions and taking action, for example, through reviewing alternatives, establishing priorities and criteria, and communicating cooperatively with people in other ways.
- Reflecting at all stages of the process of inquiry, especially through careful consideration of diverse sources of evidence.

Students will acquire knowledge of the module issue as they make their inquiries. This knowledge can be tested and graded. Assessments may be based on the following:

- Knowledge and skills shown by work on Activities included in this Teacher's Guide and on questions in the Student DataBook.
- Observations of student participation in groups and in class discussions.

Specific assessment ideas are given at the end of some lessons in the section called For Further Inquiry. In addition, the Teacher's Guide ends with Extension Activities and Resources. Some of these extension activities can serve as authentic assessments.

Potential Uses

In addition to the flexibility offered by the free-standing nature of the modules, GIGI has a number of other characteristics that encourage widespread use. Modules can be extended and enhanced with the BGGS CD-ROM, videodiscs, and posters. Because GIGI's issues-based approach integrates several topics (for example, population, economic, political, physical, and cultural geography) in a single module, the modules are not conducive to using an approach in which topics are taught separately. On the other hand, GIGI may be used with a world regional approach because there are modules for each of 10 world regions. A year-long world geography or global studies course will have more than enough material by using 12 modules. Five to seven modules may constitute a one-semester, issues-based geography course covering several regions. You can define clusters of modules for your own curricular purposes. We have identified three clusters for interdisciplinary studies within the Britannica Global Geography System, each comprising six or seven GIGI modules. They are *Earth's Environment and Society, Economic Development,* and *Global Political and Cultural Change.* BGGS includes a videodisc and poster for each cluster. These strand packages could well be used in Social and Environmental Studies, Earth Science, Global Studies, and Area Studies classes. Activities in the modules also support math, language arts, and arts curricula.

GIGI encourages and facilitates the development of a variety of geographic skills that transfer widely into the natural and social sciences. Among these are skills of asking geographic questions and developing and testing geographic generalizations. These require other GIGI skills including examining and making a variety of maps; analyzing photographs; constructing and interpreting graphs and tables of spatial data; and collecting, interpreting, and presenting geographic information.

Finally, GIGI promotes a wide variety of linguistic, numeric, oral, creative, and social skills as well as geographic skills. In particular, GIGI emphasizes cooperative learning. We believe that one of the great strengths of the GIGI modules is that they give students practice in both group and individual problem solving. As students become more familiar with the global issues, they learn that finding solutions to world problems requires people to work together cooperatively.

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Preparing to Teach This Module

Urban Growth

What are the causes and effects of rapid urbanization and urban growth?

The rapidity of urban growth has caused massive ecological, economic, and social problems for developing countries. Using Mexico (and Mexico City) as a case study, this module explores the issues of urbanization and urban growth. Inquiry into these issues encompasses many fundamental themes of geography. Urban growth is at the motivational source for massive locational changes in the human population (the theme of *Location*); the physical and human characteristics of places are dramatically changed (*Place*); and vast movements of people, goods, and ideas are generated (*Movement*). Urbanization and urban growth are perhaps the dominant processes transforming the world's landscapes today.

The module opens by presenting students with several examples of the problems posed by rapid urban growth. This leads to Lesson 2, in which students discover, via a series of graphing activities, how the phenomenon of urbanization varies regionally around the world. This lesson also includes an activity in which student groups compete to create good geographic questions summarizing the issue. The reliability of population data is sometimes questionable, so the lesson also includes an activity showing how population data can change.

The Mexican case study begins with Lesson 3, in which students are asked why Mexico has experienced such rapid urbanization and urban growth. The high rate of natural increase is a fundamental problem, but internal migration has contributed greatly to urbanization. Students examine a variety of data that show how the country's population has increasingly concentrated in Mexico City. Lesson 4 discusses the patterns of internal migration in Mexico and challenges students to explain these patterns. An important activity has students using several pieces of data, some of which are maps they create themselves, to discover the "push-pull" principle of migration—

people move away from economically depressed areas toward areas with more opportunities. Lesson 5 asks students to make decisions about policy alternatives that may enable Mexico to achieve a more equitable distribution of its people and resources.

Finally, Lesson 6 brings the issue to the United States by asking how Mexico's urbanization and urban growth affect its northern neighbor. Economic, ecological, social, and political problems in both countries are interrelated. Migration to the United States offers a safety valve from Mexican poverty and at the same time adds significantly to the changing composition of the U.S. population. Yet, the issue is much more complex. In closing, the module gives students a chance to express their opinions about the issues posed by immigration. When students seriously grapple with these issues, they may come to better understand their world and their places in it.

Using the BGGS CD-ROM can simplify lesson planning by making it easy to access the resources the system provides for each lesson. It shows exactly which Geopedia™ data and learning activities can be used in long-range and short-term assignments, and which videodisc clips will provide visual reinforcement for each GIGI lesson. The CD-ROM can also show you ways in which a lesson in one module relates to a lesson in another module. And it indicates where to find every reference in GIGI, Geopedia™, the Mini-Atlas maps, and the videodiscs to any key topic—for example, "tsunami" or "Bangladesh." The students will also be able to use the BGGS CD-ROM for further research and short-term or long-term range assignments. The BGGS multimedia components and their uses are explained fully in the tabbed BGGS section in the front of this Teacher's Guide.

The following are general modifications recommended for younger students:

- Plan for fifteen days because the activities will require more teacher explanation and support.
- Provide directions for homework assignments and monitor students' understanding and progress.
- Prior to assigning written activities requiring students to draw conclusions and summarize their findings, ask guiding questions and develop a sample outline on the chalkboard.

Module Objectives

- Identify the problems associated with rapid urbanization and urban growth.
- Use tables and graphs to analyze changes in urban population.
- Identify reasons why urban centers in developing countries are growing rapidly.

- List reasons people might give for deciding to migrate from rural areas to cities.
- Explain why changes in urban growth and urbanization in a country might affect neighboring countries.
- Suggest policies that would reverse the trend of urbanization in developing countries.

Number of Days Required to Teach *Urban Growth*

Eleven to fourteen 50-minute class periods

Suggestions for Teacher Reading

Brown, Lester R., editor. 1987. *State of the World—1987: A Worldwatch Institute Report on Progress Toward a Sustainable Society.* New York: W. W. Norton and Company.

Brown, Lester R., and Jacobson, Jodi L. 1987. *The Future of Urbanization: Facing the Ecological and Economic Constraints.* Worldwatch Paper 77, Worldwatch Institute, 1776 Massachusetts Ave. NW, Washington, DC 20036.

Ian, Scott. 1982. *Urban and Spatial Development in Mexico.* Baltimore: Johns Hopkins University Press.

Vernez, Georges, and Ronfeldt, David. 1991. The current situation in Mexican immigration. *Science,* 251 (March 8): 1189–1193.

Ward, Peter M. 1990. *Mexico City: The Production and Reproduction of an Urban Environment.* Boston: G.K. Hall.

Lesson 1

Why is rapid urban growth a problem?

Time Required

One 50-minute class period

Materials Needed

None

Glossary Words

infrastructure

urban growth

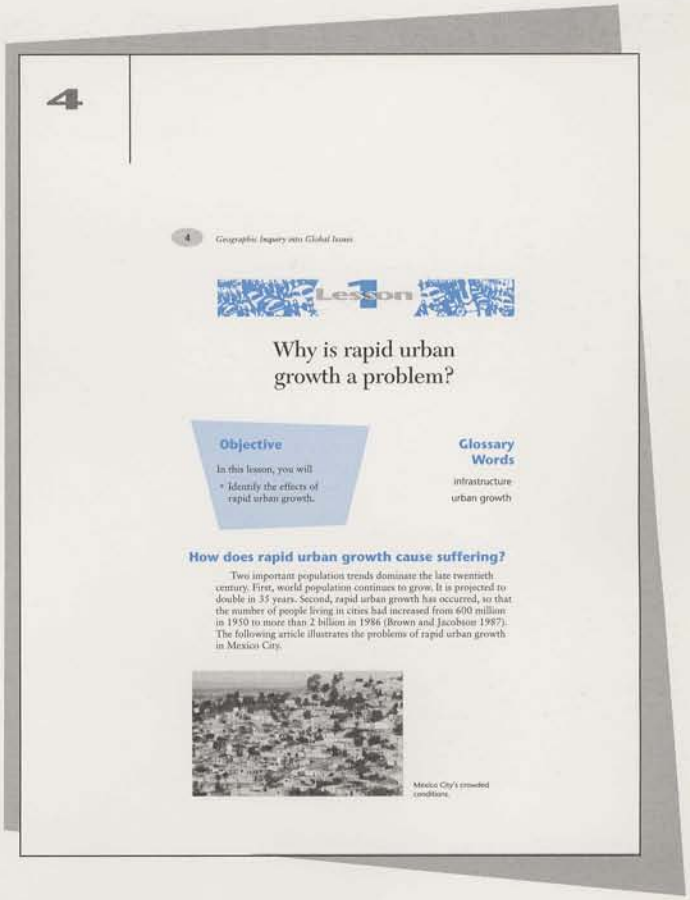
Getting Started

- Have students read the Memo to the Student and the overview on pages 2–3 in the Student DataBook. Also make students aware that there is a Glossary in the back of their DataBooks.
- Pose a few questions to get students thinking about urbanization patterns in the United States. Did any of your parents, grandparents, or great-grandparents live on farms? Do most people in the United States now live on farms or in cities? What about 100 years ago? Is there a trend? If so, why?

Procedures

How does rapid urban growth cause suffering? (pages 4–6)

A. Ask students what problems might be associated with rapid urban growth in developing countries. Accept any and all speculations; put these on the chalkboard.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4 Geographic Inquiry into Global Issues

Lesson 1

Why is rapid urban growth a problem?

Objective

In this lesson, you will
- Identify the effects of rapid urban growth.

Glossary Words

infrastructure
urban growth

How does rapid urban growth cause suffering?

Two important population trends dominate the late twentieth century. First, world population continues to grow. It is projected to double in 35 years. Second, rapid urban growth has occurred, so that the number of people living in cities had increased from 600 million in 1950 to more than 2 billion in 1986 (Brown and Jacobson 1987). The following article illustrates the problems of rapid urban growth in Mexico City.

Mexico City's crowded conditions.

B. Divide students into pairs or groups of three. Have them read the extract, "Mexico City's Garbage Society," which suggests many urban growth problems. (*Note:* The author of this extract claims that the person who recounted this story to her is known to exaggerate!) Have each group make a list of the problems related to rapid urban growth discussed in this article. [For example: waste disposal; no sanitation; poor housing; lack of services such as electricity; inadequate health and welfare for children] Students will refer to their lists at the end of the lesson.

What are some problems with rapid urban growth? (pages 6–8)

C. Have the groups read the five bulleted items on pages 6–8 and ask them to add these problems to their lists of problems associated with very large cities. Ask them to put a check on those problems they think are especially difficult in rapidly growing cities in developing countries. [Items that might be added to the lists include social unrest; concentration of resources in one place; hunger and disease; difficulty of providing food, water, and fuel; and pollution.]

D. To bring closure to the lesson, have the groups compare their lists. Ask them to consider which of these problems are also found in cities nearest their community. Finally, discuss Questions 1 and 2 on page 8.

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Mexico City's Garbage Society

Five years ago, in Chapultepec, [Mexico City's] most popular public park, [an ecological institute] mounted an exhibit on the subject of garbage. A tent, designed by an artist, had a long, dark entrance, filled with giant illustrations of microbes and garbage-related pests, from which the public emerged into "the world of garbage." One of the exhibits, [the exhibit's director said], was "the most gigantic rat we could find."

"It was huge!" he went on, gesturing descriptively. The rat, one gathered, must have been about the size of a large cat. "It weighed almost eight pounds. But we had a problem. We began to realize that the rat was dying on us. It wasn't used to the nice, healthy pet food, or whatever it was, that we were feeding it. So we went out and collected fresh garbage for it every evening. Kept it happy. And that was important, because thousands and thousands of people came to see the garbage exhibit, and the rat was the absolute star of the show."

If the residents of Mexico City flock to an exhibit on garbage featuring a giant rat, it is because the subject is never very far from their minds. The problem of waste disposal may be only one of the critical aspects of the city's ongoing public-services emergency, but it is certainly among the most visible. One of the world's three largest urban [areas], the city never had a proper service infrastructure to begin with and has been growing far much too fast for too many years. Figures from the 1990 national census show that although the Federal District, or capital proper, has a relatively stable population of 8.2 million, the surrounding sprawl in the neighboring state (also called Mexico) brings the total urban population to [over fifteen] million. . . . By the year 2000, if current trends persist, the urban area will be home to [nearly] 20 million souls, all clamoring for services that are already strained to the breaking point in some areas and nonexistent in others. . . .

Newcomers [to Mexico City] settled in shacks along the roads leading into the city, stole their electricity from the highway power lines, and made do without running water, drainage, or garbage-collection systems. The communities grew in such a rats that one of them, Nezahualcoyotl, is the country's [third]-largest city.

The accumulation of mixed waste . . . can be contemplated at the Bordo de Xochiaca municipal dump . . . a few blocks away from Nezahualcoyotl's city hall. Not many who pass by it linger; the stench causes motorists to accelerate way past the speed limit, and in their haste they may fail to notice what is most striking about this vast expanse of putrefaction. Scarecrowlike figures can be seen moving slowly over the dusty mounds, poking methodically. The garbage is inhabited.

The best view of Bordo de Xochiaca is from the driver's seat of a tractor that is used all day long to flatten out the incoming loads. . . . A few people work the edges of the dump, and a few others live in plastic-and-cardboard shantias there, but most of the dump's activity takes place in a clearing in the center—where people try to sift through a newly deposited truckload of garbage before the tractor runs over it—and in an expanse just to the west of this clearing, where Cristobo Fernandez Reyes, the dump

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boss, weighs and purchases the scavengers' daily take of glass, rags, tin, cardboard, wood, plastic containers, animal bones, and other recyclable materials. Behind the scales and Celestino's headquarters, a row of shacks marks the beginning of the living quarters—scores of lopsided houses, some of them quite large, that are built of and on rubbish, along reeking alleys and paths with names like Virgin of Guadalupe Lane.

After a week of rain, the pickers were working ankle-deep in a thick slush; it was tinted blue or bright red in patches, and these exhaled a mist of choking chemical fumes. Oblivious of the smell, a cluster of children crouched in a blue puddle, poring over a small pile of plastic comic-book figures—the Joker, Superman, and the like. . . . The tallest boy [said] that he and his friends wanted the toys not so play with but to sell. Nevertheless, as they salvaged the few dolls that had no arms or legs missing they deployed them in a brief, soundless mock battle before tossing them into a scavenging sack. (Guillermoprieto 1990, pages 93–96).

What are some problems with rapid urban growth?

Some regions and cities will suffer the pains of urban growth more than others. Cities in developing countries are growing at unparalleled rates. São Paulo, Brazil, has more than doubled in the past 20 years to 19 million people. In the past this type of growth might have occurred over 100 years. Cities in India like Calcutta, Bombay, Delhi, and Madras are growing at a rate of 600,000 people each month. By 2025, Asia's *urban* population alone will be just over one-half the world's *total* population (Salas 1986). Such rapid urban growth has consequences for the entire world community. These include many ecological, economic, and social problems. Here are five examples:

- National and local governments in developing countries provide large sums of public money for medical and educational facilities and transportation systems in the megacities. Part of the reason is political. The political stability of a nation often depends on preventing unrest in the cities. Large sums of money must be spent to keep the cities running smoothly, or at least to keep them from dissolving into complete chaos. Much of the money is spent on showy projects such as sports stadiums, subway systems, public monuments, and lavishly landscaped boulevards (Vining 1985).
- In Thailand a major problem centers around the overabundance of people, services, and money in one city. Fifty-six percent of the country's entire population lives in the Bangkok area. This one city has the most skilled workers, the most

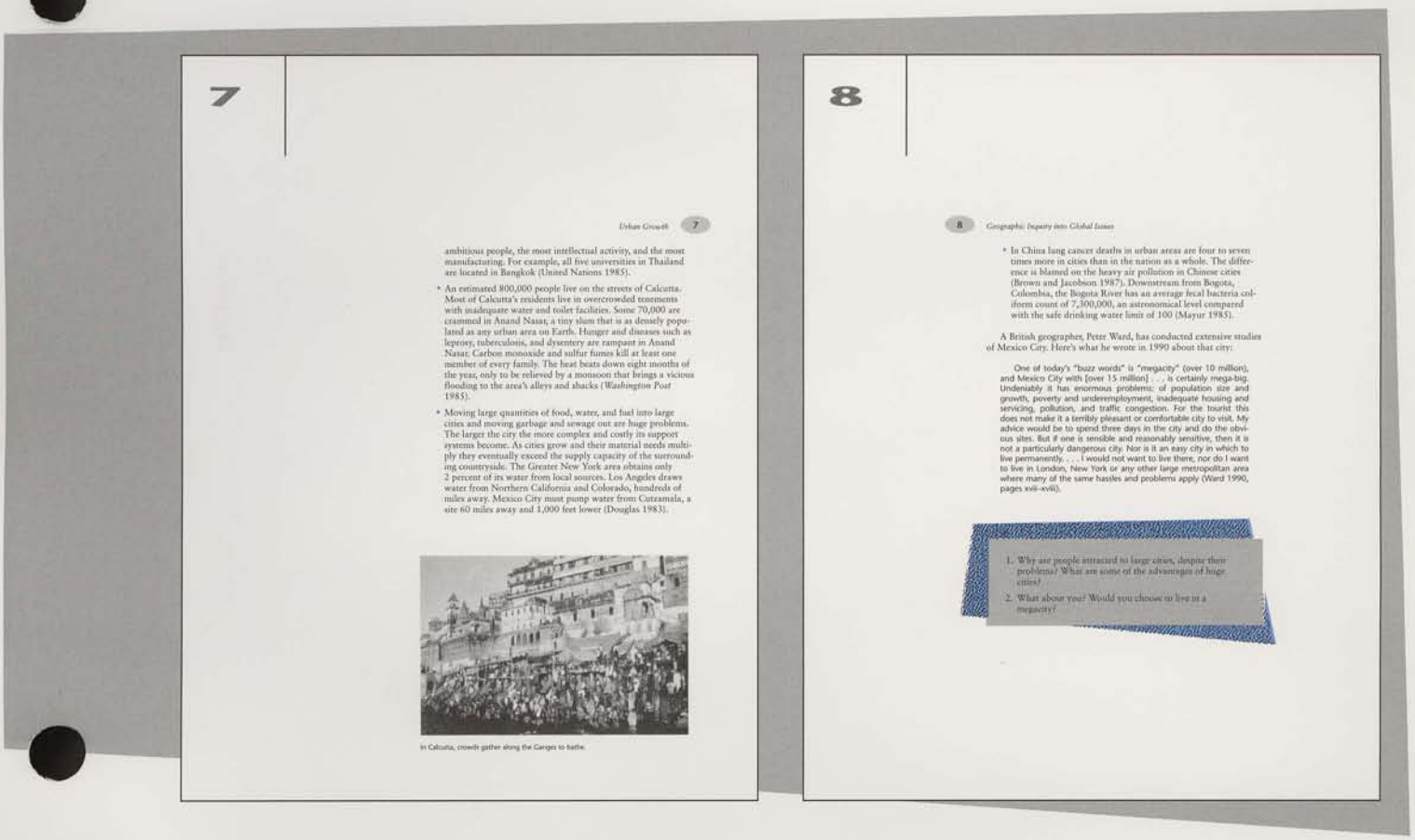
Questions and Answers for page 8

1. Why are people attracted to large cities, despite their problems? What are some of the advantages of huge cities?
   - Some of the advantages of huge cities include availability of jobs; wider variety of services; greater opportunities and cultural resources; ethnic diversity, and so on.

2. What about you? Would you choose to live in a megacity?
   - Allow students to express their preferences.

For Further Inquiry

Have students make family trees to show where their parents, grandparents, and great-grandparents lived—whether on farms or in towns. Combine their information into a 2 x 3 table with the categories "Rural" and "Urban" across the top and the categories "Parents," "Grandparents," and "Great-grandparents" on the side. Unless yours is a rural school, you can expect to find more rural great-grandparents than rural parents, symbolizing the increasing urbanization in the United States.



Lesson 2

What are the trends of world urbanization?

Time Required

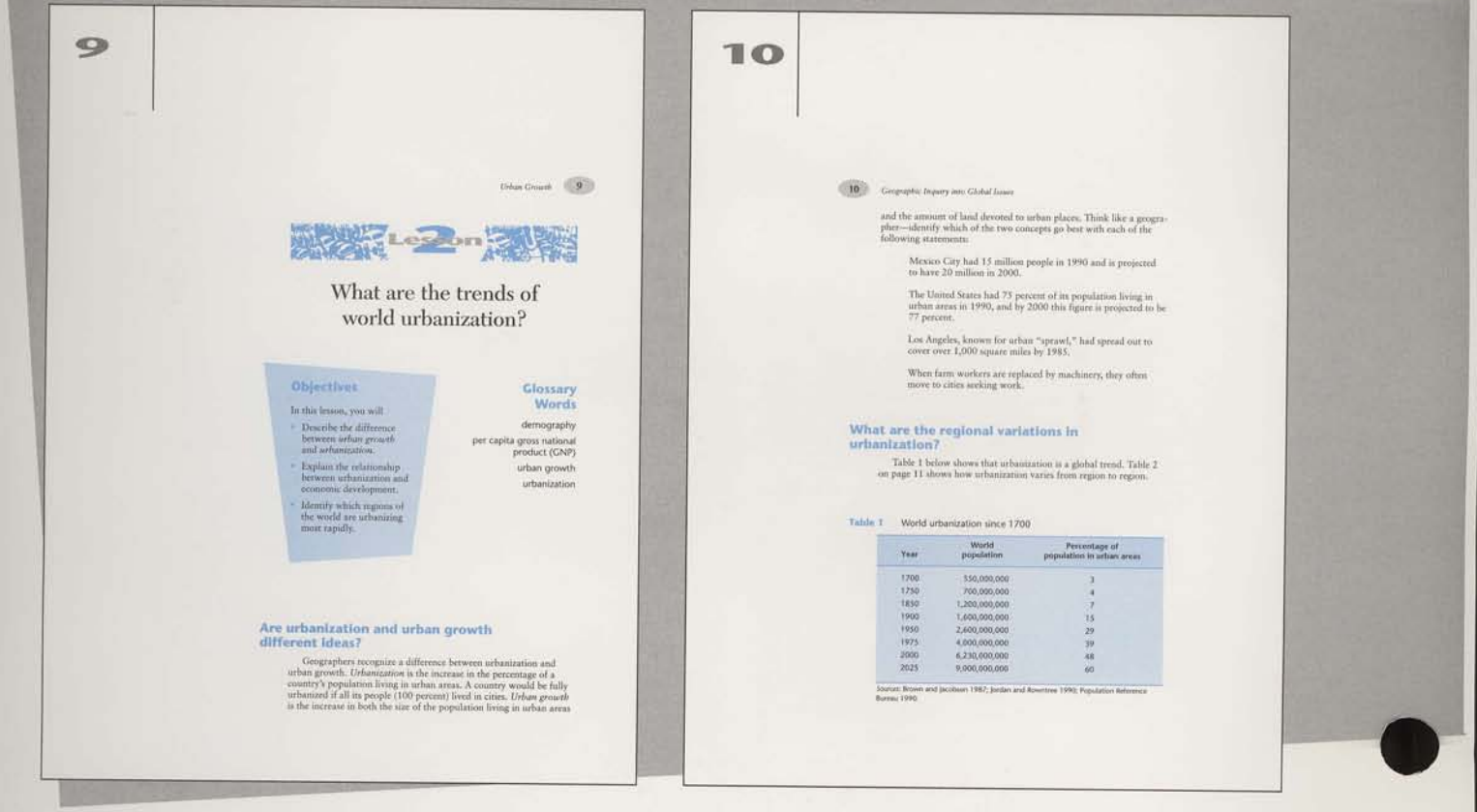
Three to four 50-minute class periods

Materials Needed

Copies of Activities 1 and 2 for each pair of students
Copies of Activity 3 for each group of four students
Colored pencils for graphing activities
Some kind of prize for the team competition in Procedure G
Mini-Atlas map 1

Glossary Words

demography
per capita gross national product (GNP)
urban growth
urbanization



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Urban Growth 9

Lesson 2

What are the trends of world urbanization?

Objectives

In this lesson, you will

- Describe the difference between *urban growth* and *urbanization*.
- Explain the relationship between urbanization and economic development.
- Identify which regions of the world are urbanizing most rapidly.

Glossary Words

demography
per capita gross national product (GNP)
urban growth
urbanization

Are urbanization and urban growth different ideas?

Geographers recognize a difference between urbanization and urban growth. *Urbanization* is the increase in the percentage of a country's population living in urban areas. A country would be fully urbanized if all its people (100 percent) lived in cities. *Urban growth* is the increase in both the size of the population living in urban areas

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10 Geographic Inquiry into Global Issues

and the amount of land devoted to urban places. Think like a geographer—identify which of the two concepts go best with each of the following statements:

Mexico City had 15 million people in 1990 and is projected to have 20 million in 2000.

The United States had 75 percent of its population living in urban areas in 1990, and by 2000 this figure is projected to be 77 percent.

Los Angeles, known for urban "sprawl," had spread out to cover over 1,000 square miles by 1985.

When farm workers are replaced by machinery, they often move to cities seeking work.

What are the regional variations in urbanization?

Table 1 below shows that urbanization is a global trend. Table 2 on page 11 shows how urbanization varies from region to region.

Table 1 World urbanization since 1700

Year	World population	Percentage of population in urban areas
1700	550,000,000	3
1750	700,000,000	4
1850	1,200,000,000	7
1900	1,600,000,000	15
1950	2,600,000,000	29
1975	4,000,000,000	39
2000	6,230,000,000	48
2025	9,000,000,000	60

Sources: Brown and Jacobsen 1987; Jordan and Rowntree 1990; Population Reference Bureau 1990

Getting Started

Ask students the following questions about their own community, without pressing for correct answers:

a. Is the size of the population stable? Or is it growing or declining?

b. Is the growth or decline gradual or rapid?

c. What are the effects of these changes on your school and community?

d. Are the changes in your community typical of your region of the country? Of the country as a whole? Of the world?

Procedures

Are urbanization and urban growth different ideas? (pages 9–10)

A. Have students scan this text and identify which of the two concepts applies to the four statements on page 10.

Mexico City had 15 million people in 1990, and is projected to have 20 million in 2000. [Urban growth]

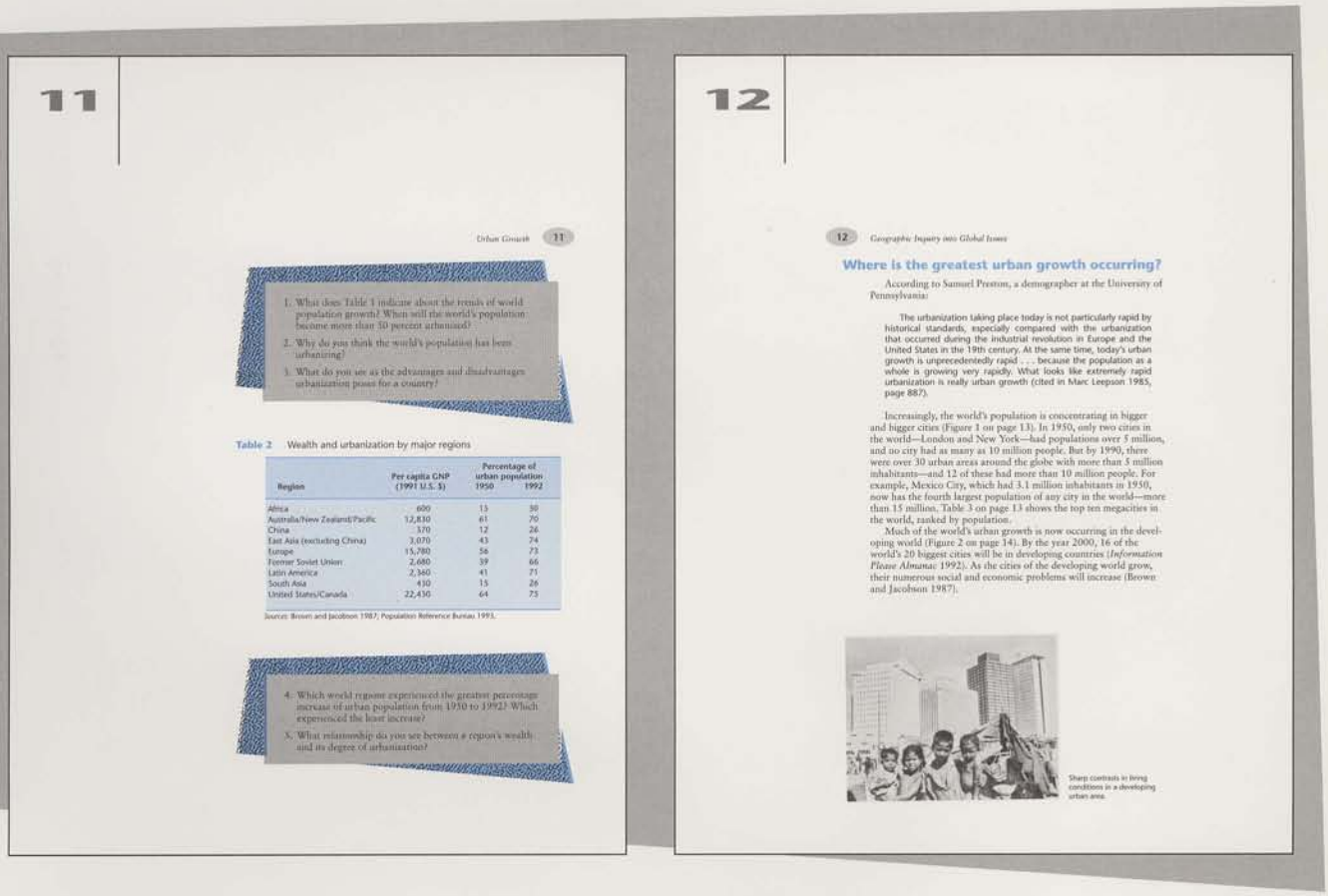
The United States had 75 percent of its population living in urban areas in 1990, and by 2000 this figure is projected to be 77 percent. [Urbanization]

Los Angeles, known for urban "sprawl," had spread out to cover over 1,000 square miles by 1985. [Urban growth]

When farm workers are replaced by machinery, they often move to cities seeking work. [Urbanization]

What are the regional variations in urbanization? (pages 10–11)

B. Have students work in pairs for this section. Have them study Table 1 on page 10 and ask them to explain what the table is reporting. [Since about 1750, the world's population has been increasing rapidly and the proportion of the world's population living in urban areas has been increasing steadily. The most rapid increases in urbanization have occurred since about 1900.]



11

Urban Growth 11

1. What does Table 1 indicate about the trends of world population growth? When will the world's population become more than 50 percent urbanized?
2. Why do you think the world's population has been urbanizing?
3. What do you see as the advantages and disadvantages urbanization poses for a country?

Table 2 Wealth and urbanization by major regions

Region	Per capita GNP (1991 U.S. $)	Percentage of urban population 1950	1992
Africa	600	15	30
Australia/New Zealand/Pacific	12,830	61	70
China	370	12	26
East Asia (excluding China)	3,070	43	74
Europe	15,780	56	73
Former Soviet Union	2,680	39	66
Latin America	2,360	41	71
South Asia	430	15	26
United States/Canada	22,430	64	73

Sources: Brown and Jacobson 1987; Population Reference Bureau 1993.

4. Which world regions experienced the greatest percentage increase of urban population from 1950 to 1992? Which experienced the least increase?
5. What relationship do you see between a region's wealth and its degree of urbanization?

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12 Geographic Inquiry into Global Issues

Where is the greatest urban growth occurring?

According to Samuel Preston, a demographer at the University of Pennsylvania:

> The urbanization taking place today is not particularly rapid by historical standards, especially compared with the urbanization that occurred during the industrial revolution in Europe and the United States in the 19th century. At the same time, today's urban growth is unprecedentedly rapid . . . because the population as a whole is growing very rapidly. What looks like extremely rapid urbanization is really urban growth (cited in Marc Leepson 1985, page 887).

Increasingly, the world's population is concentrating in bigger and bigger cities (Figure 1 on page 13). In 1950, only two cities in the world—London and New York—had populations over 5 million, and no city had as many as 10 million people. But by 1990, there were over 30 urban areas around the globe with more than 5 million inhabitants—and 12 of these had more than 10 million people. For example, Mexico City, which had 3.1 million inhabitants in 1950, now has the fourth largest population of any city in the world—more than 15 million. Table 3 on page 13 shows the top ten megacities in the world, ranked by population.

Much of the world's urban growth is now occurring in the developing world (Figure 2 on page 14). By the year 2000, 16 of the world's 20 biggest cities will be in developing countries (*Information Please Almanac* 1992). As the cities of the developing world grow, their numerous social and economic problems will increase (Brown and Jacobson 1987).

Sharp contrasts in living conditions in a developing urban area.

C. Have students plot the data in Table 1 onto the graph in **Activity 1.** Plot two lines—world population and percentage of population urban—by year, 1700 to 2025. Have them complete the legend to show what symbols they used (see *Key for Activity 1*). Help students understand three things about these data: (1) they are only rough approximations based on a combination of good and poor censuses; (2) trend lines cannot be projected into the future with certainty; and (3) the further into the future we try to predict, the less certain we can be.

D. After students have completed Activity 1, ask them to write out their answers to Questions 1–3 on page 11. Then have them discuss their answers.

For younger students, brainstorm the answers with the class rather than having them answer individually.

Questions and Answers for page 11

1. What does Table 1 indicate about the trends of world population growth? When will the world's population become more than 50 percent urbanized?

   - World population has increased tremendously and is rising ever more sharply. The same is true for the proportion of the population living in urban areas. Both of these rates of growth have speeded up in the twentieth century. The world's population will become more than 50 percent urban near the year 2000.

   Older students might recognize that urbanization has limits: it cannot go higher than 100 percent. They may also infer that urban growth (referring to the increasing size of urban areas) would also occur when both urban population and total population are skyrocketing.

2. Why do you think the world's population has been urbanizing?

   - The Industrial Revolution of the nineteenth century created manufacturing jobs that attracted people from farms into cities. Industrialization also led to mechanization of agriculture, reducing the need for farm labor. These processes happened first in Europe and the United States, somewhat later in Japan, and have been occurring in much of the developing world (albeit with regional differences) since World War II.

   Question 2 calls for student speculation from prior knowledge because the answer cannot be found in the lesson. Assist younger students with this if needed.

3. What do you see as the advantages and disadvantages urbanization poses for a country?

   - On the personal scale, urbanization brings more people closer to better schools, hospitals, and restaurants and to cultural opportunities such as theaters, art galleries, and rock concerts. On the negative side, urban living carries greater risks of crime, pollution, and unemployment than does rural living.

     On the national scale, advantages include greater national wealth, power, and influence that usually accompany urbanization. Disadvantages include the expense of providing facilities such as clean water, waste disposal, and public transportation. These factors become critical when urbanization is rapid, which is why developing countries try to slow urbanization. This issue is dealt with later in the module.

E. The lesson now turns to the variation in urbanization rates among world regions. Have student pairs graph the data from Table 2 (page 11) for each region's percentage of urban population for 1950 and 1992 onto **Activity 2.** Have them use different colors or line symbols for the nine regions and label the lines (see *Key for Activity 2*).

F. Have students study their graphs on Activity 2 and write a brief description of how the regions are clustered in terms of urbanization. [Urbanization has been occurring in all regions, but the regions cluster into two groups: more urbanized (more than 40 percent) and less urbanized (less than 40 percent). Three regions (China, Africa, and South Asia) are still relatively rural in spite of the increases in urban population.] Then have students answer Questions 4 and 5 on page 11.

Questions and Answers for page 11

4. Which world regions experienced the greatest percentage increase of urban population from 1950 to 1992? Which experienced the least increase?

   - Regions with the biggest increase: China, Africa, South Asia, Latin America, East Asia, and the former Soviet Union. Regions with the least increase: Australia/New Zealand/Pacific, Europe, and United States/Canada.

   Younger students can figure this out by seeing which lines on the Activity 2 graph are the steepest. Steeper lines indicate a faster rate of change.

   Older students can calculate the percentage change directly. Have them first calculate the difference between the 1950 and 1992 percentages and divide this difference by the 1950 values. See table below for results.

Region	Difference (1992 to 1950)	1950 value	Percentage increase from 1950 to 1992
China	14	12	116
Africa	15	15	100
South Asia	11	15	73
Latin America	30	41	73
East Asia (excl. China)	31	43	72
Former Soviet Union	27	39	69
Europe	17	56	30
United States/Canada	11	64	17
Australia/NZ/Pacific	9	61	15

5. What relationship do you see between a region's wealth and its degree of urbanization?

   - Regions with lower per capita incomes have been experiencing the greatest rates of increase in urban populations. Later in the lesson, the module refers to "developed" and "developing" countries. Be sure students see that regions with lower per capita GNP are "developing" and those with higher per capita GNP are "developed."

For younger students, you may need to explain *per capita gross national product (GNP)*. This commonly used indicator of a nation's wealth or level of economic development measures the total value of goods and services produced in relation to the total population.

Where is the greatest urban growth occurring? (pages 12–14)

G. Have students now work in teams of four. Direct their attention to Figures 1 and 2 and Table 3 (pages 13–14). Explain that each team will use these three pieces of data to generate questions for other teams to answer. You will need to come up with a suitable prize for the winning team.

Distribute **Activity 3** and six pieces of paper to each group (one for each answer). They will also need **Mini-Atlas map 1,** showing major world cities. Give teams a few minutes to design a question (and an answer) for other teams to answer. Have each team write its question on the board below the team name. Other teams then write their answers to each question on a piece of paper. After teams have had enough time to answer the questions, have them turn the questions in to the team that wrote the question.

Teams then award points to the responses submitted by other teams and return them for point tabulation. The teams then announce their total point scores to identify the winners.

Encourage older students to write questions that cannot be answered by reference to only one data source. Questions that require synthesis of several pieces of data will promote higher-order thinking.

[It is hoped that student questions identify some or all of the following points: Figure 1 shows that many more cities of more than 1 million people now exist—in other words, the number of megacities is increasing. Table 3 shows that most of the world's largest cities are now in developing regions. Figure 2 suggests that an increasing number of people will be living in urban areas in the developing regions in the near future.]

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Urban Growth 13

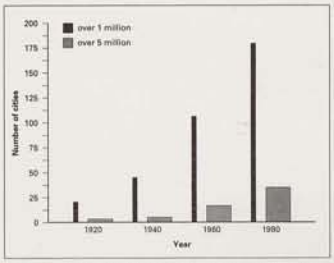

Figure 1 Increase in the number of cities over 1 million and over 5 million since 1920.

Sources: Mountjoy 1986; *Information Please Almanac* 1992.

Table 3 Today's top 10 megacities (estimated population in millions, 1992)

Rank	City	Population
1	Tokyo	25.8
2	São Paulo	19.2
3	New York	16.2
4	Mexico City	15.3
5	Shanghai	14.1
6	Bombay	13.3
7	Los Angeles	11.9
8	Buenos Aires	11.8
9	Seoul	11.6
10	Beijing	11.4

Source: Haub 1993.

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14 *Geographic Inquiry into Global Issues*

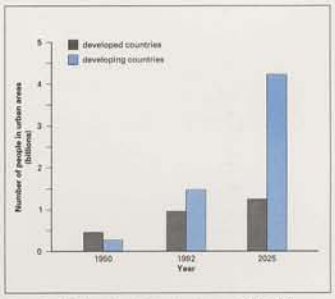


Figure 2 Number of people living in urban areas, 1950–2025.

Sources: Haub 1993; Population Reference Bureau 1992; *Information Please Almanac* 1992.

Did Mexico City shrink?

Table 4 Fluctuations in population estimates

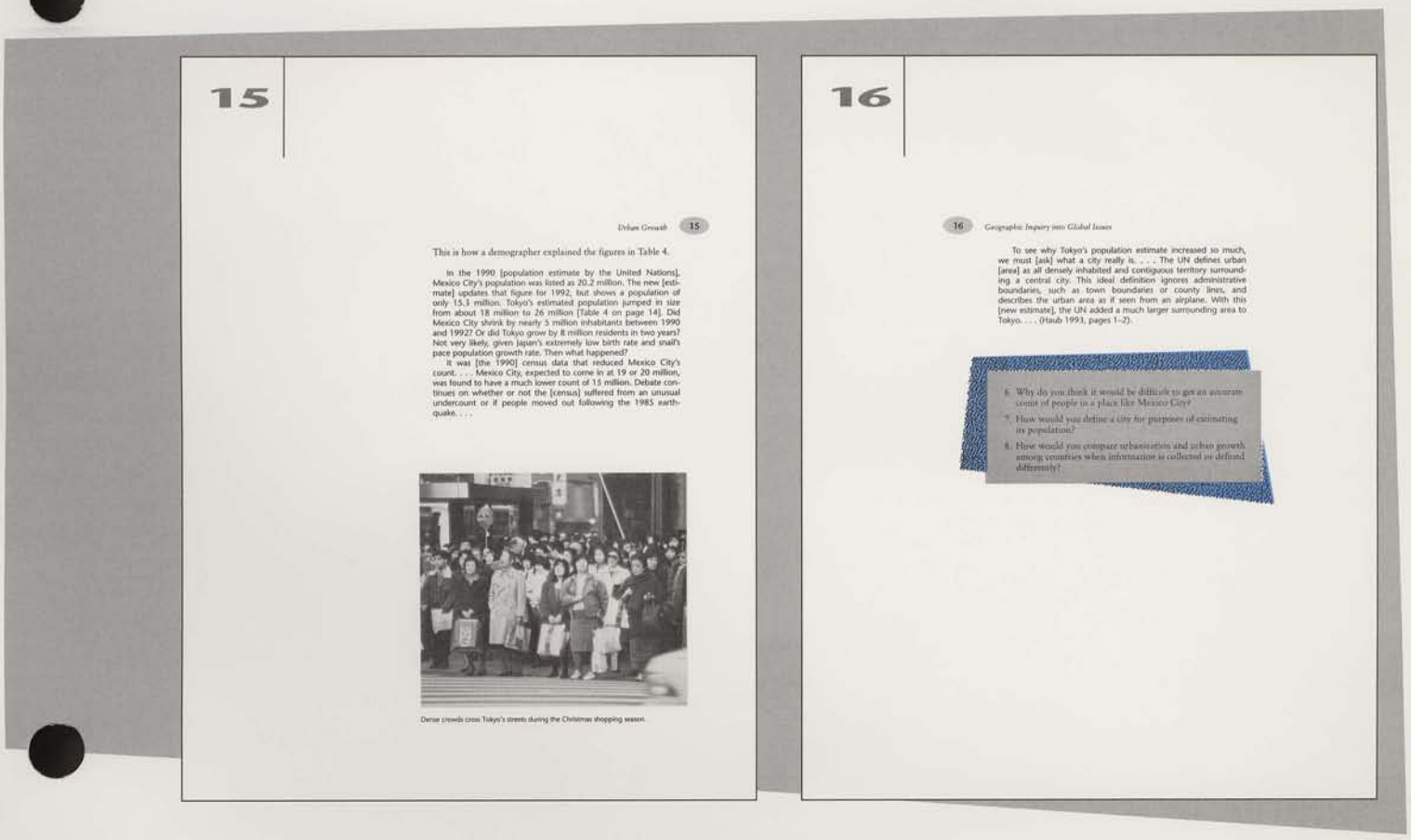
Estimated population	1990	1992
Mexico City	20.2 million	15.3 million
Tokyo	18.1 million	25.8 million

Source: Haub 1993.

H. Spend a few moments discussing the meaning of these data to emphasize general concepts that emerged from the team-question activity. [The goal is for students to see that as people concentrate in cities in the developing world, the location of the world's largest cities will increasingly be in the poorer places that can least afford to address the problems students discussed in Lesson 1. This leads into the Mexico City case study—how do developing countries deal with this issue?]

Did Mexico City shrink? (pages 14–16)

I. One of the most difficult problems in presenting population data to students is accounting for changing definitions. This procedure gives you the option to explore changing definitions and to let students appreciate the problems faced by geographers who study population changes. If you choose to include this procedure, have students read the text on pages 15–16 and look at Table 4 on page 14. Discuss Questions 6–8 as a class. This procedure may leave students wondering what is happening in Mexico in light of the apparent reduction in population. Lesson 3 includes a look into Mexico City's growth, which may help address student curiosity.



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This is how a demographer explained the figures in Table 4.

In the 1990 [population estimate by the United Nations], Mexico City's population was listed as 20.2 million. The new [estimate] updates that figure for 1992, but shows a population of only 15.3 million. Tokyo's estimated population jumped in size from about 18 million to 26 million [Table 4 on page 14]. Did Mexico City shrink by nearly 5 million inhabitants between 1990 and 1992? Or did Tokyo grow by 8 million residents in two years? Not very likely, given Japan's extremely low birth rate and snail's pace population growth rate. Then what happened?

It was [the 1990] census data that reduced Mexico City's count. . . . Mexico City, expected to come in at 19 or 20 million, was found to have a much lower count of 15 million. Debate continues on whether or not the [census] suffered from an unusual undercount or if people moved out following the 1985 earthquake. . . .

Dense crowds cross Tokyo's streets during the Christmas shopping season.

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To see why Tokyo's population estimate increased so much, we must [ask] what a city really is. . . . The UN defines urban [area] as all densely inhabited and contiguous territory surrounding a central city. This ideal definition ignores administrative boundaries, such as town boundaries or county lines, and describes the urban area as if seen from an airplane. With this [new estimate], the UN added a much larger surrounding area to Tokyo. . . . (Haub 1993, pages 1–2).

6. Why do you think it would be difficult to get an accurate count of people in a place like Mexico City?
7. How would you define a city for purposes of estimating its population?
8. How would you compare urbanization and urban growth among countries when information is collected or defined differently?

Questions and Answers for page 16

6. Why do you think it would be difficult to get an accurate count of people in a place like Mexico City?

   - Accept reasonable speculations; students may recall problems such as the people living in squatter settlements or near the garbage dumps (Lesson 1). Trying to count everyone in such situations would be extremely difficult. Also, there are people constantly moving in and out of the city.

7–8. How would you define a city for purposes of estimating its population? How would you compare urbanization and urban growth among countries when information is collected or defined differently?

   - For Questions 7 and 8, have students develop and defend their own solutions to these issues. The problem of defining cities also occurs in the United States (e.g., whether to include suburban areas as part of a city's population for planning purposes); use local examples if possible to highlight this problem.

For Further Inquiry

Have students gather information to answer the questions about their own community raised in the *Getting Started* section.

Lesson 3

What has caused Mexico's urban growth?

Time Required

Two to three 50-minute class periods

Materials Needed

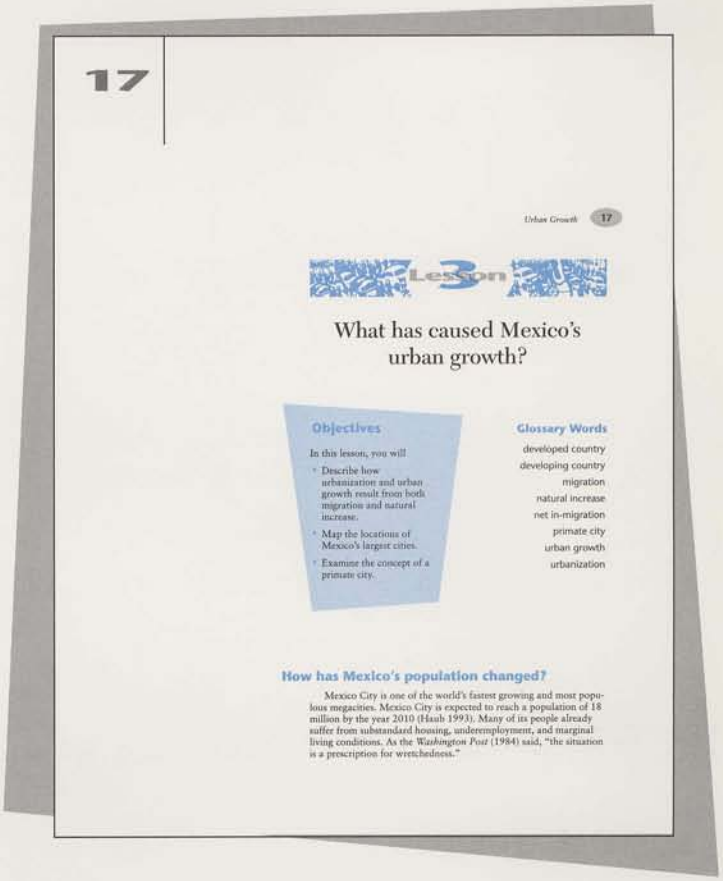
Mini-Atlas map 2

Glossary Words

developed country
developing country
migration
natural increase
net in-migration
primate city
urban growth
urbanization

Getting Started

Ask if anyone in the class has ever visited Mexico City. If so, what were their impressions? If not, ask if anyone has been to any megacity (e.g., New York, Los Angeles, Chicago). Ask students if these cities have always been large, and if not, when their major growth occurred. (Alternatively, ask similar questions about the nearest large city with which your students would be most familiar.) Ask what kinds of problems these large cities face as a review of material covered in Lesson 1.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Lesson 3

What has caused Mexico's urban growth?

Objectives

In this lesson, you will

- Describe how urbanization and urban growth result from both migration and natural increase.
- Map the locations of Mexico's largest cities.
- Examine the concept of a primate city.

Glossary Words

developed country
developing country
migration
natural increase
net in-migration
primate city
urban growth
urbanization

How has Mexico's population changed?

Mexico City is one of the world's fastest growing and most populous megacities. Mexico City is expected to reach a population of 18 million by the year 2010 (Hauls 1993). Many of its people already suffer from substandard housing, underemployment, and marginal living conditions. As the *Washington Post* (1984) said, "the situation is a prescription for wretchedness."

Procedures

How has Mexico's population changed? (pages 17–18)

A. Have students use Table 5 on page 18 to calculate the percentage of the population that lived in urban areas for the four dates given in the table. Have students work in pairs to answer Questions 1 and 2 following Table 5. [The results of these four calculations are that Mexico's population was 33.5 percent urban in 1930, 42.6 percent in 1950, 66.3 percent in 1980, and 71 percent in 1992. You may also wish to have students graph these figures, an exercise that will help them more clearly visualize the meaning of the data. (A graph would place percentage of population urban on the vertical axis and time on the horizontal axis.)]

For younger students, you may wish to keep the class focused together in discussing the questions. Also, give younger students directions for computing percentages.

(urban population ÷ country population) X 100 = percentage urban

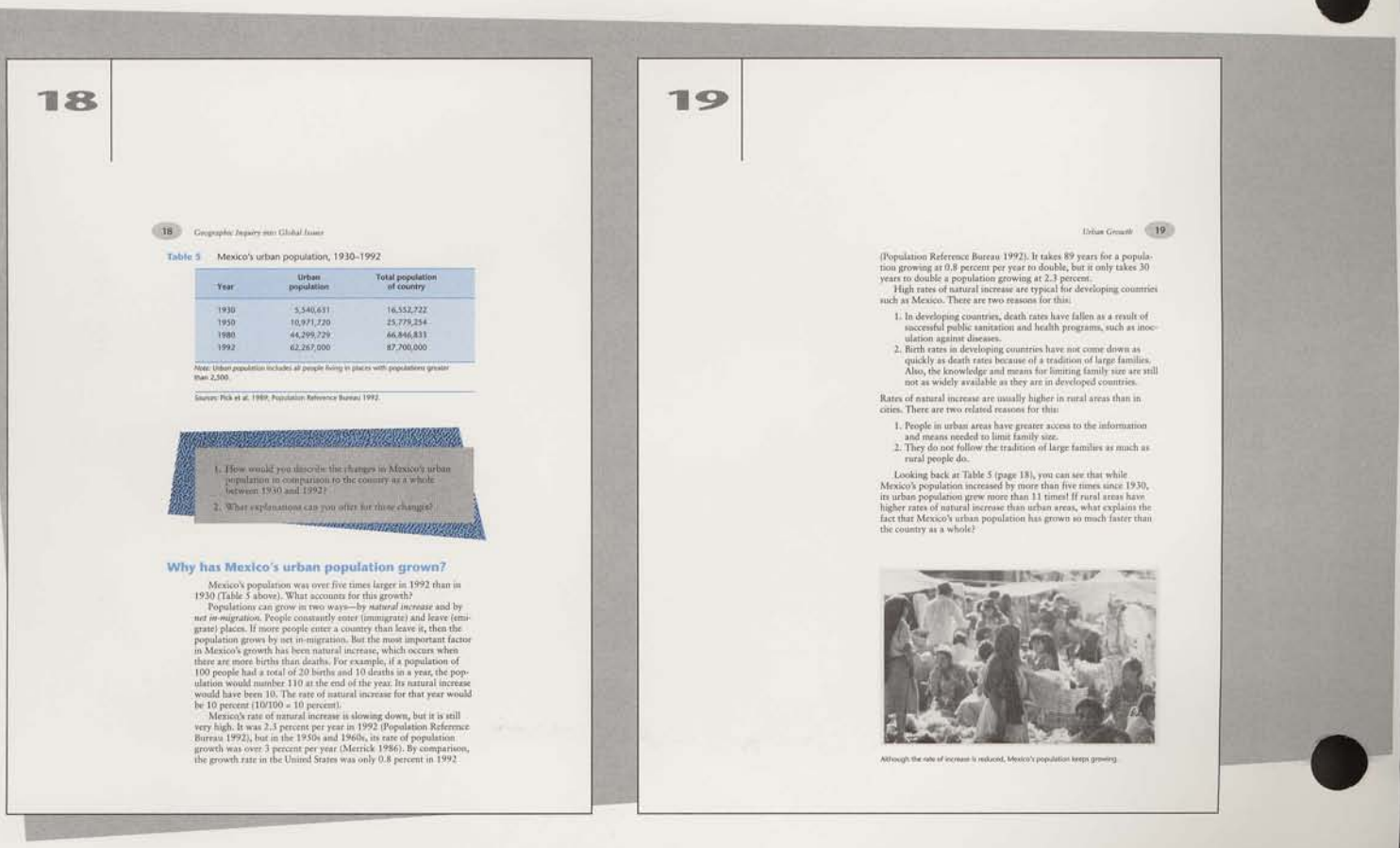

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Table 5 Mexico's urban population, 1930–1992

Year	Urban population	Total population of country
1930	5,540,631	16,552,722
1950	10,971,720	25,779,254
1980	44,299,729	66,846,833
1992	62,267,000	87,700,000

Note: Urban population includes all people living in places with populations greater than 2,500.

Sources: Pick et al. 1989; Population Reference Bureau 1992.

1. How would you describe the changes in Mexico's urban population in comparison to the country as a whole between 1930 and 1992?
2. What explanations can you offer for those changes?

Why has Mexico's urban population grown?

Mexico's population was over five times larger in 1992 than in 1930 (Table 5 above). What accounts for this growth?

Populations can grow in two ways—by *natural increase* and by *net in-migration*. People constantly enter (immigrate) and leave (emigrate) places. If more people enter a country than leave it, then the population grows by net in-migration. But the most important factor in Mexico's growth has been natural increase, which occurs when there are more births than deaths. For example, if a population of 100 people had a total of 20 births and 10 deaths in a year, the population would number 110 at the end of the year. Its natural increase would have been 10. The rate of natural increase for that year would be 10 percent (10/100 = 10 percent).

Mexico's rate of natural increase is slowing down, but it is still very high. It was 2.3 percent per year in 1992 (Population Reference Bureau 1992), but in the 1950s and 1960s, its rate of population growth was over 3 percent per year (Merrick 1986). By comparison, the growth rate in the United States was only 0.8 percent in 1992

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(Population Reference Bureau 1992). It takes 89 years for a population growing at 0.8 percent per year to double, but it only takes 30 years to double a population growing at 2.3 percent.

High rates of natural increase are typical for developing countries such as Mexico. There are two reasons for this:

1. In developing countries, death rates have fallen as a result of successful public sanitation and health programs, such as inoculation against diseases.
2. Birth rates in developing countries have not come down as quickly as death rates because of a tradition of large families. Also, the knowledge and means for limiting family size are still not as widely available as they are in developed countries.

Rates of natural increase are usually higher in rural areas than in cities. There are two related reasons for this:

1. People in urban areas have greater access to the information and means needed to limit family size.
2. They do not follow the tradition of large families as much as rural people do.

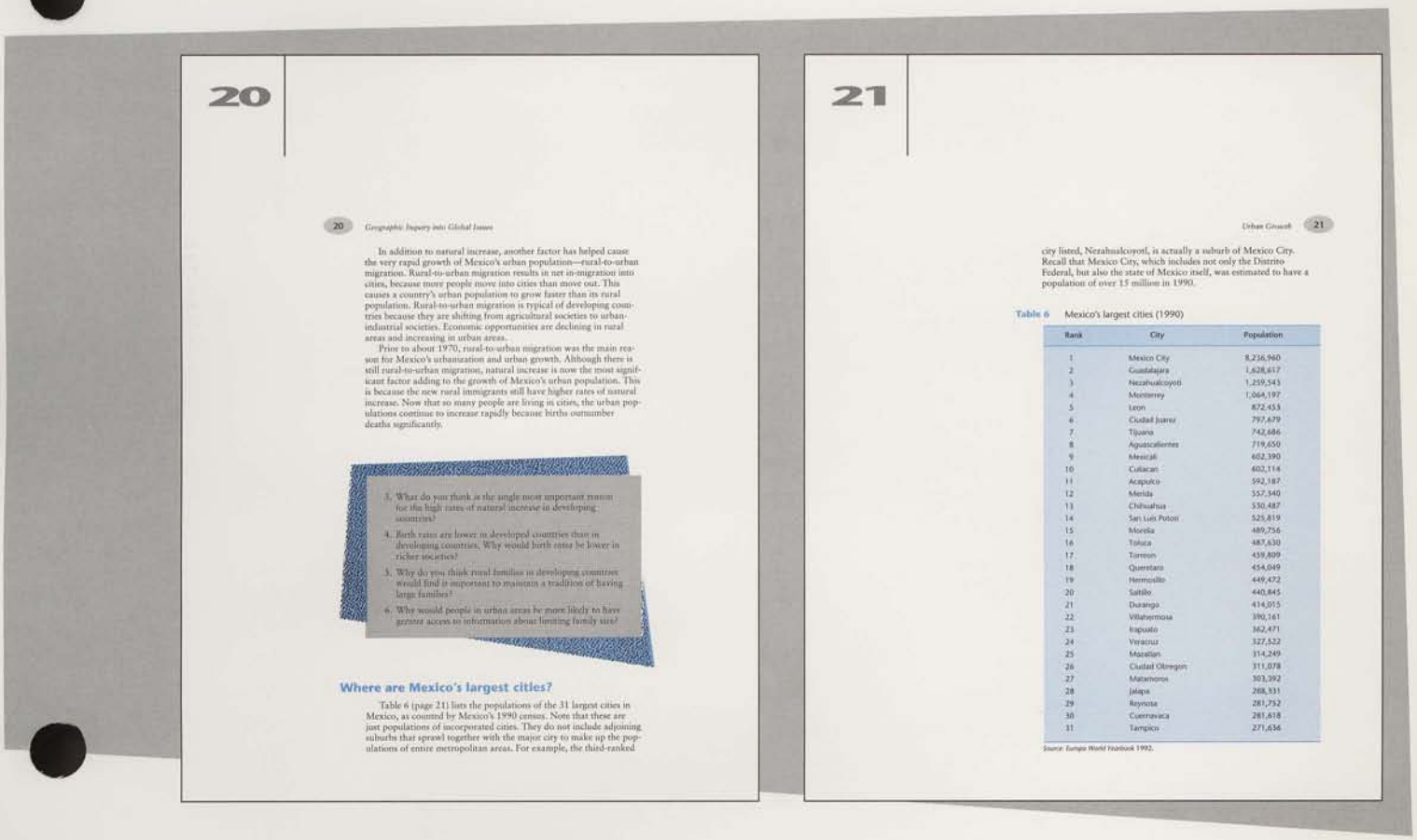
Looking back at Table 5 (page 18), you can see that while Mexico's population increased by more than five times since 1930, its urban population grew more than 11 times! If rural areas have higher rates of natural increase than urban areas, what explains the fact that Mexico's urban population has grown so much faster than the country as a whole?

Although the rate of increase is reduced, Mexico's population keeps growing.

Questions and Answers for page 18

1. How would you describe the changes in Mexico's urban population in comparison to the country as a whole between 1930 and 1992?
   - Mexico's population grew over five times but the urban population grew over 11 times during the period. The country became increasingly urbanized; in 1930, only about 33 percent of the nation's population lived in urban areas, but by 1992, the urban proportion had increased to over 70 percent.

2. What explanations can you offer for these changes?
   - Do not press for full and correct answers at this point but instead accept any reasonable suggestions. Have students brainstorm a number of answers, and record and post the answers.



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In addition to natural increase, another factor has helped cause the very rapid growth of Mexico's urban population—rural-to-urban migration. Rural-to-urban migration results in net in-migration into cities, because more people move into cities than move out. This causes a country's urban population to grow faster than its rural population. Rural-to-urban migration is typical of developing countries because they are shifting from agricultural societies to urban-industrial societies. Economic opportunities are declining in rural areas and increasing in urban areas.

Prior to about 1970, rural-to-urban migration was the main reason for Mexico's urbanization and urban growth. Although there is still rural-to-urban migration, natural increase is now the most significant factor adding to the growth of Mexico's urban population. This is because the new rural immigrants still have higher rates of natural increase. Now that so many people are living in cities, the urban populations continue to increase rapidly because births outnumber deaths significantly.

3. What do you think is the single most important reason for the high rates of natural increase in developing countries?
4. Birth rates are lower in developed countries than in developing countries. Why would birth rates be lower in richer societies?
5. Why do you think rural families in developing countries would find it important to maintain a tradition of having large families?
6. Why would people in urban areas be more likely to have greater access to information about limiting family size?

Where are Mexico's largest cities?

Table 6 (page 21) lists the populations of the 31 largest cities in Mexico, as counted by Mexico's 1990 census. Note that these are just populations of incorporated cities. They do not include adjoining suburbs that sprawl together with the major city to make up the populations of entire metropolitan areas. For example, the third-ranked

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city listed, Nezahualcoyotl, is actually a suburb of Mexico City. Recall that Mexico City, which includes not only the Distrito Federal, but also the state of Mexico itself, was estimated to have a population of over 15 million in 1990.

Table 6 Mexico's largest cities (1990)

Rank	City	Population
1	Mexico City	8,236,960
2	Guadalajara	1,628,617
3	Nezahualcoyotl	1,259,543
4	Monterrey	1,064,197
5	Leon	872,453
6	Ciudad Juarez	797,679
7	Tijuana	742,686
8	Aguascalientes	719,650
9	Mexicali	602,390
10	Culiacan	602,114
11	Acapulco	592,187
12	Merida	557,340
13	Chihuahua	530,487
14	San Luis Potosi	525,819
15	Morelia	489,756
16	Toluca	487,630
17	Torreon	459,809
18	Queretaro	454,049
19	Hermosillo	449,472
20	Saltillo	440,845
21	Durango	414,015
22	Villahermosa	390,161
23	Irapuato	362,471
24	Veracruz	327,522
25	Mazatlan	314,249
26	Ciudad Obregon	311,078
27	Matamoros	303,392
28	Jalapa	288,331
29	Reynosa	281,752
30	Cuernavaca	281,618
31	Tampico	271,636

Source: Europa World Yearbook 1992.

Why has Mexico's urban population grown? (pages 18–20)

B. Have student pairs read the text on pages 18–20. This defines glossary terms such as *natural increase* and *net in-migration*. It also gives two reasons each for why rates of natural increase are higher in developing countries and in rural areas. Questions 3–6 ask for speculations and opinions based on this reading; use these for class discussion. Brainstorm ideas with the class.

Questions and Answers for page 20

3. What do you think is the single most important reason for the high rates of natural increase in developing countries?
   - The high rates of natural increase are caused by a combination of low death rates and high birth rates. Take a vote to see which reason students think is more important, asking them to defend their choice.

4. Birth rates are lower in developed countries than in developing countries. Why would birth rates be lower in richer societies?
   - Possible answers: The need for large families is not as great in industrial societies as in agrarian societies. Also, the trend is typically that family size decreases as educational level increases. Finally, belief systems in many developing countries promote large families.

5. Why do you think rural families in developing countries would find it important to maintain a tradition of having large families?
   - Possible answers: Having more children provides more hands for farm labor. Poor health care and sanitation lead to high infant and child mortality, meaning that families have more children to maintain the labor source. As parents age, the children's role is to take care of the elders, so the parents are in a way ensuring their own social security. Finally, in many cultures, large families (especially large numbers of sons) are a sign of status.

6. Why would people in urban areas be more likely to have greater access to information about limiting family size?
   - Possible answers include greater access to educational media, including schools, newspapers, and television and more availability of health care and family-planning services.

Where are Mexico's largest cities? (pages 20–21)

C. Have students look at Table 6 on page 21. Ask the students what would be a better way of presenting the data of a country's largest cities, rather than in this simple list. Suggest that students think along two lines. First, how could one simplify the list to show similarly sized cities? [The idea being that by classifying cities into groups with similar populations, the list would be easier to read] Second, how could one better show where the most populous cities were? [On a map]

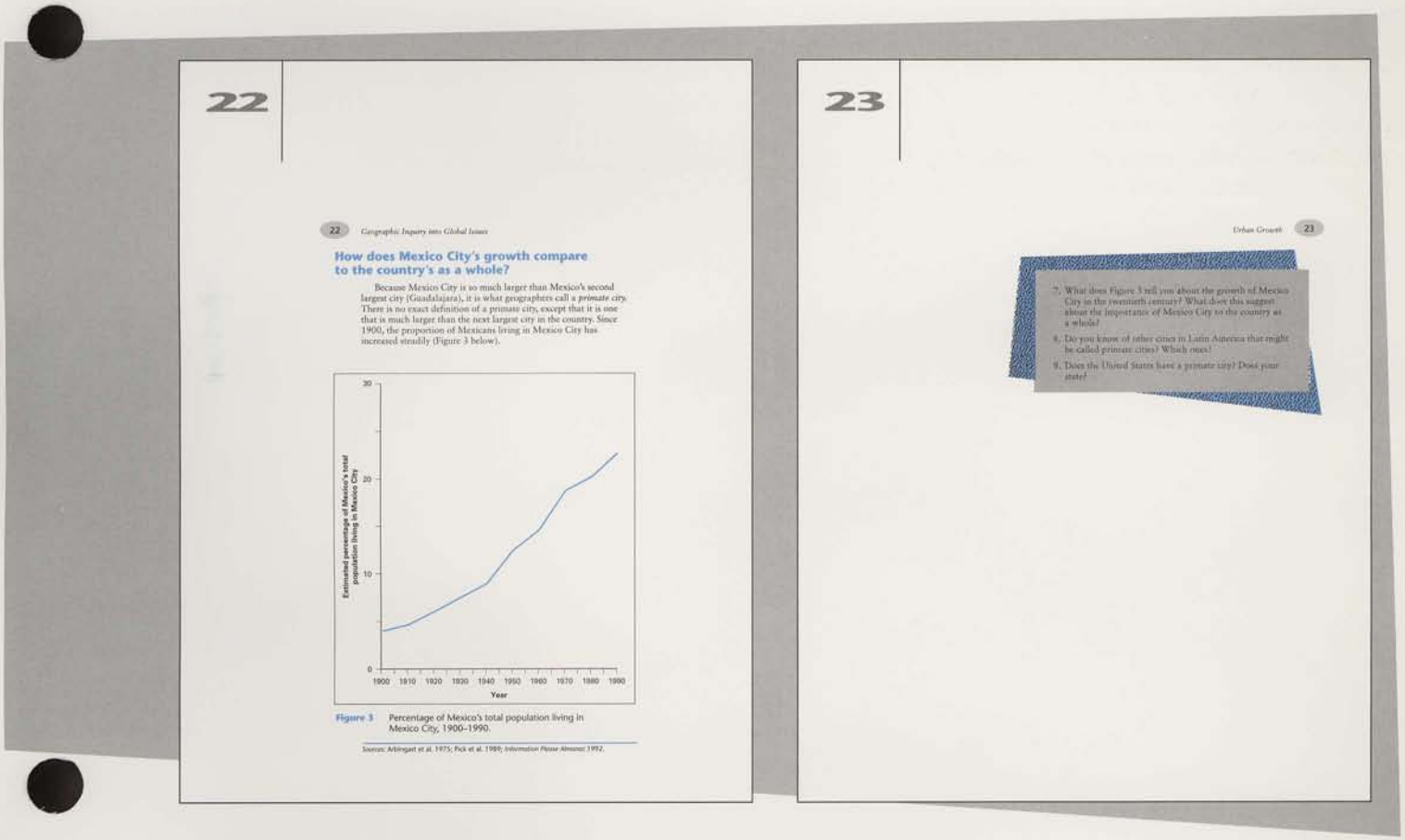
D. Have groups of 3 or 4 students classify the 31 cities into categories of similar-sized populations. Distribute to each group **Mini-Atlas map 2**, which shows the location of Mexico's 31 largest cities. Have groups create different symbols (for size classes) on the Mini-Atlas map to show their classification system.

> Ask older students to invent their own system of symbols, using no more than four population classes. With younger students you may need to give them the categories, e.g., 250,000 to 500,000; 500,000 to 1 million; 1 to 2 million; and over 2 million. As always, insist that students put titles and legends on their maps.

E. Have students look at their marked-up Mini-Atlas map and consider how this presentation compares to Table 6 as a means of showing a country's urban population concentration. Ask students what the advantages and disadvantages are of using a map. [Patterns show up more clearly on a map. For example, we can more easily see that Mexico City and Nezahualcoyotl are adjacent. Also, it can be seen that there are more cities in the smaller-size ranges and only one megacity. Disadvantages are that by classifying the cities into groups, we lose the details of the exact population and city ranks.]

How does Mexico City's growth compare to the country's as a whole? (pages 22–23)

F. Have a student read the paragraph of text under this question. Have groups study Figure 3 (page 22) and discuss Questions 7–9 on page 23.



Questions and Answers for page 23

7. What does Figure 3 tell you about the growth of Mexico City in the twentieth century? What does this suggest about the importance of Mexico City to the country as a whole?

   - In 1900, Mexico City accounted for only 4 percent of the nation's population, but by 1990, it held nearly 25 percent of the total. From readings earlier in the lesson, students are already aware that Mexico's population has been getting larger and more urbanized. This figure suggests that Mexico City, more than other urban areas, has dominated Mexico's urbanization and urban growth.

8. Do you know of other cities in Latin America that might be called primate cities? Which ones?

   - A number could be mentioned, e.g., Caracas, Venezuela; Lima, Peru; Santiago, Chile; and Buenos Aires, Argentina.

9. Does the United States have a primate city? Does your state?

   - Not really—New York and Los Angeles are primate each on their respective coasts. On the smaller scale, many states do have cities that might be considered primate, such as Massachusetts, Oregon, Utah, Georgia, and Indiana.

For Further Inquiry

Have students compare population density in Mexico City to that in various U.S. cities, especially to the closest city. Use almanacs and atlases with maps of major cities to make such comparisons. Mexico City's population is very densely concentrated compared to, say, California's urban areas. For example, Mexico City's 1990 population was slightly larger than the Los Angeles-Anaheim-Riverside urban areas, yet the Southern California urban area covers much more space than does Mexico City.

Lesson 4

Why do Mexicans migrate to urban areas?

Time Required

Two 50-minute class periods

Materials Needed

Copies of Activity 4 for all students
Colored pencils
Transparency of Overhead 1

Glossary Words

in-migration

migration

net migration

out-migration

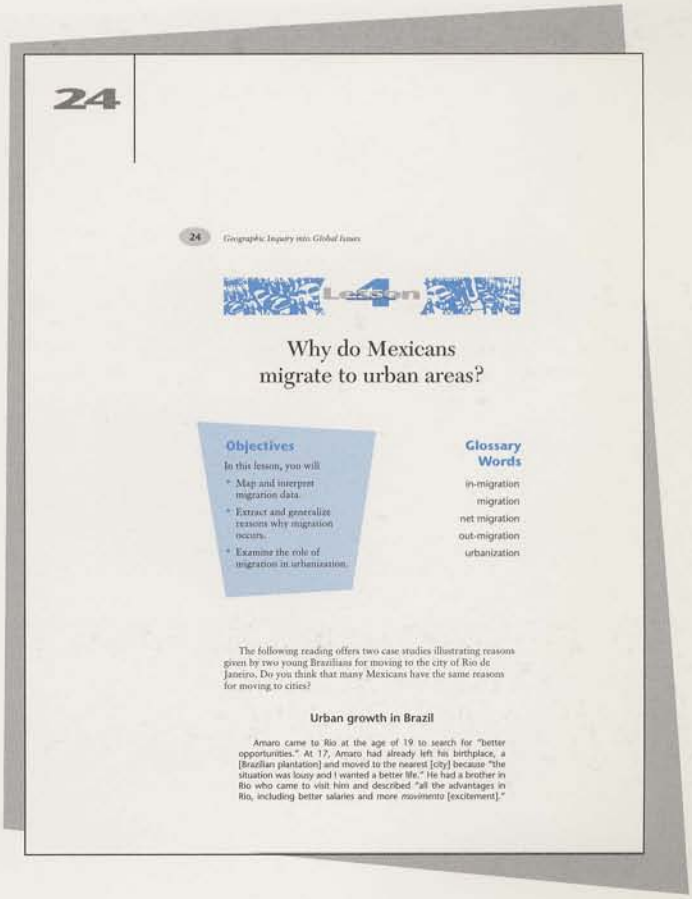
urbanization

Getting Started

- Ask students to give personal accounts of why their families moved.
- If you have access to it, show the 15-minute video about Brazil titled "Why Do People Move?", which is in the *Global Geography* series. Ask students to list the reasons for moving that are mentioned in the program.

Procedures

A. Have students read the extract, "Urban growth in Brazil," on pages 24–25. This reading mentions several of the reasons for rural-to-urban migration in Latin America. Have students identify and list these on the chalkboard to prepare for the next procedure. Make two lists, one for the case of Amaro and one for Juliana. These cases personalize the concepts presented in this lesson.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24 Geographic Inquiry into Global Issues

Lesson 4

Why do Mexicans migrate to urban areas?

Objectives

In this lesson, you will

- Map and interpret migration data.
- Extract and generalize reasons why migration occurs.
- Examine the role of migration in urbanization.

Glossary Words

in-migration
migration
net migration
out-migration
urbanization

The following reading offers two case studies illustrating reasons given by two young Brazilians for moving to the city of Rio de Janeiro. Do you think that many Mexicans have the same reasons for moving to cities?

Urban growth in Brazil

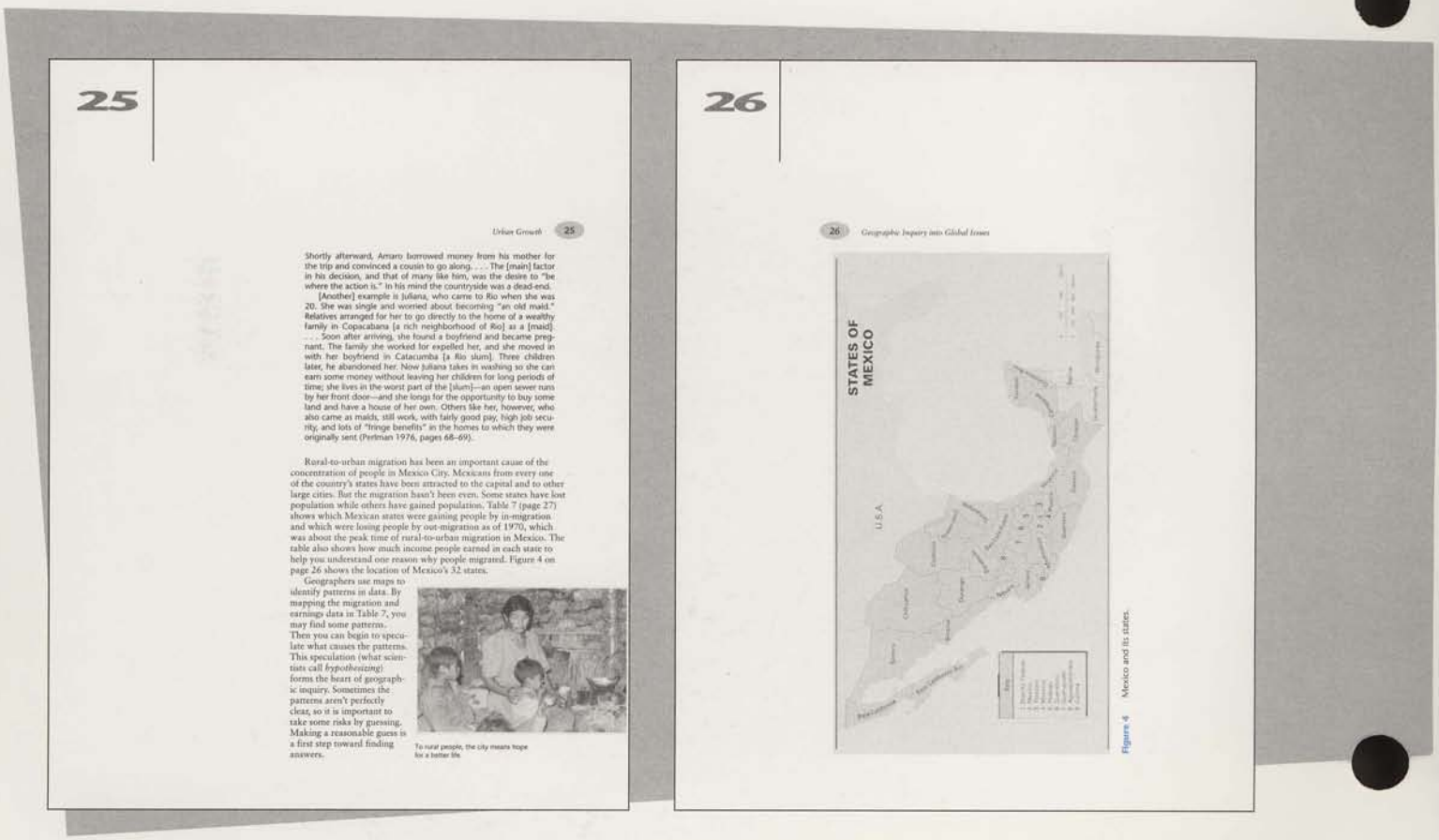
Amaro came to Rio at the age of 19 to search for "better opportunities." At 17, Amaro had already left his birthplace, a [Brazilian plantation] and moved to the nearest [city] because "the situation was lousy and I wanted a better life." He had a brother in Rio who came to visit him and described "all the advantages in Rio, including better salaries and more *movimento* [excitement]."

B. Distribute the two copies of **Activity 4** to each student (outline maps of Mexican states). On one copy, they will map the net migration rates reported in Table 7 (page 27). On the other copy, they will map the earnings per worker data from Table 7. Together, these maps help explain push and pull factors of migration. To discover this concept, students will work not only with their two maps from Activity 4 but also Figure 5 on page 29 (see Procedure D) and **Overhead 1.**

For the migration map, have students classify the states according to the four categories given in Table 7 on page 27. For the earnings map, have them classify the states according to the scheme given on the *Key for Activity 4.* (Note that the states will fall out into slightly different groupings than in the migration data; the scheme suggested on the key yields good results.)

Have students use different color patterns to identify each state's migration and earnings rates on their maps. In maps such as these, it is customary to use darker colors or denser patterns to show greater values. Be sure students design their legends tying their colors or patterns to the classification schemes.

C. When students have completed their two maps, have them answer Questions 1–3 on page 28. Accept speculations at this point.



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Shortly afterward, Amaro borrowed money from his mother for the trip and convinced a cousin to go along. . . . The [main] factor in his decision, and that of many like him, was the desire to "be where the action is." In his mind the countryside was a dead-end.

[Another] example is Juliana, who came to Rio when she was 20. She was single and worried about becoming "an old maid." Relatives arranged for her to go directly to the home of a wealthy family in Copacabana [a rich neighborhood of Rio] as a [maid]. . . . Soon after arriving, she found a boyfriend and became pregnant. The family she worked for expelled her, and she moved in with her boyfriend in Catacumba [a Rio slum]. Three children later, he abandoned her. Now Juliana takes in washing so she can earn some money without leaving her children for long periods of time; she lives in the worst part of the [slum]—an open sewer runs by her front door—and she longs for the opportunity to buy some land and have a house of her own. Others like her, however, who also came as maids, still work, with fairly good pay, high job security, and lots of "fringe benefits" in the homes to which they were originally sent (Perlman 1976, pages 68–69).

Rural-to-urban migration has been an important cause of the concentration of people in Mexico City. Mexicans from every one of the country's states have been attracted to the capital and to other large cities. But the migration hasn't been even. Some states have lost population while others have gained population. Table 7 (page 27) shows which Mexican states were gaining people by in-migration and which were losing people by out-migration as of 1970, which was about the peak time of rural-to-urban migration in Mexico. The table also shows how much income people earned in each state to help you understand one reason why people migrated. Figure 4 on page 26 shows the location of Mexico's 32 states.

Geographers use maps to identify patterns in data. By mapping the migration and earnings data in Table 7, you may find some patterns. Then you can begin to speculate what causes the patterns. This speculation (what scientists call *hypothesizing*) forms the heart of geographic inquiry. Sometimes the patterns aren't perfectly clear, so it is important to take some risks by guessing. Making a reasonable guess is a first step toward finding answers.

To rural people, the city means hope for a better life.

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STATES OF MEXICO

U.S.A.

Figure 4 Mexico and its states.

Questions and Answers for page 28

1. By mapping the net migration information from Table 7, which regions did you discover were losing and which were gaining population?
   - See *Key for Activity 4* (*Migration Map*). Gains are in the Baja Peninsula, the northwest coastal states, along the border with Texas, and in central Mexico (surrounding Mexico City). Losing regions are mainly in the interior and the southwest coastal states.

2. By mapping the earnings data from Table 7, which regions did you discover had high and which had low workers' earnings?
   - See *Key for Activity 4* (*Earnings Map*). Highest earnings are in the northwest, Baja, the U.S. border states, Mexico City, and the state of Guerrero. Lowest earnings are in the interior, along the southwest coast, and the Yucatan Peninsula.

3. What relationship can you find between the pattern of net migration and workers' earnings?
   - At this point, students may notice that net in-migration appears to be related to higher worker earnings. States with lower earnings per worker tend to be experiencing population losses. The relationship is not perfect. Notable exceptions are Guerrero (where Acapulco and other tourist sites are) and Nayarit (low worker earnings but in-migration).

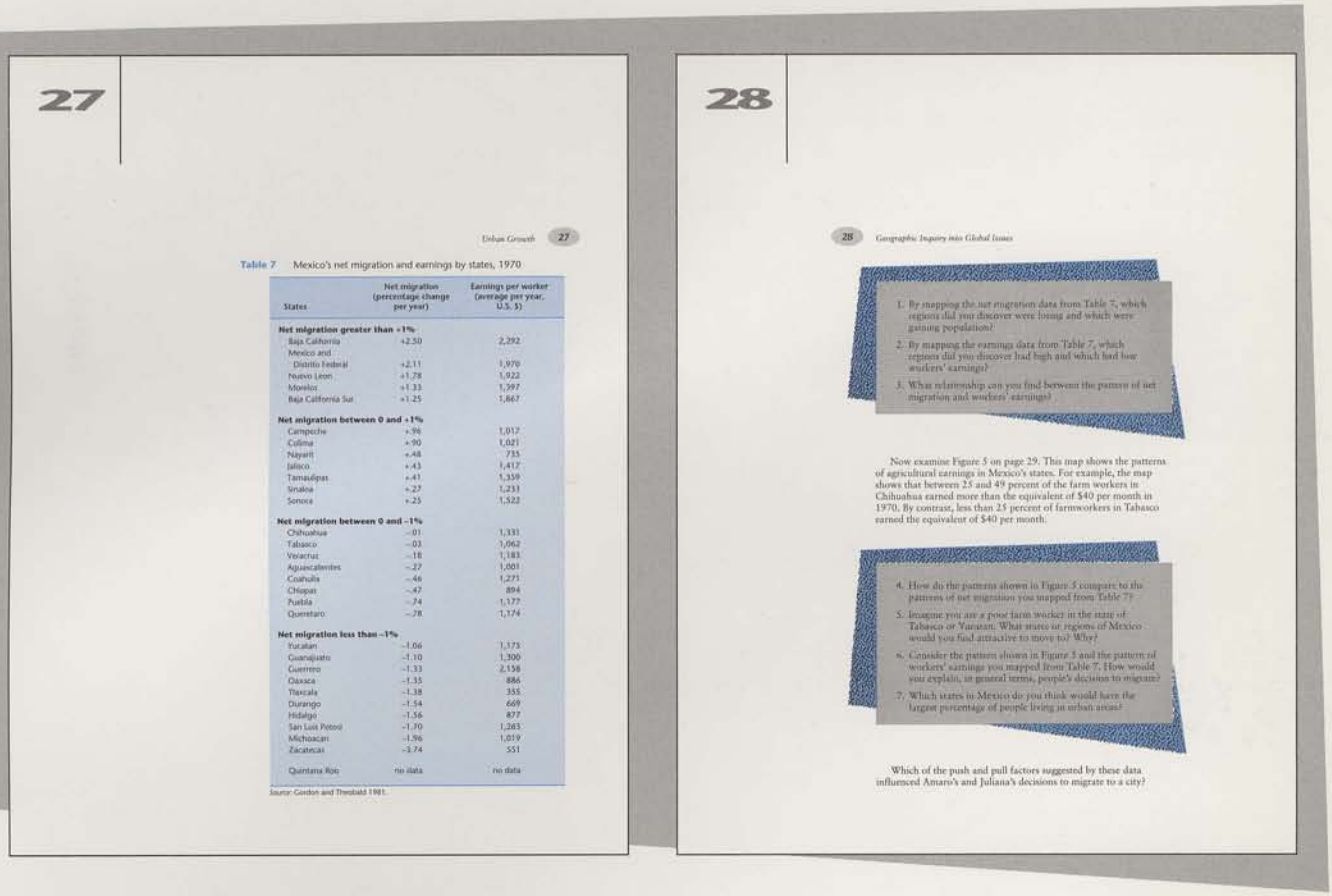

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Table 7 Mexico's net migration and earnings by states, 1970

States	Net migration (percentage change per year)	Earnings per worker (average per year, U.S. $)
Net migration greater than +1%		
Baja California	+2.50	2,292
Mexico and Distrito Federal	+2.11	1,970
Nuevo Leon	+1.78	1,922
Morelos	+1.33	1,597
Baja California Sur	+1.25	1,867
Net migration between 0 and +1%		
Campeche	+.96	1,017
Colima	+.90	1,021
Nayarit	+.48	735
Jalisco	+.43	1,417
Tamaulipas	+.41	1,339
Sinaloa	+.27	1,233
Sonora	+.25	1,522
Net migration between 0 and –1%		
Chihuahua	–.01	1,331
Tabasco	–.03	1,062
Veracruz	–.18	1,183
Aguascalientes	–.27	1,001
Coahuila	–.46	1,271
Chiapas	–.47	894
Puebla	–.74	1,177
Queretaro	–.78	1,174
Net migration less than –1%		
Yucatan	–1.06	1,173
Guanajuato	–1.10	1,300
Guerrero	–1.33	2,158
Oaxaca	–1.35	886
Tlaxcala	–1.38	355
Durango	–1.54	669
Hidalgo	–1.56	877
San Luis Potosi	–1.70	1,265
Michoacan	–1.96	1,019
Zacatecas	–3.74	551
Quintana Roo	no data	no data

Source: Gordon and Theobald 1981.

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1. By mapping the net migration data from Table 7, which regions did you discover were losing and which were gaining population?
2. By mapping the earnings data from Table 7, which regions did you discover had high and which had low workers' earnings?
3. What relationship can you find between the pattern of net migration and workers' earnings?

Now examine Figure 5 on page 29. This map shows the patterns of agricultural earnings in Mexico's states. For example, the map shows that between 25 and 49 percent of the farm workers in Chihuahua earned more than the equivalent of $40 per month in 1970. By contrast, less than 25 percent of farmworkers in Tabasco earned the equivalent of $40 per month.

4. How do the patterns shown in Figure 5 compare to the patterns of net migration you mapped from Table 7?
5. Imagine you are a poor farm worker in the state of Tabasco or Yucatan. What states or regions of Mexico would you find attractive to move to? Why?
6. Consider the pattern shown in Figure 5 and the pattern of workers' earnings you mapped from Table 7. How would you explain, in general terms, people's decision to migrate?
7. Which states in Mexico do you think would have the largest percentage of people living in urban areas?

Which of the push and pull factors suggested by these data influenced Amaro's and Juliana's decisions to migrate to a city?

Younger students may have trouble discovering this imperfect relationship. Encourage groups to take a chance and guess, because it may make sense to them that higher earnings attract people. Have students note the exceptions; the next procedure may help resolve these problems for them. Regionalizing can be hard for younger students, so it may help to give them practice in describing regions (such as the western United States or the South).

D. Now have students compare Figure 5 (page 29) to their maps of migration and earnings. Emphasize that Figure 5 shows the proportion of *farm workers* who make *relatively* high wages for each state. Ask students to describe how Figure 5 relates to the Activity 4 maps. [The figure indicates regions that would be attractive (pulls) to farm workers.] Use Questions 4–5 on page 28 for class discussion.

Questions and Answers for page 28

4. How do the patterns shown in Figure 5 compare to the patterns of net migration you mapped from Table 7?
   - The vegetable-growing regions of the northwest coast and the central district of Mexico offer the highest wages to farm workers. These are also areas with high net in-migration and high worker earnings. Lower farm-worker wages are found everywhere else—these are usually states with low worker earnings and net out-migration. (There are exceptions here, such as Guerrero, where worker earnings are high because of the tourist industry. Also, states along the U.S. border have low rural wages but higher worker earnings because of factories located near the border.)

5. Imagine you are a poor farm worker in the state of Tabasco or Yucatan. What states or regions of Mexico would you find attractive to move to? Why?
   - Presumably you would go to where the farm-worker wages are highest (northwest coast or central Mexico).

E. Discuss with the class how all the data covered in this lesson lead to high urbanization. Highlight the two following points, which can be generalized from the previous procedures. Ask students to consider whether each factor would lead to high or low urbanization:

   a. States that have the highest workers' earnings attract migrants, and states that have net out-migration tend to have low earnings. [From this, we might expect states with high worker earnings to be urbanized as people move to cities to take advantage of the job opportunities there.]

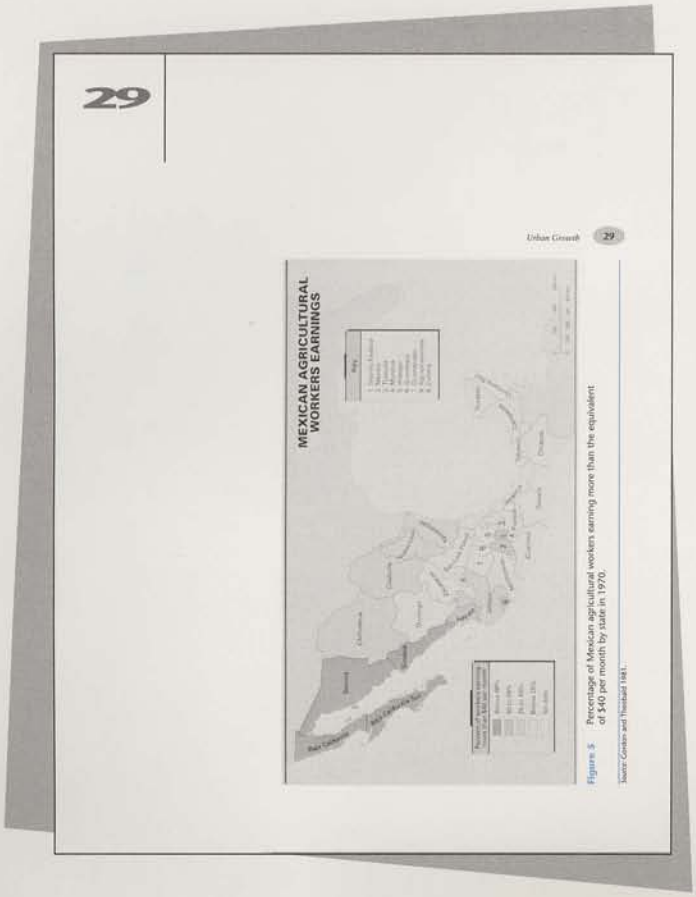
   b. States that have higher farm-worker wages also attract migrants, and states with lower farm-worker wages tend to lose population. [In this case, one would not expect high urbanization, because the workers are living on farms.]

F. Based on their two maps from Activity 4 and Figure 5 on page 29, ask the students to answer Questions 6 and 7.

Questions and Answers for page 28

6. Consider the pattern shown in Figure 5 and the pattern of workers' earnings you mapped from Table 7. How would you explain, in general terms, people's decision to migrate?
   - People are drawn or pulled to places where the opportunities (whether factory or farm work) are better. Similarly, people are drawn away or pushed from places where economic opportunities are lacking.

7. Which states in Mexico do you think would have the largest percentage of people living in urban areas?
   - Show Overhead 1 *after* students have made their predictions. See if students' predictions match the actual pattern. Note that the most urbanized places are those with greater economic opportunities, especially along the U.S. border and around Mexico City. Regions with good rural opportunities (northwest coast) are not necessarily urbanized.



G. To close the lesson, return to the personal stories of Amaro and Juliana presented at the lesson's start. Have students discuss which of the push and pull factors described in this lesson help account for these young peoples' decision to migrate to cities in Latin America. [Both Amaro and Juliana were attracted by the relatively greater opportunities in the city than in the countryside. Push and pull factors help explain people's decisions to migrate. People weigh the negative and positive perceptions of their place of origin and place of destination. Negative aspects push people away from their origins and positive aspects pull people toward their destinations. Hence, rural-urban migration is at least partly explained by the decisions of many rural people who are pushed from rural areas and pulled to cities.]

For Further Inquiry

Discuss whether the push-pull factors described in this lesson also pertain (or have pertained in the past) to rural populations in the United States. This might be especially compelling in rural or small-town schools.

Lesson 5

How can Mexico achieve more even development?

Time Required

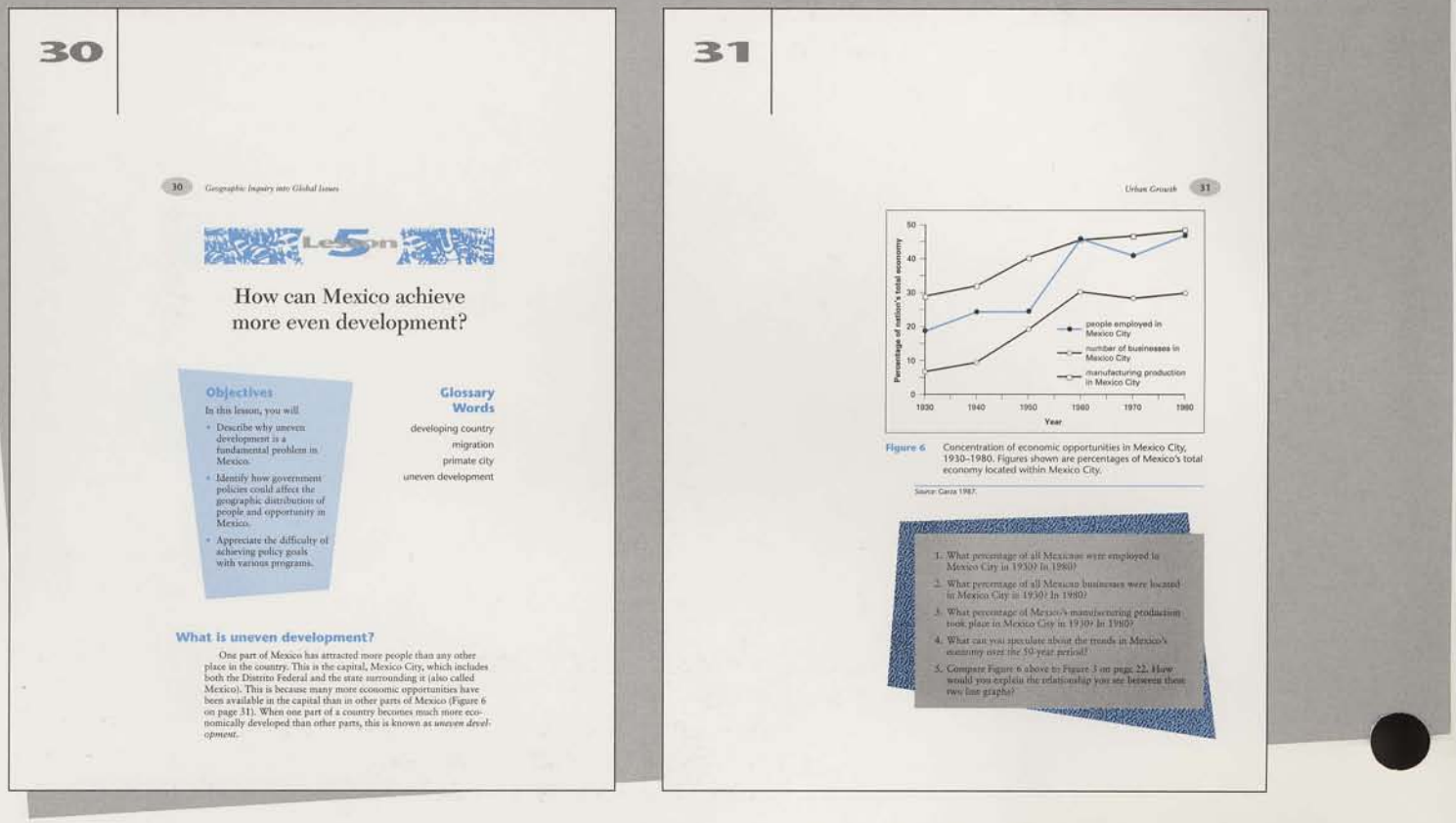
Two 50-minute class periods

Materials Needed

Butcher paper for Procedure C
Transparency of Overhead 2
Copies of Handout 1 for all students (optional)

Glossary Words

developing country
migration
primate city
uneven development



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30 *Geographic Inquiry into Global Issues*

Lesson 5

How can Mexico achieve more even development?

Objectives

In this lesson, you will

- Describe why uneven development is a fundamental problem in Mexico.
- Identify how government policies could affect the geographic distribution of people and opportunity in Mexico.
- Appreciate the difficulty of achieving policy goals with various programs.

Glossary Words

developing country
migration
primate city
uneven development

What is uneven development?

One part of Mexico has attracted more people than any other place in the country. This is the capital, Mexico City, which includes both the Distrito Federal and the state surrounding it (also called Mexico). This is because many more economic opportunities have been available in the capital than in other parts of Mexico (Figure 6 on page 31). When one part of a country becomes much more economically developed than other parts, this is known as *uneven development*.

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Figure 6 Concentration of economic opportunities in Mexico City, 1930–1980. Figures shown are percentages of Mexico's total economy located within Mexico City.

Source: Garza 1987.

1. What percentage of all Mexicans were employed in Mexico City in 1930? In 1980?
2. What percentage of all Mexican businesses were located in Mexico City in 1930? In 1980?
3. What percentage of Mexico's manufacturing production took place in Mexico City in 1930? In 1980?
4. What can you speculate about the trends in Mexico's economy over the 50-year period?
5. Compare Figure 6 above to Figure 3 on page 22. How would you explain the relationship you see between these two line graphs?

Procedures

What is uneven development? (pages 30–33)

A. Have students read the text defining *uneven development* on page 30 and check for understanding. Have students examine Figure 6 on page 31, which gives several indicators of uneven development in Mexico, and answer Questions 1–5 on page 31.

Questions and Answers for page 31

1. What percentage of all Mexicans were employed in Mexico City in 1930? In 1980?
   - In 1930, about 19 percent of all Mexicans were employed in Mexico City. In 1980 the number was about 46 percent.

2. What percentage of all Mexican businesses were located in Mexico City in 1930? In 1980?
   - In 1930, about 6 percent of all businesses were in Mexico City. In 1980 the number was about 27 percent.

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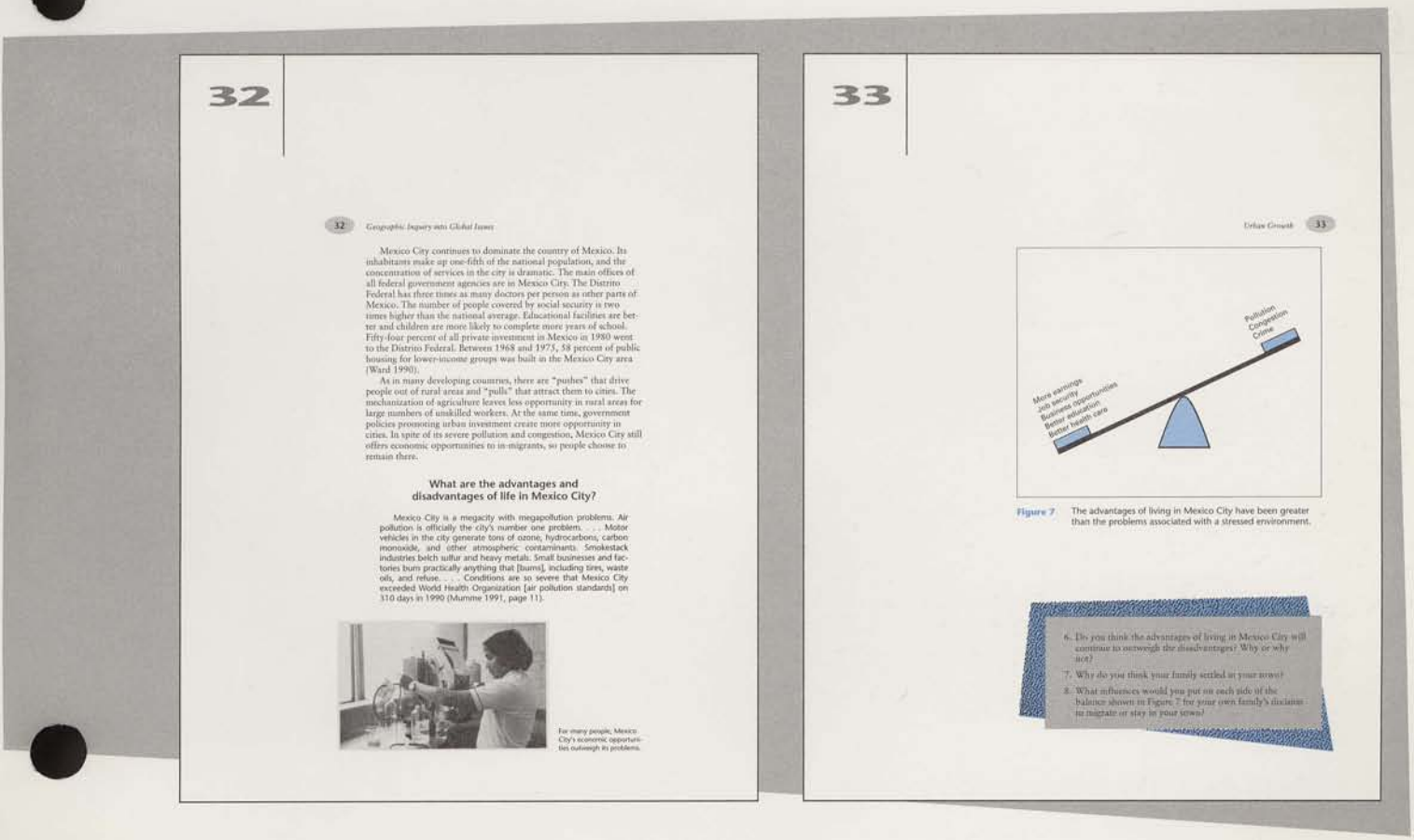

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Mexico City continues to dominate the country of Mexico. Its inhabitants make up one-fifth of the national population, and the concentration of services in the city is dramatic. The main offices of all federal government agencies are in Mexico City. The Distrito Federal has three times as many doctors per person as other parts of Mexico. The number of people covered by social security is two times higher than the national average. Educational facilities are better and children are more likely to complete more years of school. Fifty-four percent of all private investment in Mexico in 1980 went to the Distrito Federal. Between 1968 and 1975, 58 percent of public housing for lower-income groups was built in the Mexico City area (Ward 1990).

As in many developing countries, there are "pushes" that drive people out of rural areas and "pulls" that attract them to cities. The mechanization of agriculture leaves less opportunity in rural areas for large numbers of unskilled workers. At the same time, government policies promoting urban investment create more opportunity in cities. In spite of its severe pollution and congestion, Mexico City still offers economic opportunities to in-migrants, so people choose to remain there.

What are the advantages and disadvantages of life in Mexico City?

Mexico City is a megacity with megapollution problems. Air pollution is officially the city's number one problem. . . . Motor vehicles in the city generate tons of ozone, hydrocarbons, carbon monoxide, and other atmospheric contaminants. Smokestack industries belch sulfur and heavy metals. Small businesses and factories burn practically anything that [burns], including tires, waste oils, and refuse. . . . Conditions are so severe that Mexico City exceeded World Health Organization [air pollution standards] on 310 days in 1990 (Mumme 1991, page 11).

For many people, Mexico City's economic opportunities outweigh its problems.

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Figure 7 The advantages of living in Mexico City have been greater than the problems associated with a stressed environment.

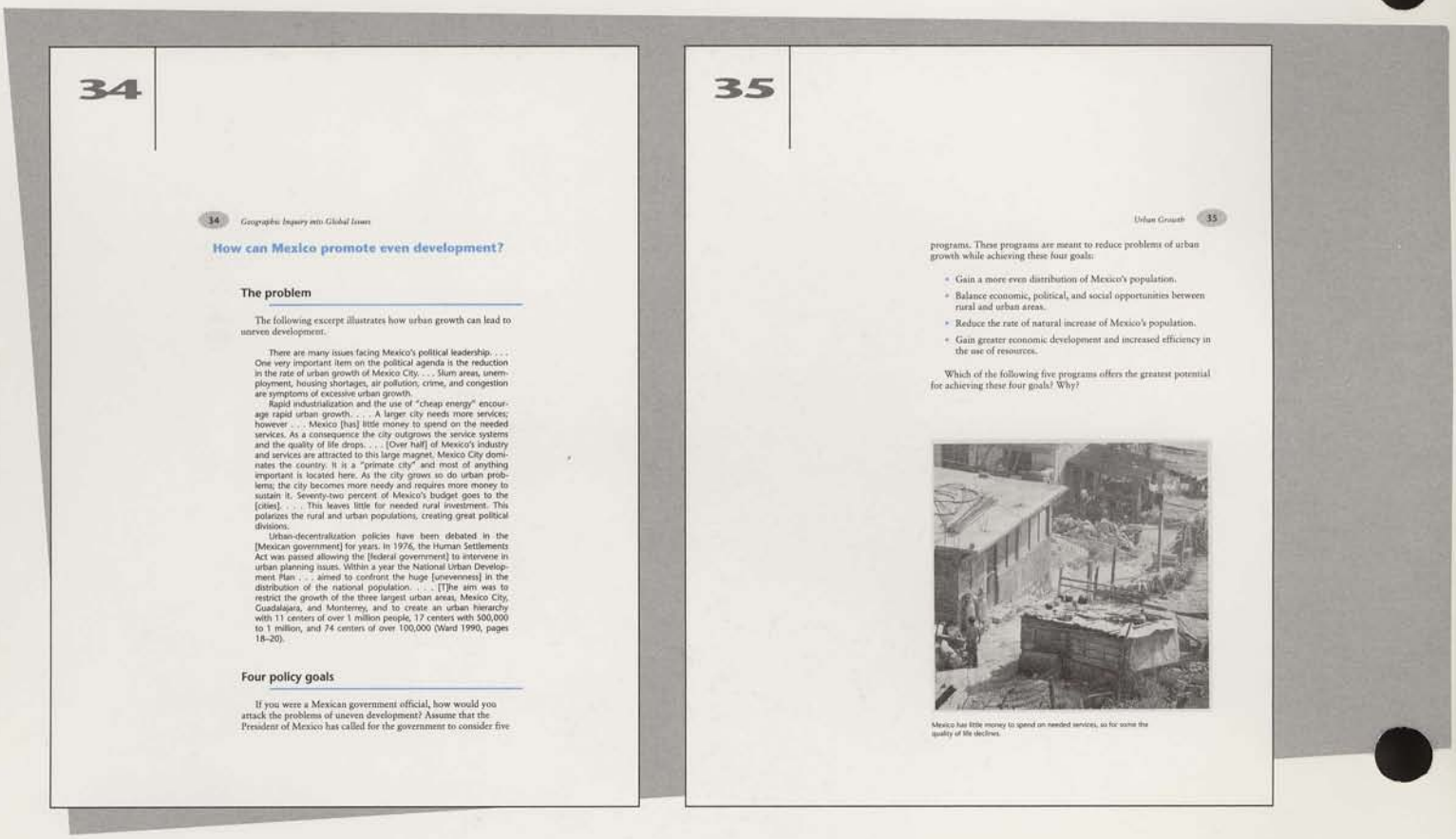
6. Do you think the advantages of living in Mexico City will continue to outweigh the disadvantages? Why or why not?
7. Why do you think your family settled in your town?
8. What influences would you put on each side of the balance shown in Figure 7 for your own family's decision to migrate or stay in your town?

3. What percentage of Mexico's manufacturing production took place in Mexico City in 1930? In 1980?
   - In 1930 about 28 percent of all manufacturing production occurred in Mexico City. In 1980 the number was about 47 percent.

4. What can you speculate about the trends in Mexico's economy over the 50-year period?
   - According to the three indicators, Mexico City steadily increased its dominance of the nation's economy between 1930 and 1980. As the economy became more concentrated in Mexico City, the country's economic development became increasingly uneven.

5. Compare Figure 6 to Figure 3. How would you explain the relationship you see between these two line graphs?
   - The concentration of economic opportunity helps explain why people migrate to Mexico City: It has more manufacturing jobs than anywhere else in the country.

B. Have students read the text and the extract, "What are the advantages and disadvantages of life in Mexico City?", on page 32. Discuss Figure 7 on page 33 with the class. The analogy of a seesaw is used here to symbolize that there are advantages and disadvantages to living in megacities. Have students suggest other advantages and disadvantages based on their studies so far, and add these to the seesaw. Have the class express an opinion: Does the balance tip one way or the other? Use Questions 6–8 on page 33 to guide this discussion and to provide a personal connection to this issue.



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How can Mexico promote even development?

The problem

The following excerpt illustrates how urban growth can lead to uneven development.

There are many issues facing Mexico's political leadership. . . . One very important item on the political agenda is the reduction in the rate of urban growth of Mexico City. . . . Slum areas, unemployment, housing shortages, air pollution, crime, and congestion are symptoms of excessive urban growth. . . .

Rapid industrialization and the use of "cheap energy" encourage rapid urban growth. . . . A larger city needs more services; however . . . Mexico [has] little money to spend on the needed services. As a consequence the city outgrows the service systems and the quality of life drops. . . . [Over half] of Mexico's industry and services are attracted to this large magnet. Mexico City dominates the country. It is a "primate city" and most of anything important is located here. As the city grows so do urban problems; the city becomes more needy and requires more money to sustain it. Seventy-two percent of Mexico's budget goes to the [cities]. . . . This leaves little for needed rural investment. This polarizes the rural and urban populations, creating great political divisions.

Urban-decentralization policies have been debated in the [Mexican government] for years. In 1976, the Human Settlements Act was passed allowing the [federal government] to intervene in urban planning issues. Within a year the National Urban Development Plan . . . aimed to confront the huge [unevenness] in the distribution of the national population. . . . [T]he aim was to restrict the growth of the three largest urban areas, Mexico City, Guadalajara, and Monterrey, and to create an urban hierarchy with 11 centers of over 1 million people, 17 centers with 500,000 to 1 million, and 74 centers of over 100,000 (Ward 1990, pages 18–20).

Four policy goals

If you were a Mexican government official, how would you attack the problems of uneven development? Assume that the President of Mexico has called for the government to consider five

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programs. These programs are meant to reduce problems of urban growth while achieving these four goals:

- Gain a more even distribution of Mexico's population.
- Balance economic, political, and social opportunities between rural and urban areas.
- Reduce the rate of natural increase of Mexico's population.
- Gain greater economic development and increased efficiency in the use of resources.

Which of the following five programs offers the greatest potential for achieving these four goals? Why?

Mexico has little money to spend on needed services, so for some the quality of life declines.

Questions and Answers for page 33

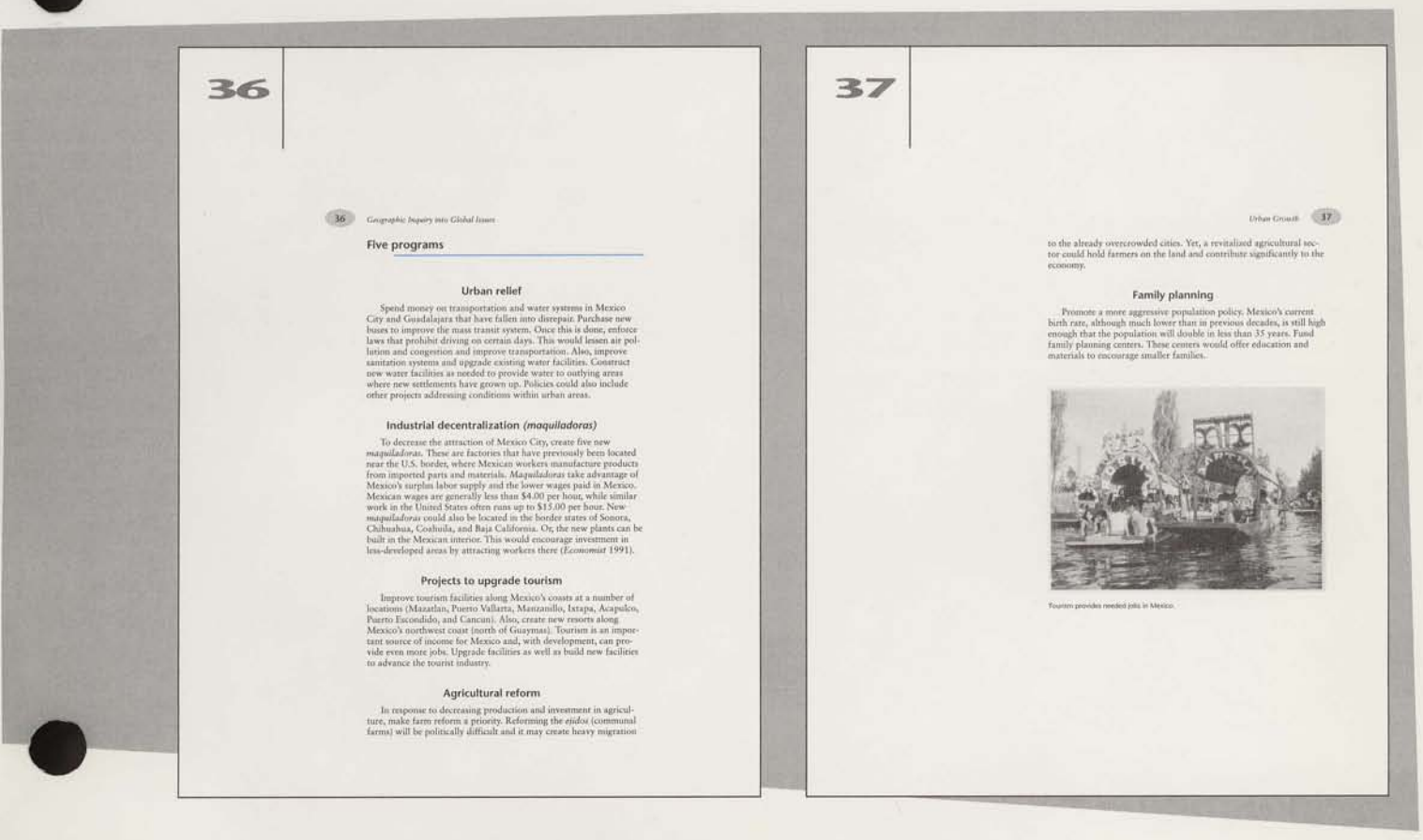
6. Do you think the advantages of living in Mexico City will continue to outweigh the disadvantages? Why or why not?
   - Answers will vary.

7. Why do you think your family settled in your town?
   - Answers will vary.

8. What influences would you put on each side of the balance shown in Figure 7 for your own family's decision to migrate or stay in your town?
   - Answers to all of these questions are based on students' personal opinions and experiences.

How can Mexico promote even development? (pages 34–37)

C. Have students read "The problem" and ask for their responses to this question, "If you were a Mexican government official, how would you attack the problems of uneven development?" Post their suggestions on butcher paper or the chalkboard. Have students compare their suggestions to the "Four policy goals" on page 35. Which suggestions, if implemented, do they think would come closest to achieving these goals?



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Five programs

Urban relief

Spend money on transportation and water systems in Mexico City and Guadalajara that have fallen into disrepair. Purchase new buses to improve the mass transit system. Once this is done, enforce laws that prohibit driving on certain days. This would lessen air pollution and congestion and improve transportation. Also, improve sanitation systems and upgrade existing water facilities. Construct new water facilities as needed to provide water to outlying areas where new settlements have grown up. Policies could also include other projects addressing conditions within urban areas.

Industrial decentralization *(maquiladoras)*

To decrease the attraction of Mexico City, create five new *maquiladoras*. These are factories that have previously been located near the U.S. border, where Mexican workers manufacture products from imported parts and materials. *Maquiladoras* take advantage of Mexico's surplus labor supply and the lower wages paid in Mexico. Mexican wages are generally less than $4.00 per hour, while similar work in the United States often runs up to $15.00 per hour. New *maquiladoras* could also be located in the border states of Sonora, Chihuahua, Coahuila, and Baja California. Or, the new plants can be built in the Mexican interior. This would encourage investment in less-developed areas by attracting workers there (*Economist* 1991).

Projects to upgrade tourism

Improve tourism facilities along Mexico's coasts at a number of locations (Mazatlan, Puerto Vallarta, Manzanillo, Ixtapa, Acapulco, Puerto Escondido, and Cancun). Also, create new resorts along Mexico's northwest coast (north of Guaymas). Tourism is an important source of income for Mexico and, with development, can provide even more jobs. Upgrade facilities as well as build new facilities to advance the tourist industry.

Agricultural reform

In response to decreasing production and investment in agriculture, make farm reform a priority. Reforming the *ejidos* (communal farms) will be politically difficult and it may create heavy migration

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to the already overcrowded cities. Yet, a revitalized agricultural sector could hold farmers on the land and contribute significantly to the economy.

Family planning

Promote a more aggressive population policy. Mexico's current birth rate, although much lower than in previous decades, is still high enough that the population will double in less than 35 years. Fund family planning centers. These centers would offer education and materials to encourage smaller families.

Tourism provides needed jobs in Mexico.

D. Divide the class into five groups and assign each group to one of the "Five programs" (pages 36–37). (If your class is large, split the class into 10 small groups and have two groups analyze each program.) Ask groups to discuss their assigned program in terms of how well they think it could achieve the four policy goals. Have them report on the advantages and disadvantages of the program to the whole class.

E. Project the transparency of **Overhead 2**, which is a ballot on the "Five programs." By a show of hands, have students decide which program is their first choice and which is their second choice to achieve the four policy goals described on page 35.

For Further Inquiry

Handout 1 presents an alternative way to present the material in Lesson 5. This role-playing activity will take at least three more days to complete. The simulation contains more data than the lesson provides, and is also complex, but it may generate more personalized, meaningful, and realistic views of the issue. The procedures and materials for the simulation follow.

Procedures for Handout 1 (optional)

In this simulation, students role-play Mexican officials addressing the problems of urban growth, with each official professing a particular bias or point of view. Distribute one role description to each student. Because there are only 14 roles, you may need to have students double up. The 14 roles include the President of Mexico and four cabinet officers: Minister of Finance; Minister of Agriculture; Minister of Urban Development; and Minister of Health and Social Welfare. The other nine roles are senators from each of nine states; they are grouped into three Senate committees: three senators from Chiapas, Baja California Sur, and Colima; three senators from Distrito Federal, Sinaloa, and Coahuila; and three senators from Jalisco, Chihuahua, and Baja California Norte.

Working in four groups (President with cabinet officers and the three Senate committees), students discuss, debate, and eventually rank-order the five programs discussed in Lesson 5 on page 36. A suggested four-day schedule follows.

Day 1: Assign and read the roles. Then read "The problem," "Four policy goals," and "Five programs" in the Student DataBook. Have the President and the cabinet officers introduce themselves, stress the four policy goals, and lay out the five programs for achieving these goals. The President calls upon the three Senate Committees to recommend to him or her and the cabinet a ranking (1 is most preferred, 5 is least preferred) of the programs.

Day 2: The four groups will meet separately to discuss and debate the five programs. Each group should decide on a ranking from 1 to 5 and prepare to present its rationale for this ranking to the President and cabinet. Notes, maps, tables, graphs, or other aids should be used in these presentations. The President and the cabinet officers should go through the same process, but should be prepared to change their ranking if they are persuaded to do so by the Senate Committees.

Day 3: The Senate Committees present their rankings, with rationales, to the President and Cabinet. After further questioning, discussion, and debate, the President and his or her Cabinet decide on the final ranking of the programs.

Day 4: One suggested evaluation strategy is to assign students to write an editorial from the perspective of a Mexican journalist covering current debates in the legislature over which programs should be funded.

Lesson 6

How does urban growth in Mexico affect the United States?

Time Required

One or two 50-minute class periods

Materials Needed

Copies of Activities 5 and 6 for all students

Glossary Words

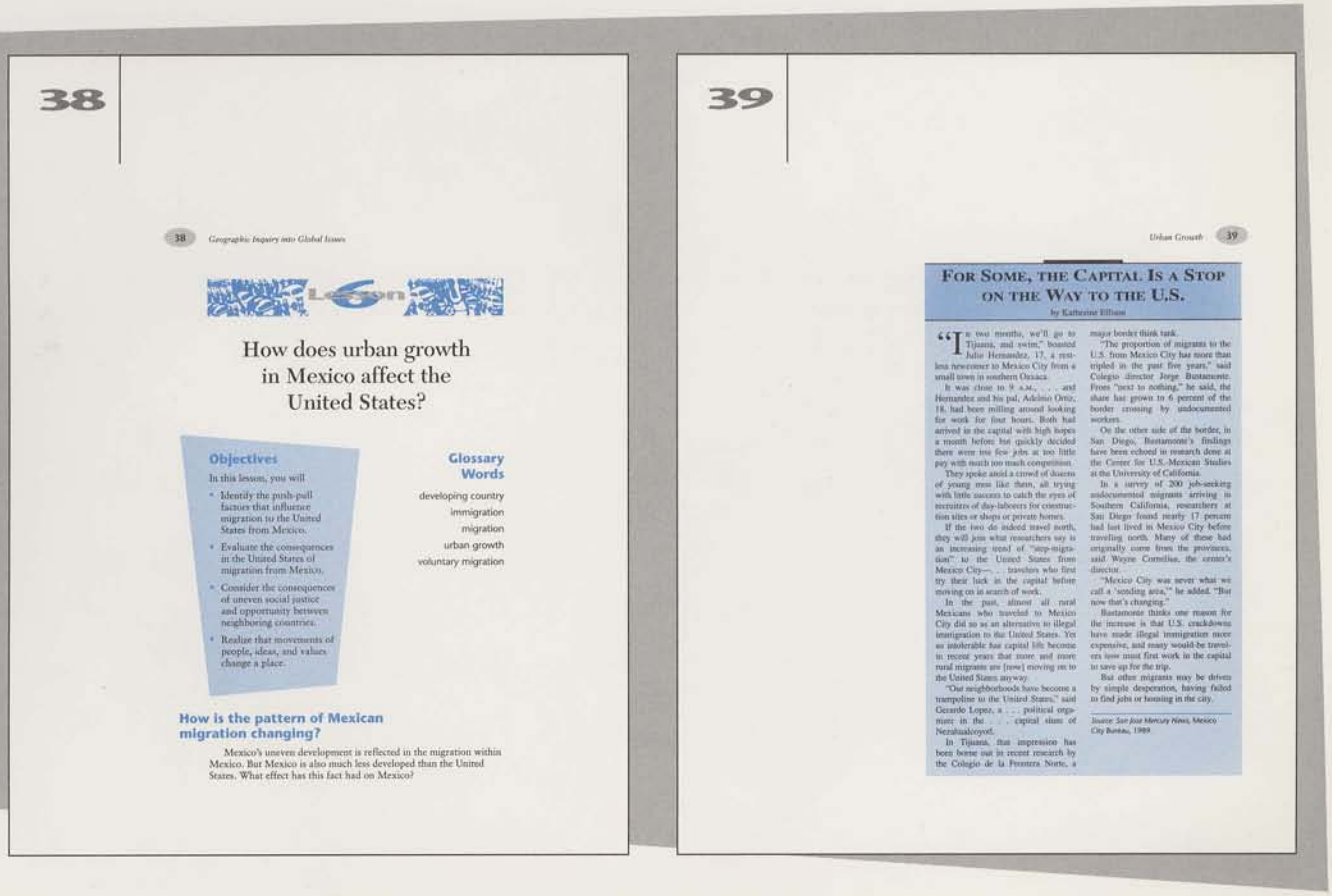
developing country

immigration

migration

urban growth

voluntary migration



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Lesson 6

How does urban growth in Mexico affect the United States?

Objectives

In this lesson, you will

- Identify the push-pull factors that influence migration to the United States from Mexico.
- Evaluate the consequences of the United States of migration from Mexico.
- Consider the consequences of uneven social justice and opportunity between neighboring countries.
- Realize that movements of people, ideas, and values change a place.

Glossary Words

developing country
immigration
migration
urban growth
voluntary migration

How is the pattern of Mexican migration changing?

Mexico's uneven development is reflected in the migration within Mexico. But Mexico is also much less developed than the United States. What effect has this fact had on Mexico?

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FOR SOME, THE CAPITAL IS A STOP ON THE WAY TO THE U.S.

by Katherine Ellison

"In two months, we'll go to Tijuana, and swim," boasted Julio Hernandez, 17, a restless newcomer to Mexico City from a small town in southern Oaxaca.

It was close to 9 a.m. . . . and Hernandez and his pal, Adelmo Ortiz, 18, had been milling around looking for work for four hours. Both had arrived in the capital with high hopes a month before but quickly decided there were too few jobs at too little pay with much too much competition.

They spoke amid a crowd of dozens of young men like them, all trying with little success to catch the eyes of recruiters of day-laborers for construction sites or shops or private homes.

If the two do indeed travel north, they will join what researchers say is an increasing trend of "step-migration": to the United States from Mexico City—. . . travelers who first try their luck in the capital before moving on in search of work.

In the past, almost all rural Mexicans who traveled to Mexico City did so as an alternative to illegal immigration to the United States. Yet so intolerable has capital life become in recent years that more and more rural migrants are [now] moving on to the United States anyway.

"Our neighborhoods have become a trampoline to the United States," said Gerardo Lopez, a . . . political organizer in the . . . capital slum of Nezahualcoyotl.

In Tijuana, that impression has been borne out in recent research by the Colegio de la Frontera Norte, a major border think tank.

"The proportion of migrants to the U.S. from Mexico City has more than tripled in the past five years," said Colegio director Jorge Bustamonte. From "next to nothing," he said, the share has grown to 6 percent of the border crossing by undocumented workers.

On the other side of the border, in San Diego, Bustamonte's findings have been echoed in research done at the Center for U.S.-Mexican Studies at the University of California.

In a survey of 200 job-seeking undocumented migrants arriving in Southern California, researchers at San Diego found nearly 17 percent had last lived in Mexico City before traveling north. Many of these had originally come from the provinces, said Wayne Cornelius, the center's director.

"Mexico City was never what we call a 'sending area,'" he added. "But now that's changing."

Bustamonte thinks one reason for the increase is that U.S. crackdowns have made illegal immigration more expensive, and many would-be travelers now must first work in the capital to save up for the trip.

But other migrants may be driven by simple desperation, having failed to find jobs or housing in the city.

Source: San Jose Mercury News, Mexico City Bureau, 1989

Getting Started

Ask each student to write one effect of Mexican urban growth on the United States. Then, list these effects on the chalkboard and have students group the items into categories. Ask students which of these effects present benefits to the United States and which present problems.

Procedures

How is the pattern of Mexican migration changing? (pages 38–39)

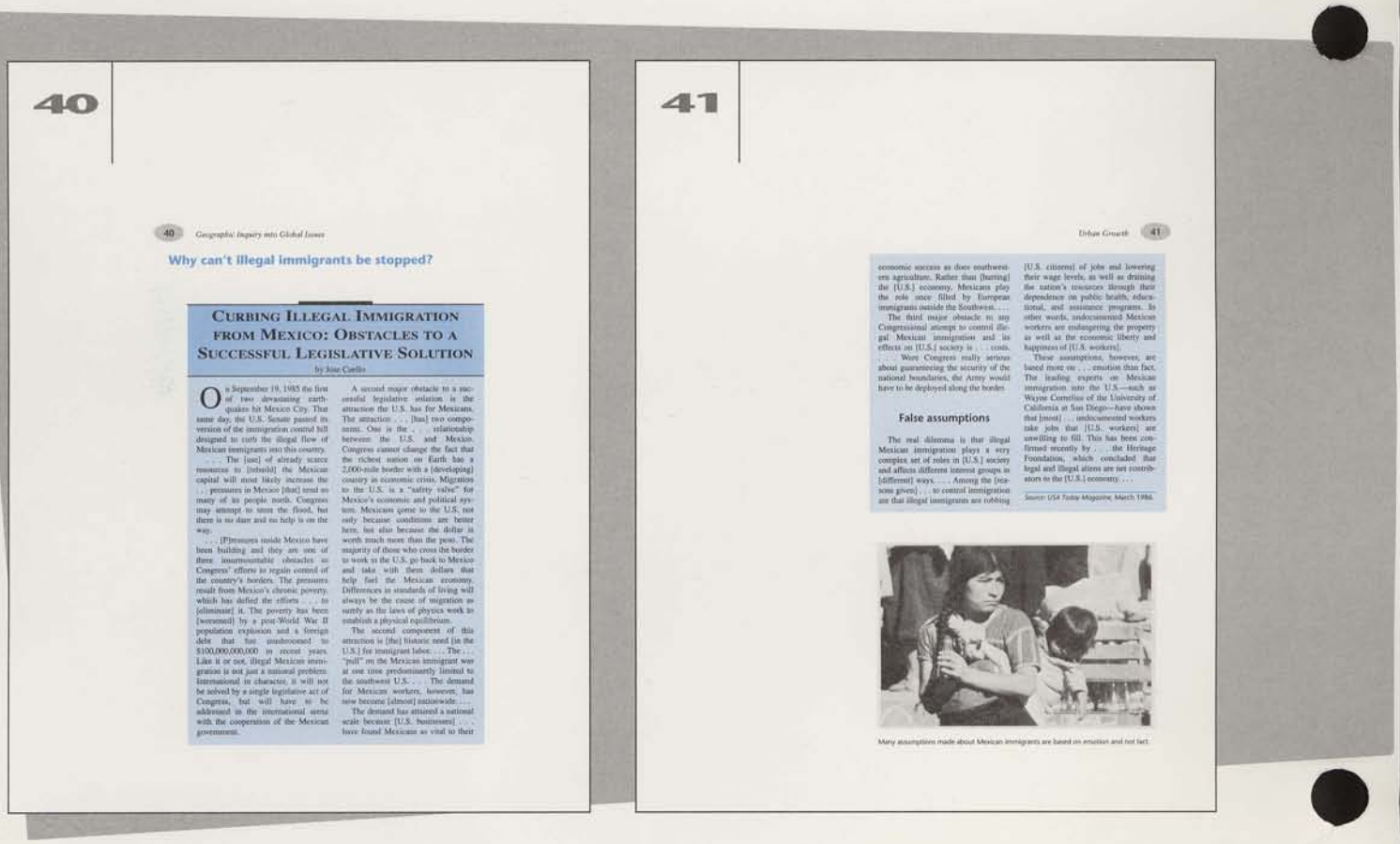
A. Have students read "For Some, the Capital Is a Stop on the Way to the U.S." Then have them look at the list on the chalkboard from the *Getting Started* activity mentioned above and modify it based on the reading.

Why can't illegal immigrants be stopped? (pages 40–41)

B. Have students read "Curbing Illegal Immigration from Mexico: Obstacles to a Successful Legislative Solution." Again, have them modify the list on the chalkboard based on this reading.

How do immigrants change the U.S. cultural landscape? (pages 42–46)

C. Have students use Activities 5 and 6 to make bar graphs from the data in Table 8 (page 42). For the graph on **Activity 5,** have them plot four bars: Hispanic population (in millions) for 1995 and 2050 and white population (in millions) for 1995 and 2050. For the graph on **Activity 6,** have them plot two bars: percentage change from 1995 to 2050 for both Hispanic and white populations. (See *Key for Activity 5* and *Key for Activity 6.*)



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Why can't illegal immigrants be stopped?

CURBING ILLEGAL IMMIGRATION FROM MEXICO: OBSTACLES TO A SUCCESSFUL LEGISLATIVE SOLUTION

by Jose Cuello

On September 19, 1985 the first of two devastating earthquakes hit Mexico City. That same day, the U.S. Senate passed its version of the immigration control bill designed to curb the illegal flow of Mexican immigrants into this country. . . . The [use] of already scarce resources to [rebuild] the Mexican capital will most likely increase the . . pressures in Mexico [that] send so many of its people north. Congress may attempt to stem the flood, but there is no dam and no help is on the way.

. . . [P]ressures inside Mexico have been building and they are one of three insurmountable obstacles to Congress' efforts to regain control of the country's borders. The pressures result from Mexico's chronic poverty, which has defied the efforts . . . to [eliminate] it. The poverty has been [worsened] by a post-World War II population explosion and a foreign debt that has mushroomed to $100,000,000,000 in recent years. Like it or not, illegal Mexican immigration is not just a national problem. International in character, it will not be solved by a single legislative act of Congress, but will have to be addressed in the international arena with the cooperation of the Mexican government.

A second major obstacle to a successful legislative solution is the attraction the U.S. has for Mexicans. The attraction . . . [has] two components. One is the . . relationship between the U.S. and Mexico. Congress cannot change the fact that the richest nation on Earth has a 2,000-mile border with a [developing] country in economic crisis. Migration to the U.S. is a "safety valve" for Mexico's economic and political system. Mexicans come to the U.S. not only because conditions are better here, but also because the dollar is worth much more than the peso. The majority of those who cross the border to work in the U.S. go back to Mexico and take with them dollars that help fuel the Mexican economy. Differences in standards of living will always be the cause of migration as surely as the laws of physics work to establish a physical equilibrium.

The second component of this attraction is [the] historic need [in the U.S.] for immigrant labor. . . . The . . . "pull" on the Mexican immigrant was at one time predominantly limited to the southwest U.S. . . . The demand for Mexican workers, however, has now become [almost] nationwide. . . .

The demand has attained a national scale because [U.S. businesses] . . . have found Mexicans as vital to their economic success as does southwestern agriculture. Rather than [hurting] the [U.S.] economy, Mexicans play the role once filled by European immigrants outside the Southwest. . . .

The third major obstacle to any Congressional attempt to control illegal Mexican immigration and its effects on [U.S.] society is . . costs. . . . Were Congress really serious about guaranteeing the security of the national boundaries, the Army would have to be deployed along the border.

False assumptions

The real dilemma is that illegal Mexican immigration plays a very complex set of roles in [U.S.] society and affects different interest groups in [different] ways. . . . Among the [reasons given] . . . to control immigration are that illegal immigrants are robbing [U.S. citizens] of jobs and lowering their wage levels, as well as draining the nation's resources through their dependence on public health, educational, and assistance programs. In other words, undocumented Mexican workers are endangering the property as well as the economic liberty and happiness of [U.S. workers].

These assumptions, however, are based more on . . . emotion than fact. The leading experts on Mexican immigration into the U.S.—such as Wayne Cornelius of the University of California at San Diego—have shown that [most] . . undocumented workers take jobs that [U.S. workers] are unwilling to fill. This has been confirmed recently by . . . the Heritage Foundation, which concluded that legal and illegal aliens are net contributors to the [U.S.] economy. . . .

Source: USA Today Magazine, March 1986.

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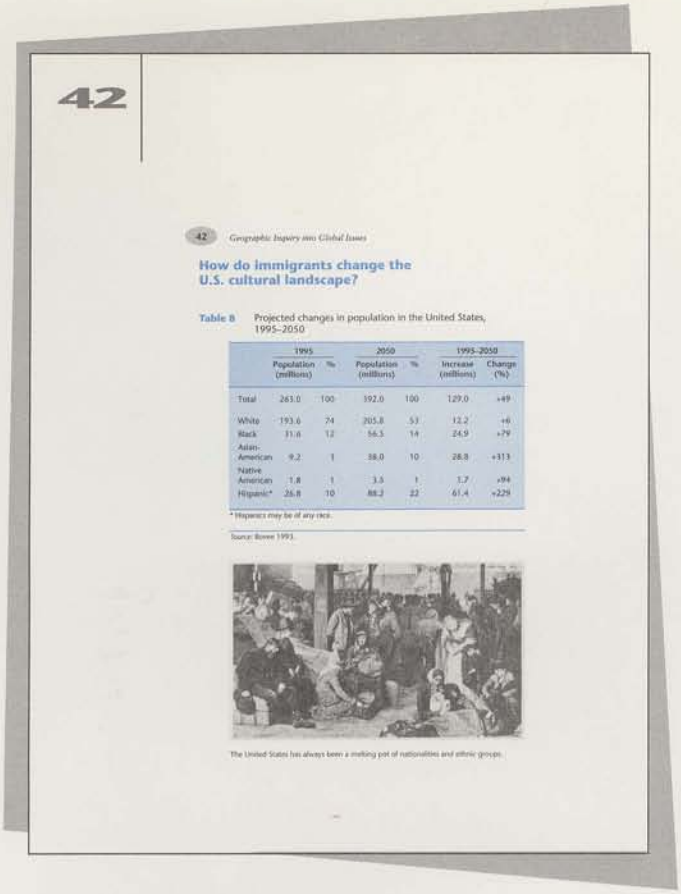
Many assumptions made about Mexican immigrants are based on emotion and not fact.



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How do immigrants change the U.S. cultural landscape?

Table 8 Projected changes in population in the United States, 1995–2050

	1995		2050		1995–2050	
	Population (millions)	%	Population (millions)	%	Increase (millions)	Change (%)
Total	263.0	100	392.0	100	129.0	+49
White	193.6	74	205.8	53	12.2	+6
Black	31.6	12	56.5	14	24.9	+79
Asian-American	9.2	3	38.0	10	28.8	+313
Native American	1.8	1	3.5	1	1.7	+94
Hispanic*	26.8	10	88.2	22	61.4	+229

* Hispanics may be of any race.

Source: Bowe 1993.

The United States has always been a melting pot of nationalities and ethnic groups.

D. Have students read "Beyond the Melting Pot" on pages 43 and 44. Ask for their opinions about this article in relation to the two bar graphs they made by having them discuss their answers to this question: "Which graph (Activity 5 or Activity 6) would you choose to support the main point of the article, 'Beyond the Melting Pot?' Why?" [The article stresses the rapid growth of the Hispanic population in the United States, and it emphasizes the "browning of America." The bar graph on Activity 6 of percentage change supports this point of view, because it shows a very high Hispanic bar and a much smaller white bar. Yet, the bar graph on Activity 5 clearly shows the dominance of the white population: It does not seem to indicate a "browning of America."]

E. Have students discuss their responses to Questions 1–2 on page 44.

43

Urban Growth 43

BEYOND THE MELTING POT

by William A. Henry III

Someday soon, surely much sooner than most people who filled out their census forms last week realize, white Americans will become a minority group. Long before that day arrives, the presumption that the "typical" U.S. citizen is someone who traces his or her descent in a direct line to Europe will be part of the past. . . .

Already one [U.S. citizen] in four defines himself or herself as Hispanic or nonwhite [Table 8 on page 42]. If current trends in immigration and birth rates persist, the Hispanic population will have further increased an estimated 21%, the Asian presence about 22%, blacks almost 12% and whites a little more than 2% when the 20th century ends. By 2020, . . . the number of U.S. residents who are Hispanic or nonwhite will have more than doubled, to nearly 115 million, while the white population will not be increasing at all. . . .

While there may remain towns or outposts where even a black family will be something of an oddity, where English and Irish and German surnames will predominate, where a traditional . . . [U.S.] will still be seen on almost every street corner, they will be only the [remnants] of an earlier nation. The former [white] majority will learn, as a normal part of everyday life, the meaning of the Latin slogan engraved on U.S. coins—*E Pluribus Unum*, one formed from many.

Among the younger populations that go to school and provide new entrants to the work force, the change will happen sooner. In some places a [U.S.] beyond the melting pot has already arrived. In New York State some 40% of elementary—and secondary—school children belong to an ethnic minority. Within a decade, the proportion is expected to approach 50%. In California white pupils are already a minority. Hispanics [who, regardless of their complexion, generally distinguish themselves from both blacks and whites] account for 31.4% of public school enrollment, blacks add 9.9%, and Asians and others amount to 11% for a nonwhite total of 51.3%. This finding is not only a reflection of white flight from desegregated public schools. Whites of all ages account for just 58% of California's population: In San Jose listeners of the Vietnamese surname Nguyen outnumber the Joneses in the telephone directory 14 columns to eight. . . .

"Once America was a microcosm of European nationalities," says Molefi Asante, chairman of the department of African-American studies at Temple University in Philadelphia. "Today America is a microcosm of the world." . . .

The U.S. was created, and continues to be redefined, primarily by voluntary immigration. This process has been one of the country's great strengths, infusing it with talent and energy. The "browning of America" offers tremendous opportunity for capitalizing anew on the merits of many people from many lands. Yet this fundamental change in the ethnic makeup of the U.S. also poses risks. The [U.S.] character is resilient and thrives on change. But past periods of rapid evolution have also, alas, brought out deeper, more fearful aspects of the national soul.

In the 21st century—and that's not far off—racial and ethnic groups in the U.S. will outnumber whites for the first time. The "browning of America" will alter everything in society, from politics and education to industry, values and culture.

Source: Time, April 9, 1990

44

44 *Geographic Inquiry into Global Issues*

1. Do you think whites will become a minority group in the United States? Why or why not?
2. Do you agree with Henry that "the browning of America" will alter everything in U.S. society? Why or why not?

Can the United States control its 2,000-mile southern border and restrict migration from Mexico? The push-pull factors mobilizing the flow of people are numerous and strong and the situation very complex. The attempts to monitor and control immigration from Mexico to the United States evoke strong reactions from all sides.

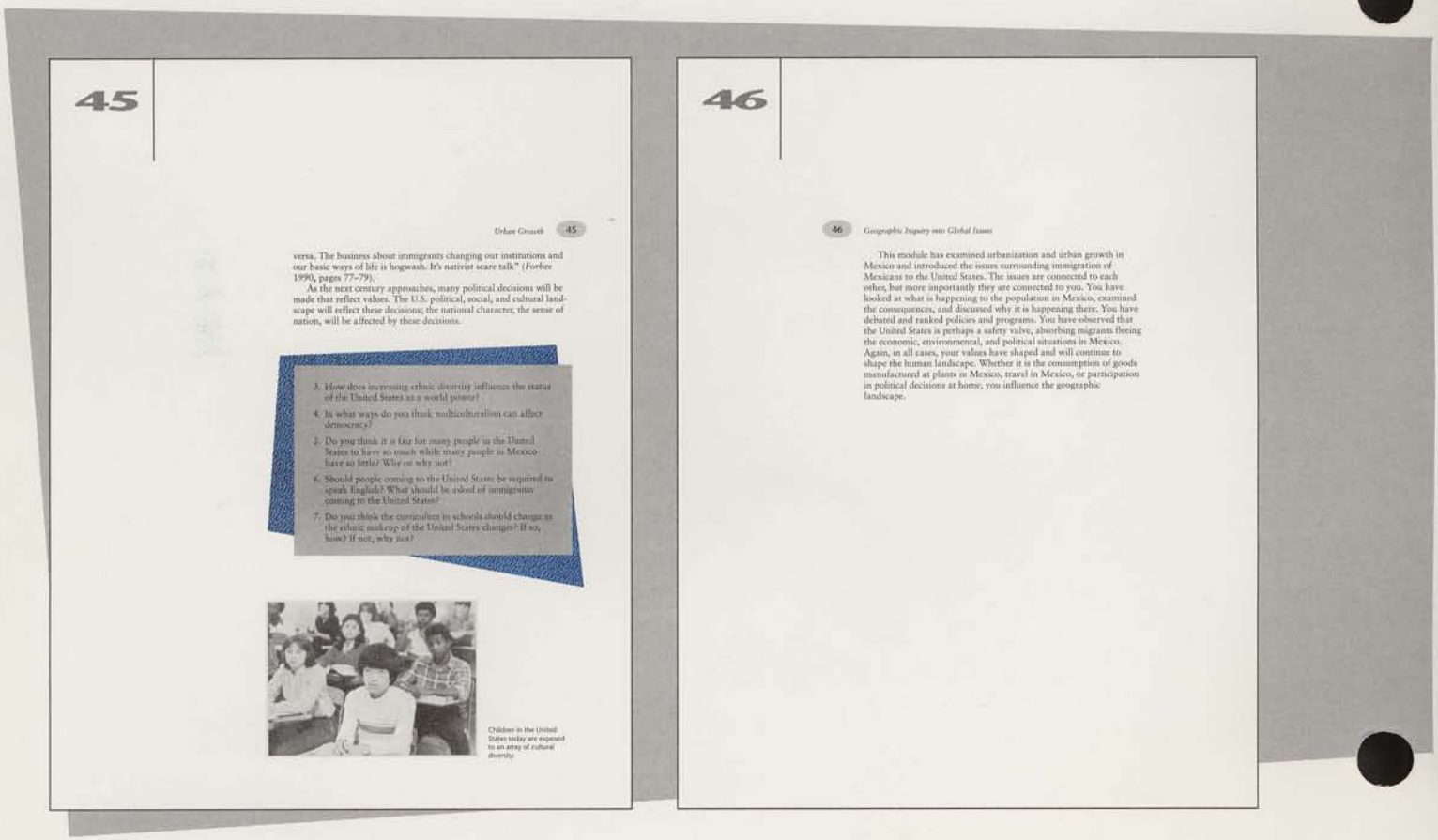
One of the most controversial and heartfelt issues concerns values, specifically so-called U.S. values. Some argue that U.S. values, institutions, and landscape are threatened by the migration of Mexicans into the United States. Will this landscape remain "American" when the ratio of Anglos and Hispanics is equal? Can a country embrace different ethnic groups and still preserve a distinct national identity? Can the government still operate when people speak different languages? Governing a multi-ethnic society is hard and poses serious issues. Every society needs a universally accepted set of values. Does immigration today present more than the United States can assimilate?

Others describe this argument as one founded on prejudice. Historian Thomas Bender of New York University said U.S. values should be "the ever changing outcome of a continuing contest among social groups and ideas for the power to define public culture." Besides, he added, many immigrants come committed to U.S. values. Julian Simon, Professor of Business at the University of Maryland said, "the life and institutions here shape the immigrant and not vice

Questions and Answers for page 44

1. Do you think whites will become a minority group in the United States? Why or why not?
   - Although this is an opinion question, the results of Activity 5 (Table 8) suggest that more than half of this country's population will be white at least until 2050. Students may note, if present trends continue, that whites may constitute less than 50 percent of U.S. population later in the twenty-first century. (In many cities, whites are already a minority.) On the other hand, it is important to note that even if whites are less than 50 percent of the population, they will still be the largest single racial group in the United States—particularly because the Hispanic category includes people of all races, including whites. A note of caution: Don't be too sure that present population trends will continue. As immigrant groups in the United States have shown in the past, their initially high birth rates have fallen in subsequent generations.

2. Do you agree with Henry that "the browning of America" will alter everything in U.S. society? Why or why not?
   - This question is included for discussion and to give students a chance to express their opinions.


45

Urban Growth 45

versa. The business about immigrants changing our institutions and our basic ways of life is hogwash. It's nativist scare talk" (*Forbes* 1990, pages 77–79).

As the next century approaches, many political decisions will be made that reflect values. The U.S. political, social, and cultural landscape will reflect these decisions; the national character, the sense of nation, will be affected by these decisions.

3. How does increasing ethnic diversity influence the status of the United States as a world power?
4. In what ways do you think multiculturalism can affect democracy?
5. Do you think it is fair for many people in the United States to have so much while many people in Mexico have so little? Why or why not?
6. Should people coming to the United States be required to speak English? What should be asked of immigrants coming to the United States?
7. Do you think the curriculum in schools should change as the ethnic makeup of the United States changes? If so, how? If not, why not?

Children in the United States today are exposed to an array of cultural diversity.

46

46 *Geographic Inquiry into Global Issues*

This module has examined urbanization and urban growth in Mexico and introduced the issues surrounding immigration of Mexicans to the United States. The issues are connected to each other, but more importantly they are connected to you. You have looked at what is happening to the population in Mexico, examined the consequences, and discussed why it is happening there. You have debated and ranked policies and programs. You have observed that the United States is perhaps a safety valve, absorbing migrants fleeing the economic, environmental, and political situations in Mexico. Again, in all cases, your values have shaped and will continue to shape the human landscape. Whether it is the consumption of goods manufactured at plants in Mexico, travel in Mexico, or participation in political decisions at home, you influence the geographic landscape.

F. To close the module, have students read the text on pages 44–46 and consider Questions 3–7 on page 45. Alternatively, you can assign these five questions as essays, giving students a choice of which question they would address. Have students read their essays to the class the next day and use these to stimulate discussion. Finally, have students discuss how *they* influence the geographic landscape after they have read the last paragraph on page 46.

Questions and Answers for page 45

3. How does increasing ethnic diversity influence the status of the United States as a world power?
   - See answer for Question 7 below.

4. In what ways do you think multiculturalism can affect democracy?
   - See answer for Question 7 below.

5. Do you think it is fair for many people in the United States to have so much while many people in Mexico have so little? Why or why not?
   - See answer for Question 7 below.

6. Should people coming to the United States be required to speak English? What should be asked of immigrants coming to the United States?
   - See answer for Question 7 below.

7. Do you think the curriculum in schools should change as the ethnic makeup of the United States changes? If so, how? If not, why not?
   - All of these questions are intended to stimulate discussion based on student opinions. Focus the discussion so students consider how a "democratic" society should address questions of shifting community values caused by population changes. Where possible, incorporate relevant examples from your own community or from nearby cities that illustrate these issues. Use the contrasting discussions about the changeable nature of U.S. values included in the Student DataBook (the position taken by Henry in the "Beyond the Melting Pot" reading versus the points made by Bender and Simon in the text following Henry's article). This discussion about the changing values of the United States can be tied to history, civics, or government classes.

Extension Activities and Resources

1. **Related GIGI Modules**
   - Problems related to rapid population growth in general, not just in cities but also in countries, are addressed in two other GIGI modules. *Population and Resources* explores how population growth can strain a country's resources. The major case study is Bangladesh. *Population Growth* looks at how governments seek to manage population growth, with a major case study on China.
   - Some of the problems mentioned in this module related to urban growth are also discussed in other modules. The problems posed by waste disposal, so strikingly discussed in Lesson 1 here, are dealt with in more detail in the module *Waste Management*. The major case study in the latter module is Western Europe. Problems of health and sanitation in developing countries are covered in *Infant and Child Mortality,* focusing on Central Africa.
   - How countries are linked by such phenomena as immigration and trade is an issue covered in several other modules. *Interdependence* and *Global Economy* each inquire into different aspects of trade. And *Regional Integration* looks more closely at economic linkages between countries, using the North American Free Trade Agreement (NAFTA) among Canada, the United States, and Mexico as a comparison case study.

2. **Britannica Global Geography System (BGGS)**

   BGGS provides myriad extension activities to enhance each GIGI module. For a complete description of the BGGS CD-ROM and videodiscs and how they work with the GIGI print modules, please read the BGGS Overview in the tabbed section at the beginning of this Teacher's Guide.

3. **Related Videos**
   - EBEC videos "Brazil and the Northern Countries"; "India: Diverse and Complex Land"; "Mexico: The Land and Its People"; and "Population Story: Collision with the Future" explore the issues and regions discussed in this module.

For information, or to place an order, call toll-free, 1-800-554-9862.

- Other related videos include: "Why Do People Move?"(*Global Geography* series, Agency for Instructional Technology); and "Living Quarters" (*Spaceship Earth* series, PBS). Also, the film *El Norte* can be rented from most video stores.

4. **Writing**
   - Have students write a letter to a politician expressing their points of view about immigration to the United States. Alternatively, have students write an editorial for a school paper or as a contribution to the op-ed page of your local newspaper.
   - Have students write to a Social Services Agency in your area and request information about programs dealing with urban issues or immigration.
   - Have students in groups write a legislative bill to address the issue of immigration in the United States. Have students present their bills to the class, debate each proposal, and hold a class vote (in effect, a mock Congress) to select the most appropriate bill.
   - Have students interview recent immigrants to the United States, requesting their story and the reasons they left their original country. Then have them write about the ways in which the immigrants' lives have changed.

Activity 1 •••

Names _____

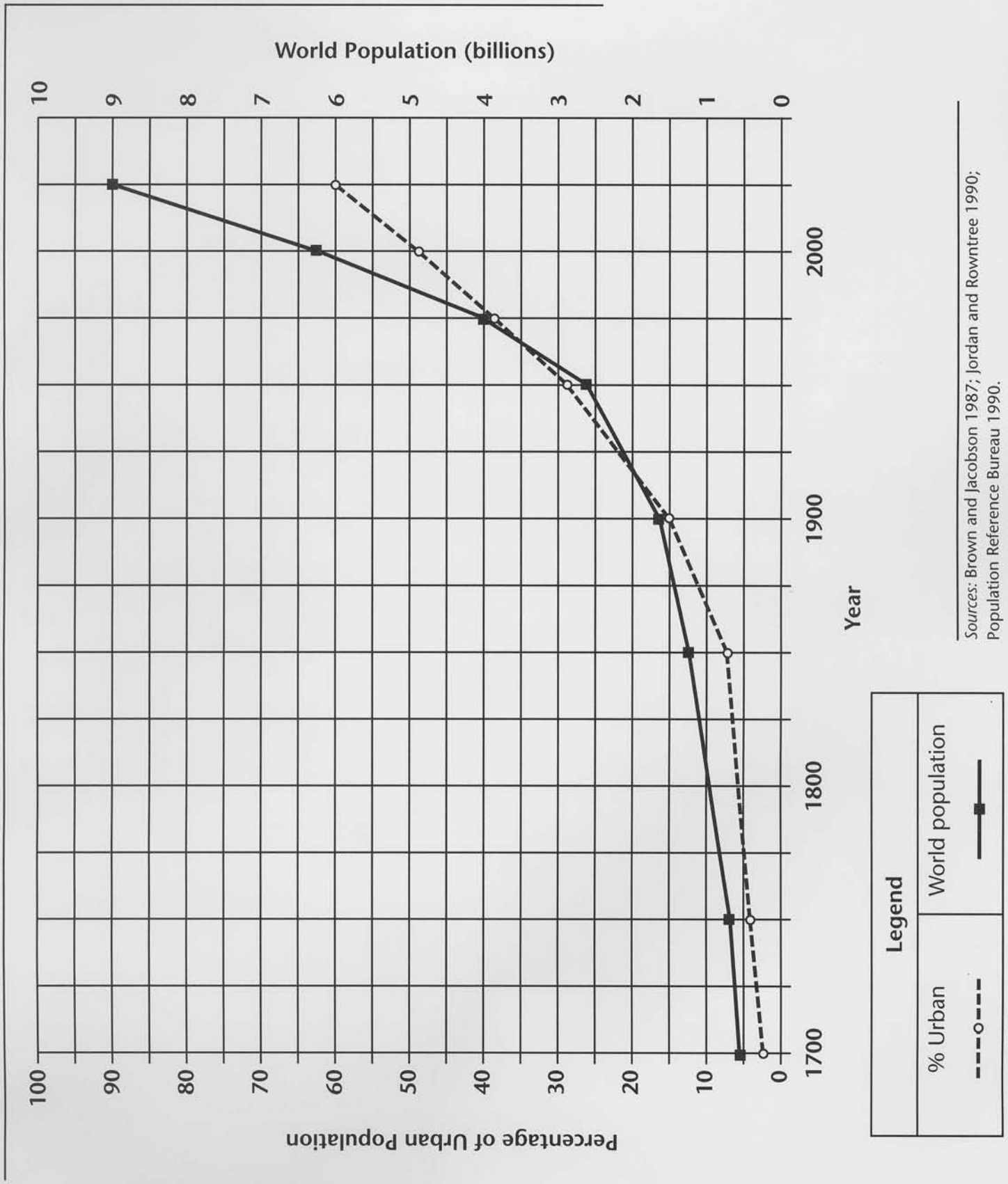
_____

GIGI
Urban Growth
Lesson 2

The Growth of Population and Urbanization

Sources: _____

The Growth of Population and Urbanization



Sources: Brown and Jacobson 1987; Jordan and Rowntree 1990; Population Reference Bureau 1990.

Names _____

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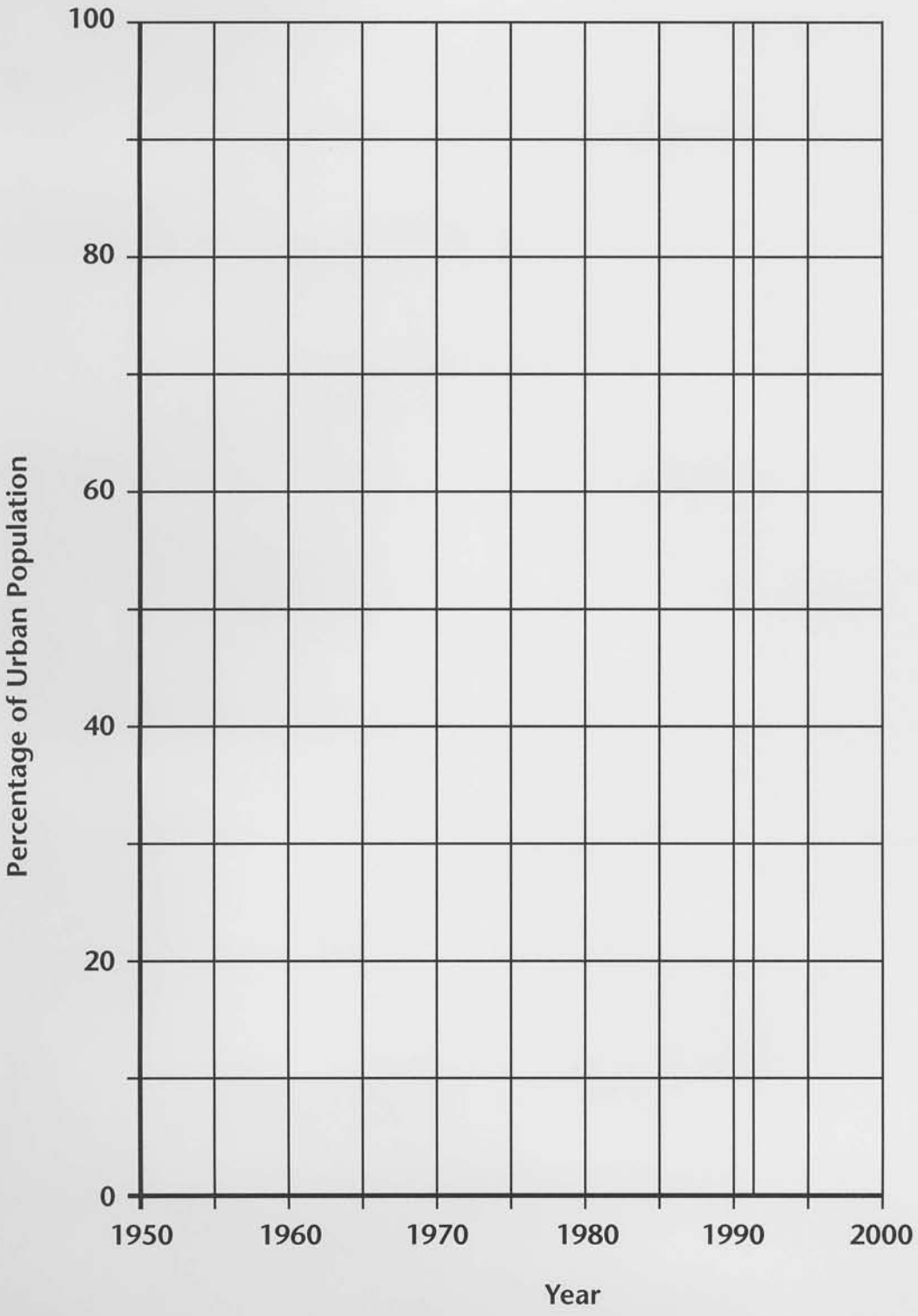
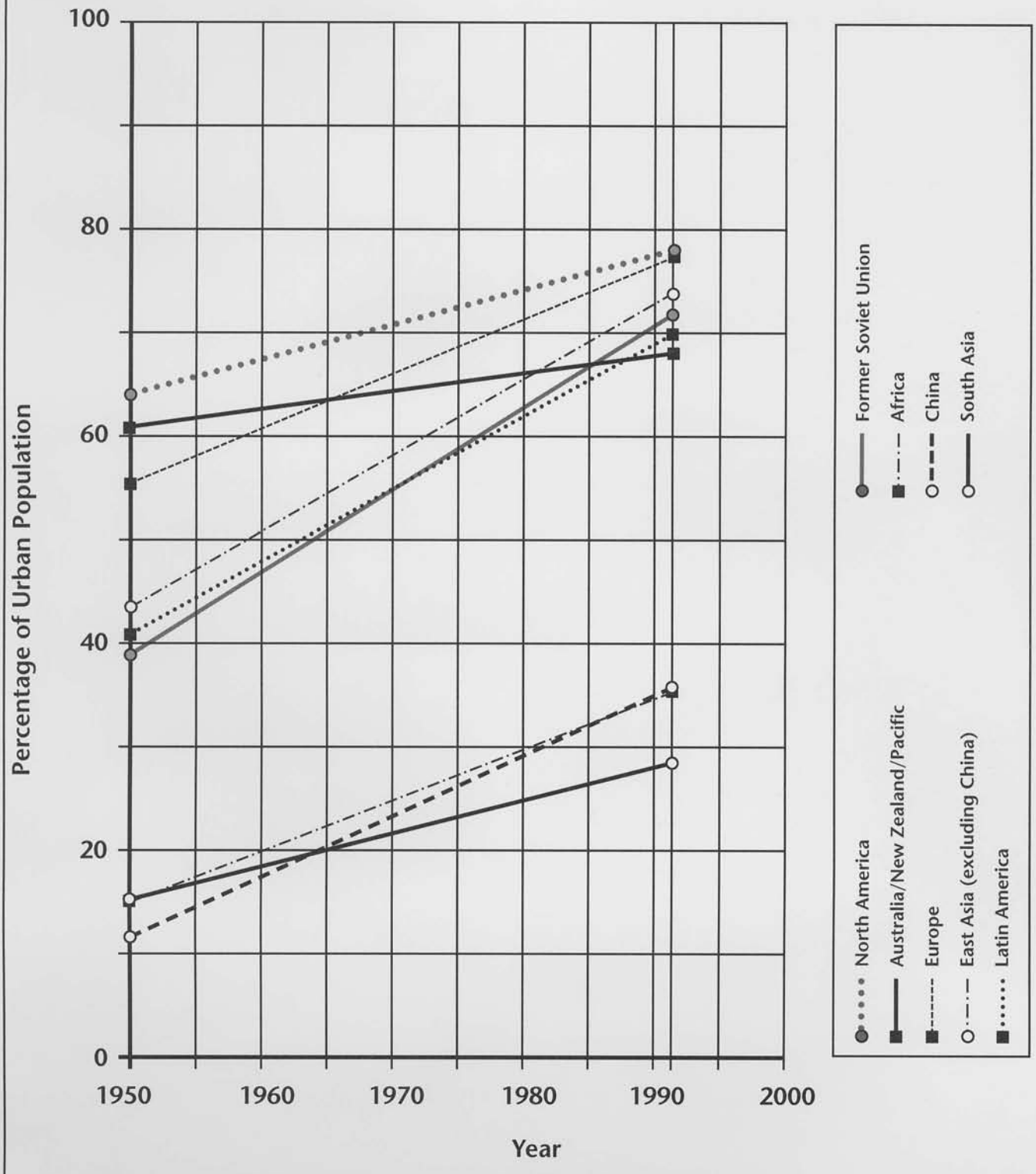
Urban Share of Total Population by Major Regions, 1950–1992



Sources: _____

Urban Share of Total Population by Major Regions, 1950–1992



Sources: Brown and Jacobson 1987; Population Reference Bureau 1993.

Activity 3 •••

GIGI
Urban Growth
Lesson 2

✎Team Name _____
Names _____
_____
_____
_____

Team Questions

Directions:

1. **Designing your team's question:** Examine Figures 1 and 2 and Table 3 (pages 13–14) in your Student DataBook. Write *one* question that will be used to try to stump all the other teams in the class. The only rule is that other teams can find the answer in the table, figures, and Mini-Atlas map 1. Also, write a correct answer to your question. Do not let other teams see your question or answer.

   Your question:

   _____
   _____
   _____
   _____

   Your answer:

   _____
   _____
   _____
   _____

2. **Answering other teams' questions:** Your teacher will now have each team read its question to the other teams. In private, decide on an answer to each of the other teams' questions. Write each answer on a separate piece of paper and be sure to put your team name on each answer.
3. **Scoring other teams' answers:** Collect the sheets with the other teams' answers to your question. If an answer was really good, give that team 100 points. If they completely missed the boat, give them 0. If they got part of it, give them 50 points. Be fair: Remember, your team will be judged by others as you judge them. The team with the most points wins.

Name _____

Migration Map

Name _____

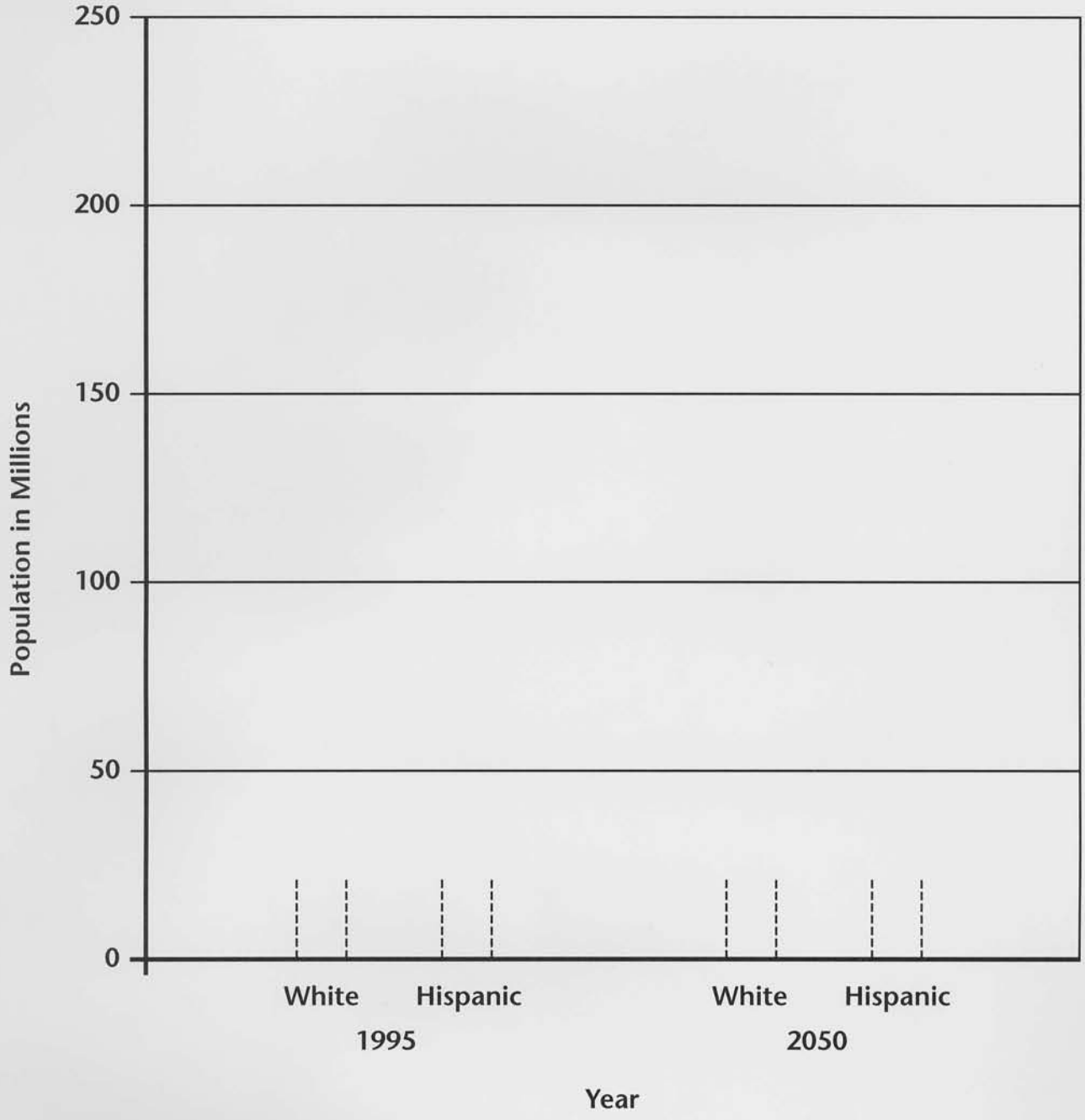
Earnings Map

Migration Map

Earnings Map

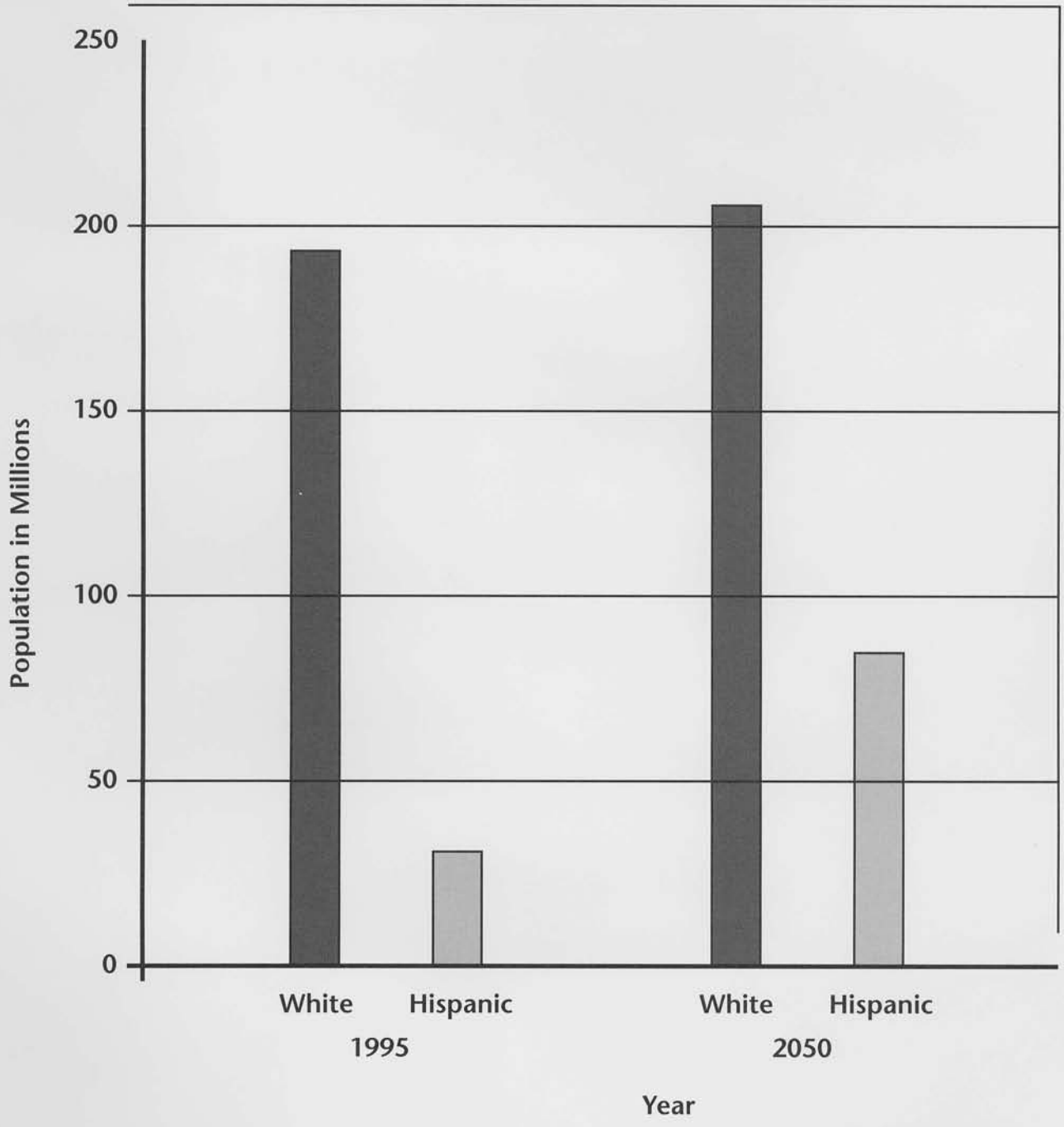
Name _____

Projected Hispanic and White Population in the United States, 1995–2050



Source: _____

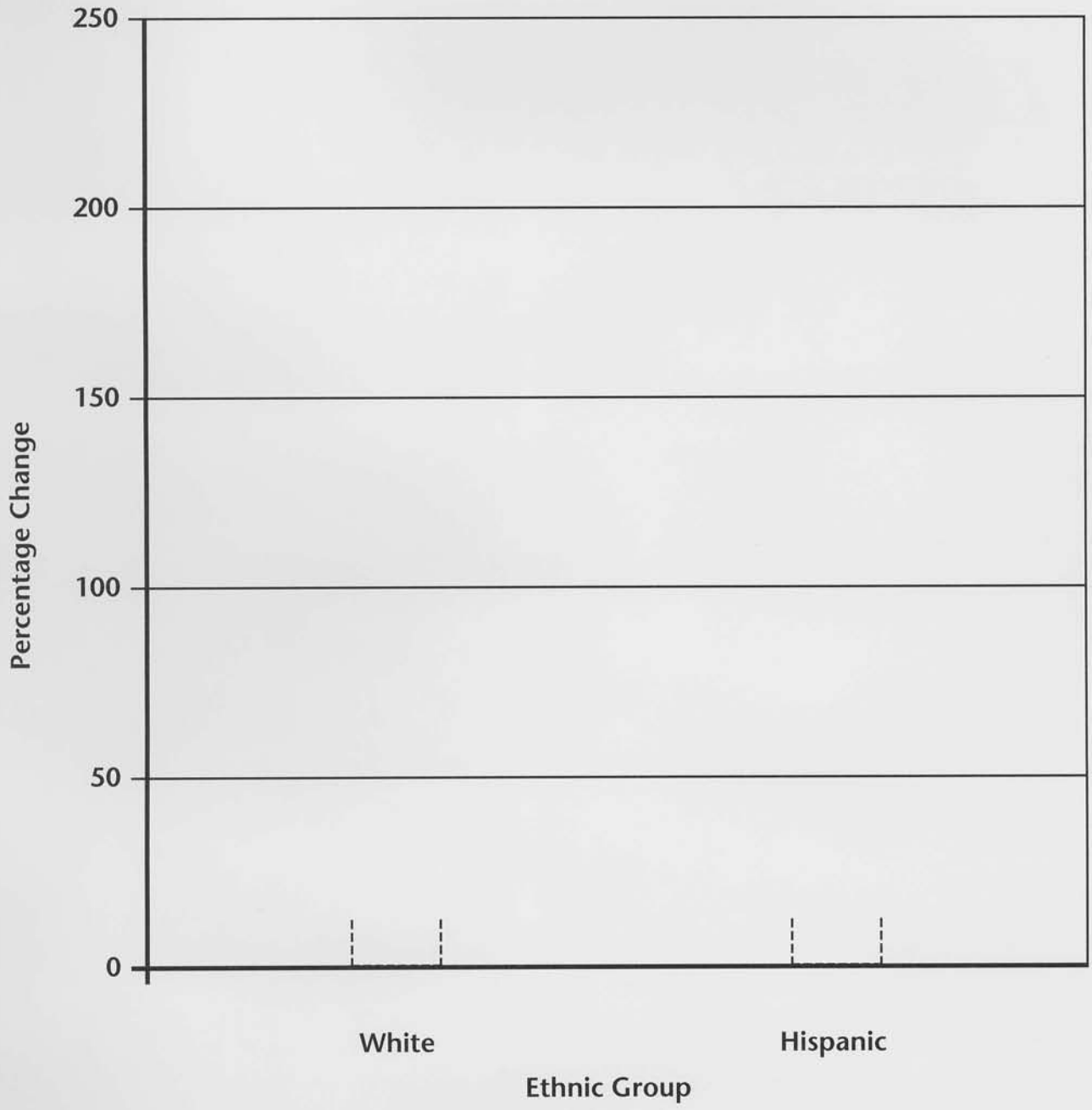
Projected Hispanic and White Population in the United States, 1995–2050



Source: Bovee 1993.

Name _____

Projected Change in the Percentage of Hispanic and White Population in the United States, 1995–2050



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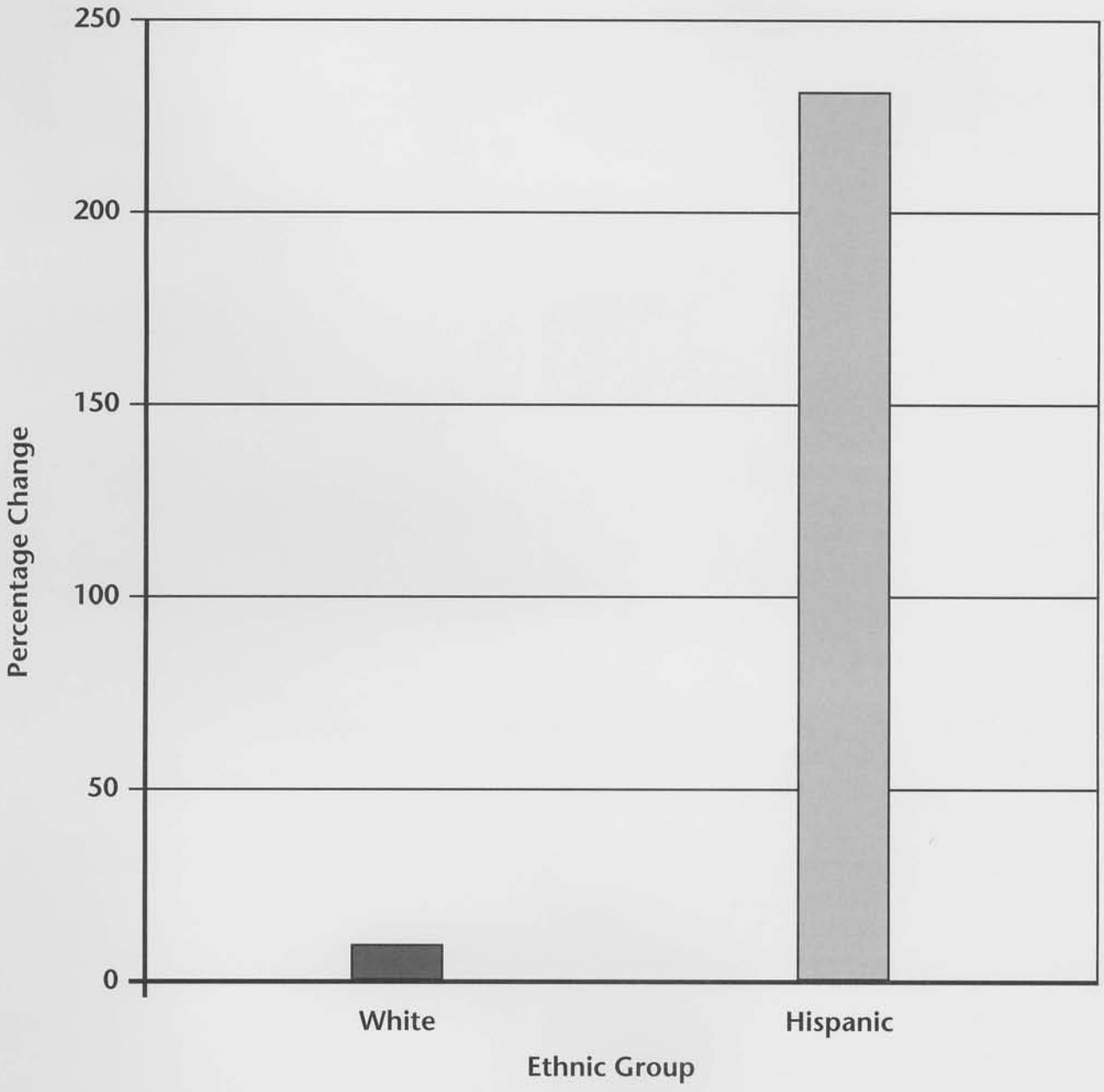
Projected Change in the Percentage of Hispanic and White Population in the United States, 1995–2050



Source: Bovee 1993.

Simulation Activity

Roles for the President and Cabinet

President of Mexico

You were elected in 1994 to one six-year term. You are a graduate of Harvard and you were the Secretary of Programming and Budget under the previous President. You were very involved in economic policy, and Mexico's economic recovery is your main concern. Without a significant economic recovery and the maintenance of a stronger economy, you can't afford to tackle Mexico's social problems.

You can't afford programs that are not effective. Time is short, and the patience of your constituents is wearing thin. Inflation and interest on the national debt are expensive. You have delayed investment in the infrastructure and social programs while investing your money in economic programs that will create more revenue. You realize that investing in social programs is long overdue, yet if the economy isn't revived, there will be little to invest in social reform.

As you open this meeting, you are troubled by the recent economic indicators you received this morning. They reflect no progress. Conditions in Mexico City are becoming more and more desperate.

Minister of Finance

You share many of the same concerns as the President and believe that a healthy economy is the first and most immediate area to concentrate Mexico's investment. Social programs, urban planning programs, and population programs can only be supported after the economy is healthy. Your programs brought the inflation rate down from 160 percent in 1987 to 30 percent in 1990 and you brought the debt down from $107 billion to $80 billion. Soon, if inflation declines and the debt is reduced, you will be able to invest significant amounts of money in social programs. You are very pleased with the potential for a growing level of trade between Mexico and the United States because of the North American Free Trade Agreement (NAFTA). Mexico is the third largest trading partner with the United States and two-thirds of all foreign investment in Mexico comes from the United States. You desire to build this relationship and increase trade with the United States. The automobile industry is one of the bright spots and continues to be one of the most important export/import items with the United States. Agricultural products are another one of the main U.S. exports to Mexico.

You are eager to maintain a good relationship with the United States. Illegal immigration to the United States from Mexico continues to be a problem for both countries. Many immigrants to Mexico City are finding the conditions too severe, and it is reported that they are willing to risk the trip to the United States in search of opportunity. The meeting today presents hard decisions concerning the alternatives presented. It seems that investment in economic areas will drive the economy, provide jobs, and keep Mexicans at home.

Minister of Agriculture

Agrarian reform began fifty years ago and almost all the available land has been distributed. However, half of the land is still held by *ejidos*, Mexico's system of collective farms. Most of these are small; none can be sold or passed on. Even Mexico's private land is not always secure. As a consequence, farmers are reluctant to invest in their farms, as the future is often insecure. Farmers in the past 10 years have reinvested less than 2 percent of their output; in the economy as a whole the average is 15 percent. Consequently agriculture is less productive: In 1988 output fell by 3.2 percent and in 1989 by 2.1 percent (*The Economist* 1990). "Collectives" are not efficient and tend to lessen the incentive to stay and work on the farm. Farmers often immigrate to Mexico City.

You would like to invest in government distribution centers for seed, fertilizer, and programs to ensure credit, insurance, and technical assistance to the farmers. Farmers need incentives and governmental assistance; otherwise low harvests and flight to the urban areas will continue. A strong agricultural program will promote a better distribution of the people, strengthen the economy, and lessen the urban problems associated with migration to the city.

Minister of Urban Development

You were appointed by the President in recognition for your dedication to social and environmental issues in the past. You are now focusing your energies on the tremendous problems associated with the growth of the urban areas in Mexico. You are very disturbed by the deterioration of the environment in Mexico. The air pollution in Mexico, particularly in Mexico City, is alarming. You realize that addressing these problems is expensive, but you are convinced that they can't wait.

In Mexico City, improvements are needed immediately in a number of vital areas. It costs 50 million dollars per year to pump fresh water to Mexico City, as the city has outgrown its local source of water. Thirty percent of this water is lost through leaky pipes that need to be repaired. The dust from the body wastes of 6 million people without toilets generates and transmits serious diseases. Forty-two percent of the people in Mexico City don't have sanitary facilities; 41 percent don't have water facilities. Fifty percent of the waste-water facilities in Mexico City in 1988 were broken down (Mattson 1989).

For infants and children living in Mexico City, breathing the air can be as bad as smoking cigarettes (Rohter 1989). The mountains that once brought cool summer breezes now trap auto and industrial emissions that tripled the city's ozone levels between 1986 and 1989. Urban expansion forces farmers farther out where they often clear forests, which increases erosion. The squatter settlements around the urban areas have aggravated the situation—more people with no services.

There are programs that can address these issues. A no-drive day has started in Mexico City, and as of 1993 all cars must have catalytic converters. Mass transit systems are being improved, but the population growth is still outracing the increase in services. You are eager to initiate programs that address these issues.

Minister of Health and Social Welfare

As you drive your 15 miles to work, a commute that often takes three hours, you are constantly and brutally reminded of the problems that confront your country. The noxious air and beggars asking for money are hard to bear as you sit in your car waiting for the traffic to crawl another 10 feet. The air in Mexico in one hour often contains 80 parts of carbon monoxide per 1,000, a rate that is more than double the U.S. standard for extreme pollution. The worst day in Los Angeles only measured 27/1,000, and that happened only once in 1983. The air pollution, 70 percent of which is caused by bus and automobile emissions, would be reduced by 30 percent if cars were tuned up and in good working order. Three thousand of the 8,000 buses in Mexico City are always broken. The high lead content in the gasoline has contributed to high levels of lead in the blood of infants. This has created health hazards involving brain damage and nervous system disorders. Diseases from a high fecal coliform count in the water (over 1,000 per 100 ml of water) take their toll on all, affecting small infants the most. It is no surprise, considering that only 2 percent of the sewage produced in Mexico City is treated. Thirty-eight percent of services in the Federal District are dysfunctional, while 19 percent in the other states are chronically out of funds. The expected average is around 10 percent (United Nations Environment Program 1989).

You are tired of ignoring all this to protect the weak economy. This strategy appears to be more of an excuse now. It is time to treat these problems in Mexico City. You strongly recommend treating the social problems. It has been your experience that when social conditions improve, birth rate, a very important factor, goes down. Family planning is more successful when administered in conjunction with educational opportunities that foster social and economic improvement. In your view it is time to support programs that treat the needs of the people.

Roles for Senators

The Mexican Congress is a bicameral (two houses) legislature composed of a Senate and a Chamber of Deputies. Senators are elected to six-year terms, two from each state and the Federal District. The Chamber of Deputies has 500 members and deputies are elected to represent districts. As senators you are responsible to the people in your state as well as to Mexico. This frequently presents you with difficult decisions.

The meeting today presents some very difficult choices and presents potential opportunities for your state as well as for Mexico. You will hear the proposals delivered by cabinet officials. You and your committee will examine the proposals and rank them, with your top choice being the program you support most. You will then present this to the cabinet, who will then select a proposal.

Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Chiapas

Chiapas is in southern Mexico, a region that is very distinct from the rest of Mexico. Southern Mexico has 15 million people, and half of these are Indians. Most people live in small villages and towns where the main occupations are crafts and small-scale subsistence farming. There are few urban centers. The people are reluctant to accept the new western influences that have spread from the United States to other parts of Mexico. They are very traditional and place a lot of importance on their culture. The region has been politically quiet except for the farmers' demonstrations in Chiapas years ago. Oil development in the Gulf Coast area is bringing modernization to your region. Agricultural assistance and a more equitable distribution of land are what your people want. Programs that offer development assistance are viewed with suspicion because the Indians always seem to gain less than everyone else.

As a representative of the State of Chiapas, you see the value of programs that will reduce the migration of people from your region to urban areas. You are sensitive to the desires of your people to protect their culture. You also understand the need for programs to address the problems in the Mexico City area. You are eager to select programs that will accomplish both of these goals, but you are tired of all the capital pouring into Mexico City, leaving little for the rest of the country.

Roles for Senators

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Senator from Baja California Sur

Baja California Sur has recently experienced an economic boom due to investment in the tourist industry. The Mexican government has created a coherent plan to build resort enclaves at specific locations in Mexico. Much of the recent budget designated for the improvement of Mexico's infrastructure has gone to building resort enclaves. These projects have created a demand for building materials and promoted large investments from U.S. companies. Your people have benefited from these projects, but many of the more skilled positions are given to people trained in Mexico City. New jobs and new facilities have been created, and you have experienced a net gain in population due to in-migration. The health of Mexican tourism is closely tied to the health of the U.S. economy. Some of the resorts have been overbuilt and are not being fully booked. Both these trends concern you, but you are sure things will rebound.

As a representative of the State of Baja California Sur, you see the value of programs that will increase the migration of people to your region from other urban areas. You also understand the need for programs to address the problems in Mexico City. You are eager to select programs that will accomplish both of these goals, but you want to preserve the flow of capital to your state and region.

Roles for Senators

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Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Colima

Colima is in the densely populated central part of Mexico, the center of which is Mexico City. Much of your region suffers as a result of the flow of capital to the city. Although Colima is the most agriculturally productive state in Mexico, it is becoming undercapitalized and the equipment is already too old to be efficient. For this region to continue to be the "breadbasket" of Mexico, you will have to invest in new methods of agriculture.

You represent a region that is currently well-off. You have the most teachers per capita, highest income per farmer, least percentage of land in collectives *(ejidos)*, and the most irrigated lands. You worry that if the present trend continues, the higher standard of living in your region will decrease, as much of the capital goes to solve urban problems in Mexico City. Your politically powerful constituency will not put up with this.

As a representative of the State of Colima, you see the value of programs that will increase the flow of money to your region. You also see the need for programs that will immediately address the problems of rapid urban growth in the capital. You are eager to select programs that will accomplish both of these goals, but your constituents need to upgrade and modernize their farming if they expect to produce food for the country. Your state has a small but growing tourist industry that, with more funding, would produce more jobs and revenue.

Roles for Senators

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Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Distrito Federal (Federal District)

The Distrito Federal is contained in the area of Mexico City. It represents a population of over 15 million people who live in the entire State of Mexico, where 100,000 factories and 3 million autos create one of the most toxic environments known. Nearly 50 percent of all Mexican industry is located here, 39 percent of the GNP is produced here, and the centers of government, banking, commerce, television, sports, and music are located here also. This region sees 3,000 new immigrants arrive daily, so that one out of four Mexicans live in this region. This region includes the very wealthy and their fashionable suburbs, as well as the squatter settlements *(colonias)* where more than 50 percent of the people have no water facilities.

As a representative of the Distrito Federal, you see the value of programs that will reduce the influx of people to your region. You also see the need for programs that will immediately address the distressing symptoms of rapid urban growth. You are eager to select programs that will accomplish both of these goals.

Roles for Senators

The Mexican Congress is a bicameral (two houses) legislature composed of a Senate and a Chamber of Deputies. Senators are elected to six-year terms, two from each state and the Federal District. The Chamber of Deputies has 500 members and deputies are elected to represent districts. As senators you are responsible to the people in your state as well as to Mexico. This frequently presents you with difficult decisions.

The meeting today presents some very difficult choices and presents potential opportunities for your state as well as for Mexico. You will hear the proposals delivered by cabinet officials. You and your committee will examine the proposals and rank them, with your top choice being the program you support most. You will then present this to the cabinet, who will then select a proposal.

Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Sinaloa

Sinaloa has experienced an economic boom recently due to investment in the tourist industry. The Mexican government has created a plan to build resort enclaves at specific locations in Mexico. Much of the recent budget designated for the improvement of Mexico's infrastructure has gone to resort enclaves. These projects have created a demand for building materials and promoted large investments from U.S. companies. Your people have benefited from these projects, but many of the more skilled positions are given to people trained in Mexico City. New jobs and new facilities have been created and you have experienced a net gain in population due to in-migration. The health of Mexican tourism is closely tied to the health of the U.S. economy. Some of the resorts have been overbuilt and are not being fully booked. Both these trends concern you, but you are sure things will rebound.

As a representative of the State of Sinaloa, you see the value of programs that will bring jobs and capital to your region from other urban areas. You also understand the need for programs to address the problems in Mexico City. You are eager to select programs that will accomplish both of these goals, but you want to preserve the flow of capital to your state and region.

Roles for Senators

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Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Coahuila

Coahuila is in a region heavily influenced by your North American neighbor. U.S. television brings your people U.S. sports, and your people are impressed by the glamour and wealth up north. Your state is also economically influenced by trade and the Mexican/U.S. auto plants called the *maquiladoras*. This relationship worries you as you have seen your state transformed from an agricultural and ranching society to an urban-industrial society. Monterrey has rapidly become a large city with large city problems such as crime and pollution. Cement plants and steel plants are located in your area. As your state is in an arid zone, farming is difficult. Cattle is a growing industry and provides a possible use of the open lands. You are eager to bring a more controlled development to your region.

As a representative of the State of Coahuila, you see the political value of programs that will increase jobs in your state. Although the protection of the environment is not a popular cause, it is important to you. You also see the need for programs that will immediately address the problems in your nation's capital that come from rapid urban growth. You are eager to select programs that will accomplish both of these goals.

Roles for Senators

The Mexican Congress is a bicameral (two houses) legislature composed of a Senate and a Chamber of Deputies. Senators are elected to six-year terms, two from each state and the Federal District. The Chamber of Deputies has 500 members and deputies are elected to represent districts. As senators you are responsible to the people in your state as well as to Mexico. This frequently presents you with difficult decisions.

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Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Jalisco

Jalisco is in the densely populated central part of Mexico. At the center of this region is Mexico City. Much of your region suffers from the flow of capital to the city. Your agriculture, although the most productive in Mexico, is becoming undercapitalized and the equipment is too old to be efficient. For this region to continue to be the "breadbasket" of Mexico, you will have to invest in new equipment and new methods of agriculture.

You represent a region that is currently well-off. You have the most teachers per capita, highest income per farmer, least percent of land in collectives *(ejidos)*, and the most irrigated lands. You worry that if the present trend continues, the higher standard of living in your region will decrease as much of the capital goes to solve urban problems in Mexico City. Your politically powerful constituency will not put up with this.

As a representative of the State of Jalisco, you see the value of programs that will increase the flow of money to your region. You also see the need for programs that will immediately address the problems in the capital associated with rapid urban growth. You are eager to select programs that will accomplish both of these goals, but your people need to upgrade and modernize their farming if they expect to produce food for the country.

Roles for Senators

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Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

Senator from Chihuahua

Chihuahua is in a region heavily influenced by your North American neighbor. U.S. television brings your people U.S. sports, and your people are impressed by the opportunities and wealth up north. Your state is also economically influenced by trade and the Mexican/U.S. auto plants called the *maquiladoras*. This relationship with the United States is one you would like to see expanded, as it offers potential for economic growth in your state. Cement plants and small steel plants are located in your area. Because your state is in an arid zone, farming is difficult, as there is little water available. Cattle is a growing industry and provides a possible use of the open lands. You are eager to bring more jobs to your region.

As a representative of the State of Chihuahua, you see the value of programs that bring development to your region. You also see the need for programs to immediately address problems in your nation's capital that come from rapid urban growth. You are eager to select programs that will accomplish both of these goals.

Roles for Senators

The Mexican Congress is a bicameral (two houses) legislature composed of a Senate and a Chamber of Deputies. Senators are elected to six-year terms, two from each state and the Federal District. The Chamber of Deputies has 500 members and deputies are elected to represent districts. As senators you are responsible to the people in your state as well as to Mexico. This frequently presents you with difficult decisions.

The meeting today presents some very difficult choices and presents potential opportunities for your state as well as for Mexico. You will hear the proposals delivered by cabinet officials. You and your committee will examine the proposals and rank them, with your top choice being the program you support most. You will then present this to the cabinet, who will then select a proposal.

Discuss the programs with your committee. Try to reach a consensus and then prepare a presentation outlining your recommendations for ranking the five programs.

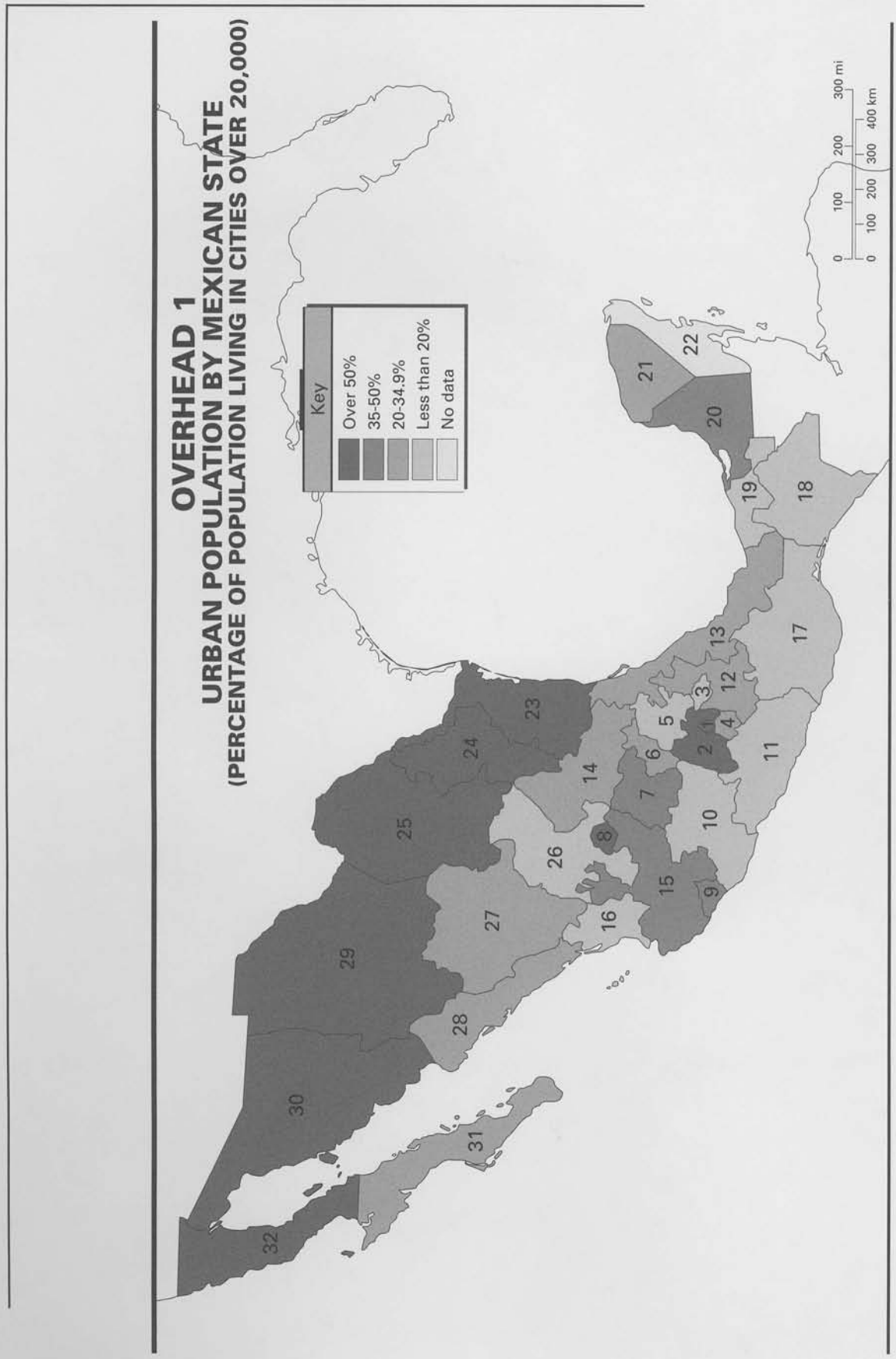
Senator from Baja California Norte

Baja California Norte is in a region heavily influenced by your North American neighbor. U.S. television brings your people U.S. sports, and your people are impressed by the glamour and wealth up north. Your state is also economically influenced by tourism and trade with the United States. Tourism is on the rise with numerous U.S. tourists taking advantage of the beaches and scenic spots in Baja. This relationship with the United States is one you would like to see expanded, as it offers potential for economic growth in your state. Because your state is in an arid zone, farming is difficult. Cattle raising is also hard due to arid conditions. You are eager to bring more jobs to your region and fill them with locals, not the educated workers from Mexico City and other regions.

As a representative of the State of Baja California Norte, you see the value of programs that will increase development as well as the number of jobs in your state. More tourist facilities would promote the economic health of your state. You also see the need for programs that will immediately address the problems in your nation's capital that come from rapid urban growth. You are eager to select programs that will accomplish both of these goals.

Overhead 1 •••

Percentage of People Living in Urban Areas of More Than 20,000 People



Ballot for Five Programs to Achieve More Even Development in Mexico

Which of the five programs would best achieve the following four policy goals?

- Gain a more even distribution of Mexico's population.
- Balance economic, political, and social opportunities between rural and urban areas.
- Reduce the rate of natural increase of Mexico's population.
- Gain greater economic development and increased efficiency in the use of natural resources.

Number of Votes		
1st choice	**2nd choice**	**Program**
_____	_____	Urban relief
_____	_____	Industrial decentralization
_____	_____	Projects to upgrade tourism
_____	_____	Agricultural reform
_____	_____	Family planning

BRITANNICA GLOBAL GEOGRAPHY SYSTEM

GIGI

Geographic Inquiry into Global Issues

Urban Growth

Program Developers
A. David Hill, James M. Dunn, and Phil Klein

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Latin America

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GIGI National Field Trial Locations

Anchorage, AK
Juneau, AK
Birmingham, AL
Grove Hill, AL
Ventura, CA
Arvada, CO
Boulder, CO
Colorado Springs, CO
Lakewood, CO
Westminster, CO
Wilmington, DE
Nokomis, FL
Lithonia, GA
Marietta, GA
Beckemeyer, IL
Red Bud, IL
Lafayette, IN
La Porte, IN
Merrillville, IN
Mishawaka, IN
Eldorado, KS
Morgantown, KY
Lowell, MA
South Hamilton, MA
Westborough, MA
Annapolis, MD
Baltimore, MD
Pasadena, MD
Detroit, MI
Mt. Pleasant, MI
Rochester Hills, MI
South Haven, MI
St. Joseph, MI
Jefferson City, MO
Raymondville, MO
St. Louis, MO
McComb, MS
Boone, NC
Charlotte, NC
Oxford, NE
Franklin Lakes, NJ
Lakewood, NJ
Salem, OH
Pawnee, OK
Milwaukie, OR
Portland, OR
Armagh, PA
Mercersburg, PA
Spring Mills, PA
State College, PA
Swiftwater, PA
Easley, SC
Alamo, TN
Evansville, TN
Madison, TN
El Paso, TX
Gonzales, TX
Houston, TX
Kingwood, TX
San Antonio, TX
Tyler, TX
Centerville, UT
Pleasant Grove, UT
Salt Lake City, UT
Monroe, WI
Racine, WI
Cheyenne, WY
Worland, WY

Memo to the Student from the GIGI Staff

GIGI stands for *Geographic Inquiry into Global Issues,* which is the name of a series of modules. Each module inquires into a different world issue. We wrote this memo to explain that GIGI is different from most textbooks you have used.

With GIGI, you can have fun learning if you think like a scientist or detective. The main business of both scientists and detectives is puzzle-solving. They use information ("data" to the scientist and "evidence" to the detective) to test their solutions to puzzles. This is what you do with GIGI. GIGI poses many puzzles about important global issues: Each module centers around a major question, each lesson title is a question, and there are many other questions within each lesson. GIGI gives you real data about the world to use in solving these puzzles.

To enjoy and learn from GIGI, you have to take chances by posing questions and answers. Just as scientists and detectives cannot always be sure they have the right answers, you will sometimes be uncertain with GIGI. But that's OK! What's important is that you try hard to come up with answers, even when you're not sure. Many of GIGI's questions don't have clear-cut, correct answers. Instead, they ask for your interpretations or opinions. (Scientists and detectives are expected to do this, too.) You also need to ask your own questions. If you ask a good question in class, that can sometimes be more helpful to you and your classmates than giving an answer.

The data you will examine come in many forms: maps, graphs, tables, photos, cartoons, and written text (including quotations). Many of these come from other sources. Unlike most textbooks, but typical of articles in scientific journals, GIGI gives its sources of data with in-text references and full reference lists. Where an idea or piece of information appears in GIGI, its author and year of publication are given in parentheses, for example: (Gregory 1990). If the material used is quoted directly, page numbers are also included, for example: (Gregory 1990, pages 3–5). At the end of the module you'll find a list of references, alphabetized by authors' last names, with complete publication information for the sources used.

To help you understand the problems, GIGI uses "case studies." These are examples of the global issue that are found in real places. "Major case studies" detail the issue in a selected world region. You will also find one or two shorter case studies that show variations of the issue in other regions.

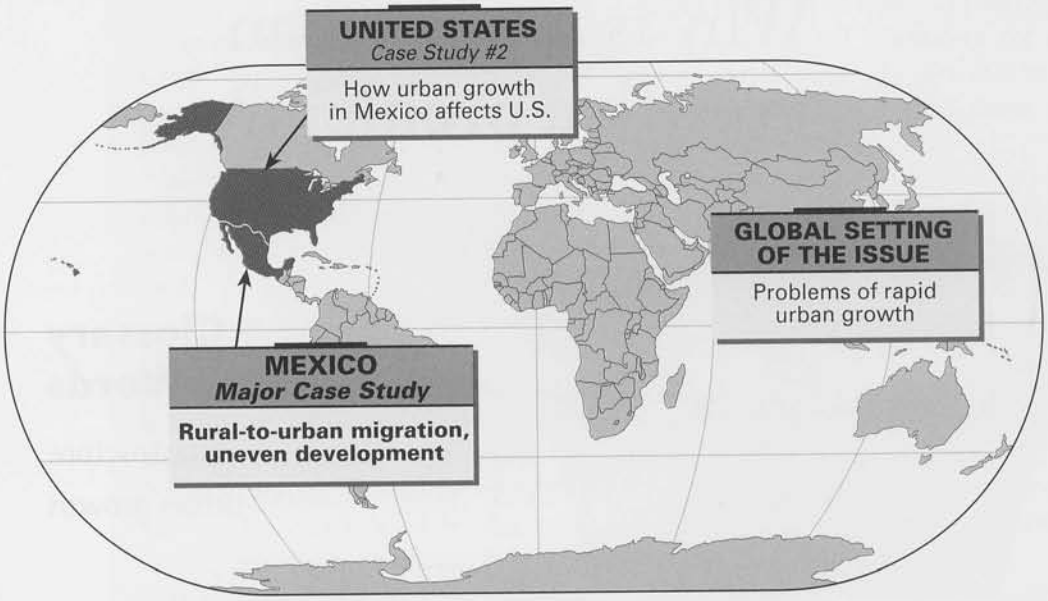
We hope your geographic inquiries are fun and worthwhile!

Urban Growth

What are the causes and effects of rapid urbanization and urban growth?

- Why do people move to cities?
- What problems occur with the growth of big cities?
- How do countries deal with problems of city growth?
- How do problems of urbanization and urban growth affect you?

More and more of the world's people are living in cities. In developing countries, rapid urbanization and urban growth cause numerous problems, including pollution, poor housing, and inadequate sanitation. In this module, you will study Mexico to find out why it has high rates of urbanization and urban growth. Because rural-to-urban migration has fueled city growth in Mexico for many decades, you will find out why people migrate. You will be asked to come up with policies to cope with these problems. The module closes with a look at how Mexico's problems affect the United States. You will see that rapid urban growth in Mexico is not only a problem there—it is also a problem for the United States.



Questions You WIll Consider in This Module

- What problems are associated with rapid urban growth and urbanization?
- What kinds of information can be used to analyze changes in urban populations?
- Why are urban areas in developing countries growing rapidly?
- Why do rural people decide to migrate to cities?
- How can changes in urban growth and urbanization in one country affect neighboring countries?
- What policies could reverse the trends of rapid urbanization and urban growth?

Why is rapid urban growth a problem?

Objective

In this lesson, you will

- Identify the effects of rapid urban growth.

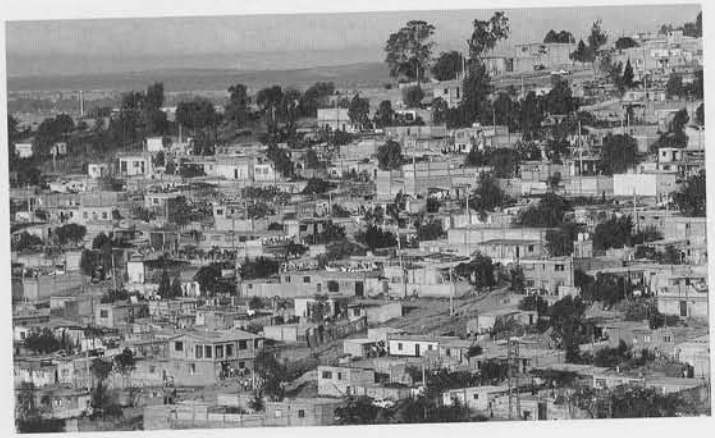
Glossary Words

infrastructure

urban growth

How does rapid urban growth cause suffering?

Two important population trends dominate the late twentieth century. First, world population continues to grow. It is projected to double in 35 years. Second, rapid urban growth has occurred, so that the number of people living in cities had increased from 600 million in 1950 to more than 2 billion in 1986 (Brown and Jacobson 1987). The following article illustrates the problems of rapid urban growth in Mexico City.



Mexico City's crowded conditions.

Mexico City's Garbage Society

Five years ago, in Chapultepec, [Mexico City's] most popular public park, [an ecological institute] mounted an exhibit on the subject of garbage. A tent, designed by an artist, had a long, dark entrance, filled with giant illustrations of microbes and garbage-related pests, from which the public emerged into "the world of garbage." One of the exhibits, [the exhibit's director said], was "the most gigantic rat we could find."

"It was huge!" he went on, gesturing descriptively. The rat, one gathered, must have been about the size of a large cat. "It weighed almost eight pounds. But we had a problem. We began to realize that the rat was dying on us. It wasn't used to the nice, healthy pet food, or whatever it was, that we were feeding it. So we went out and collected fresh garbage for it every evening. Kept it happy. And that was important, because thousands and thousands of people came to see the garbage exhibit, and the rat was the absolute star of the show."

If the residents of Mexico City flock to an exhibit on garbage featuring a giant rat, it is because the subject is never very far from their minds. The problem of waste disposal may be only one of the critical aspects of the city's ongoing public-services emergency, but it is certainly among the most visible. One of the world's three largest urban [areas], the city never had a proper service infrastructure to begin with and has been growing too much too fast for too many years. Figures from the 1990 national census show that although the Federal District, or capital proper, has a relatively stable population of 8.2 million, the surrounding sprawl in the neighboring state (also called Mexico) brings the total urban population to [over fifteen] million. . . . By the year 2000, if current trends persist, the urban area will be home to [nearly] 20 million souls, all clamoring for services that are already strained to the breaking point in some areas and nonexistent in others. . . .

Newcomers [to Mexico City] settled in shacks along the roads leading into the city, stole their electricity from the highway power lines, and made do without running water, drainage, or garbage-collection systems. The communities grew at such a rate that one of them, Nezahualcoyotl, is the country's [third]-largest city.

The accumulation of mixed waste . . . can be contemplated at the Bordo de Xochiaca municipal dump . . . a few blocks away from Nezahualcoyotl's city hall. Not many who pass by it linger; the stench causes motorists to accelerate way past the speed limit, and in their haste they may fail to notice what is most striking about this vast expanse of putrefaction. Scarecrowlike figures can be seen moving slowly over the dusty mounds, poking methodically. The garbage is inhabited.

The best view of Bordo de Xochiaca is from the driver's seat of a tractor that is used all day long to flatten out the incoming loads. . . . A few people work the edges of the dump, and a few others live in plastic-and-cardboard shanties there, but most of the dump's activity takes place in a clearing in the center—where people try to sift through a newly deposited truckload of garbage before the tractor runs over it—and in an expanse just to the west of this clearing, where Celestino Fernandez Reyes, the dump

boss, weighs and purchases the scavengers' daily take of glass, rags, tin, cardboard, wood, plastic containers, animal bones, and other recyclable materials. Behind the scales and Celestino's headquarters, a row of shacks marks the beginning of the living quarters—scores of lopsided houses, some of them quite large, that are built of and on rubbish, along reeking alleys and paths with names like Virgin of Guadalupe Lane.

After a week of rain, the pickers were working ankle-deep in a thick slush; it was tinted blue or bright red in patches, and these exhaled a mist of choking chemical fumes. Oblivious of the smell, a cluster of children crouched in a blue puddle, poring over a small pile of plastic comic-book figures—the Joker, Superman, and the like. . . . The tallest boy [said] that he and his friends wanted the toys not to play with but to sell. Nevertheless, as they salvaged the few dolls that had no arms or legs missing they deployed them in a brief, soundless mock battle before tossing them into a scavenging sack (Guillermoprieto 1990, pages 93–96).

What are some problems with rapid urban growth?

Some regions and cities will suffer the pains of urban growth more than others. Cities in developing countries are growing at unparalleled rates. São Paulo, Brazil, has more than doubled in the past 20 years to 19 million people. In the past this type of growth might have occurred over 100 years. Cities in India like Calcutta, Bombay, Delhi, and Madras are growing at a rate of 600,000 people each month. By 2025, Asia's *urban* population alone will be just over one-half the world's *total* population (Salas 1986). Such rapid urban growth has consequences for the entire world community. These include many ecological, economic, and social problems. Here are five examples:

- National and local governments in developing countries provide large sums of public money for medical and educational facilities and transportation systems in the megacities. Part of the reason is political. The political stability of a nation often depends on preventing unrest in the cities. Large sums of money must be spent to keep the cities running smoothly, or at least to keep them from dissolving into complete chaos. Much of the money is spent on showy projects such as sports stadiums, subway systems, public monuments, and lavishly landscaped boulevards (Vining 1985).
- In Thailand a major problem centers around the overabundance of people, services, and money in one city. Fifty-six percent of the country's entire population lives in the Bangkok area. This one city has the most skilled workers, the most

ambitious people, the most intellectual activity, and the most manufacturing. For example, all five universities in Thailand are located in Bangkok (United Nations 1985).

- An estimated 800,000 people live on the streets of Calcutta. Most of Calcutta's residents live in overcrowded tenements with inadequate water and toilet facilities. Some 70,000 are crammed in Anand Nasar, a tiny slum that is as densely populated as any urban area on Earth. Hunger and diseases such as leprosy, tuberculosis, and dysentery are rampant in Anand Nasar. Carbon monoxide and sulfur fumes kill at least one member of every family. The heat beats down eight months of the year, only to be relieved by a monsoon that brings a vicious flooding to the area's alleys and shacks (*Washington Post* 1985).
- Moving large quantities of food, water, and fuel into large cities and moving garbage and sewage out are huge problems. The larger the city the more complex and costly its support systems become. As cities grow and their material needs multiply they eventually exceed the supply capacity of the surrounding countryside. The Greater New York area obtains only 2 percent of its water from local sources. Los Angeles draws water from Northern California and Colorado, hundreds of miles away. Mexico City must pump water from Cutzamala, a site 60 miles away and 1,000 feet lower (Douglas 1983).

In Calcutta, crowds gather along the Ganges to bathe.

- In China lung cancer deaths in urban areas are four to seven times more in cities than in the nation as a whole. The difference is blamed on the heavy air pollution in Chinese cities (Brown and Jacobson 1987). Downstream from Bogota, Colombia, the Bogota River has an average fecal bacteria coliform count of 7,300,000, an astronomical level compared with the safe drinking water limit of 100 (Mayur 1985).

A British geographer, Peter Ward, has conducted extensive studies of Mexico City. Here's what he wrote in 1990 about that city:

> One of today's "buzz words" is "megacity" (over 10 million), and Mexico City with [over 15 million] . . . is certainly mega-big. Undeniably it has enormous problems: of population size and growth, poverty and underemployment, inadequate housing and servicing, pollution, and traffic congestion. For the tourist this does not make it a terribly pleasant or comfortable city to visit. My advice would be to spend three days in the city and do the obvious sites. But if one is sensible and reasonably sensitive, then it is not a particularly dangerous city. Nor is it an easy city in which to live permanently. . . . I would not want to live there, nor do I want to live in London, New York or any other large metropolitan area where many of the same hassles and problems apply (Ward 1990, pages xvii–xviii).

1. Why are people attracted to large cities, despite their problems? What are some of the advantages of huge cities?
2. What about you? Would you choose to live in a megacity?

What are the trends of world urbanization?

Objectives

In this lesson, you will

- Describe the difference between *urban growth* and *urbanization*.
- Explain the relationship between urbanization and economic development.
- Identify which regions of the world are urbanizing most rapidly.

Glossary Words

demography

per capita gross national product (GNP)

urban growth

urbanization

Are urbanization and urban growth different ideas?

Geographers recognize a difference between urbanization and urban growth. *Urbanization* is the increase in the percentage of a country's population living in urban areas. A country would be fully urbanized if all its people (100 percent) lived in cities. *Urban growth* is the increase in both the size of the population living in urban areas

and the amount of land devoted to urban places. Think like a geographer—identify which of the two concepts go best with each of the following statements:

> Mexico City had 15 million people in 1990 and is projected to have 20 million in 2000.
>
> The United States had 75 percent of its population living in urban areas in 1990, and by 2000 this figure is projected to be 77 percent.
>
> Los Angeles, known for urban "sprawl," had spread out to cover over 1,000 square miles by 1985.
>
> When farm workers are replaced by machinery, they often move to cities seeking work.

What are the regional variations in urbanization?

Table 1 below shows that urbanization is a global trend. Table 2 on page 11 shows how urbanization varies from region to region.

Table 1 World urbanization since 1700

Year	World population	Percentage of population in urban areas
1700	550,000,000	3
1750	700,000,000	4
1850	1,200,000,000	7
1900	1,600,000,000	15
1950	2,600,000,000	29
1975	4,000,000,000	39
2000	6,230,000,000	48
2025	9,000,000,000	60

Sources: Brown and Jacobson 1987; Jordan and Rowntree 1990; Population Reference Bureau 1990.

1. What does Table 1 indicate about the trends of world population growth? When will the world's population become more than 50 percent urbanized?
2. Why do you think the world's population has been urbanizing?
3. What do you see as the advantages and disadvantages urbanization poses for a country?

Table 2 Wealth and urbanization by major regions

Region	Per capita GNP (1991 U.S. $)	Percentage of urban population 1950	1992
Africa	600	15	30
Australia/New Zealand/Pacific	12,830	61	70
China	370	12	26
East Asia (excluding China)	3,070	43	74
Europe	15,780	56	73
Former Soviet Union	2,680	39	66
Latin America	2,360	41	71
South Asia	430	15	26
United States/Canada	22,430	64	75

Sources: Brown and Jacobson 1987; Population Reference Bureau 1993.

4. Which world regions experienced the greatest percentage increase of urban population from 1950 to 1992? Which experienced the least increase?
5. What relationship do you see between a region's wealth and its degree of urbanization?

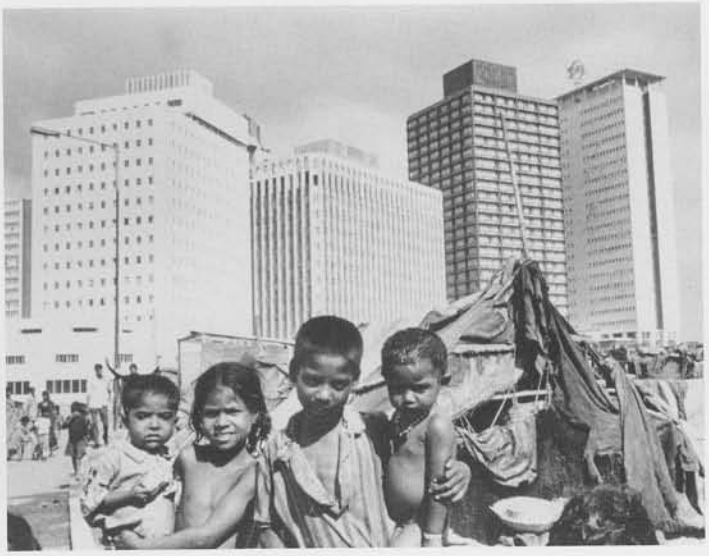
Where is the greatest urban growth occurring?

According to Samuel Preston, a demographer at the University of Pennsylvania:

> The urbanization taking place today is not particularly rapid by historical standards, especially compared with the urbanization that occurred during the industrial revolution in Europe and the United States in the 19th century. At the same time, today's urban growth is unprecedentedly rapid . . . because the population as a whole is growing very rapidly. What looks like extremely rapid urbanization is really urban growth (cited in Marc Leepson 1985, page 887).

Increasingly, the world's population is concentrating in bigger and bigger cities (Figure 1 on page 13). In 1950, only two cities in the world—London and New York—had populations over 5 million, and no city had as many as 10 million people. But by 1990, there were over 30 urban areas around the globe with more than 5 million inhabitants—and 12 of these had more than 10 million people. For example, Mexico City, which had 3.1 million inhabitants in 1950, now has the fourth largest population of any city in the world—more than 15 million. Table 3 on page 13 shows the top ten megacities in the world, ranked by population.

Much of the world's urban growth is now occurring in the developing world (Figure 2 on page 14). By the year 2000, 16 of the world's 20 biggest cities will be in developing countries (*Information Please Almanac* 1992). As the cities of the developing world grow, their numerous social and economic problems will increase (Brown and Jacobson 1987).



Sharp contrasts in living conditions in a developing urban area.

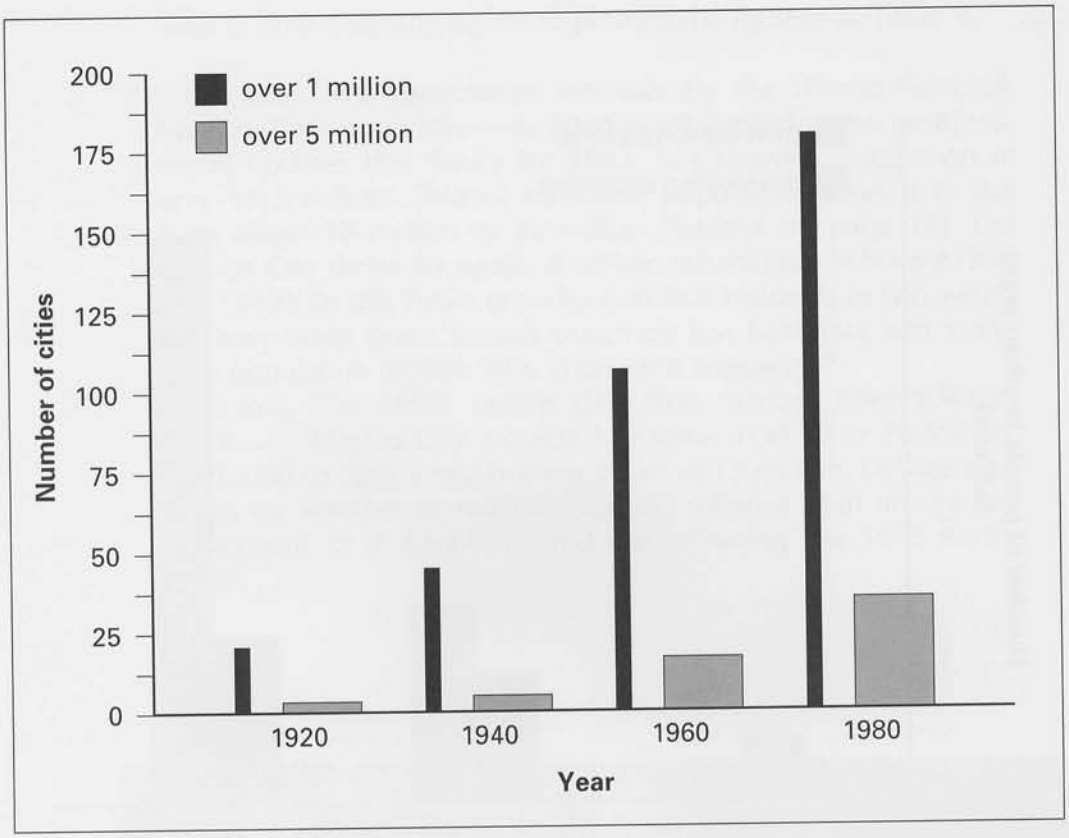


Figure 1 Increase in the number of cities over 1 million and over 5 million since 1920.

Sources: Mountjoy 1986; *Information Please Almanac* 1992.

Table 3 Today's top 10 megacities (estimated population in millions, 1992)

Rank	City	Population
1	Tokyo	25.8
2	São Paulo	19.2
3	New York	16.2
4	Mexico City	15.3
5	Shanghai	14.1
6	Bombay	13.3
7	Los Angeles	11.9
8	Buenos Aires	11.8
9	Seoul	11.6
10	Beijing	11.4

Source: Haub 1993.

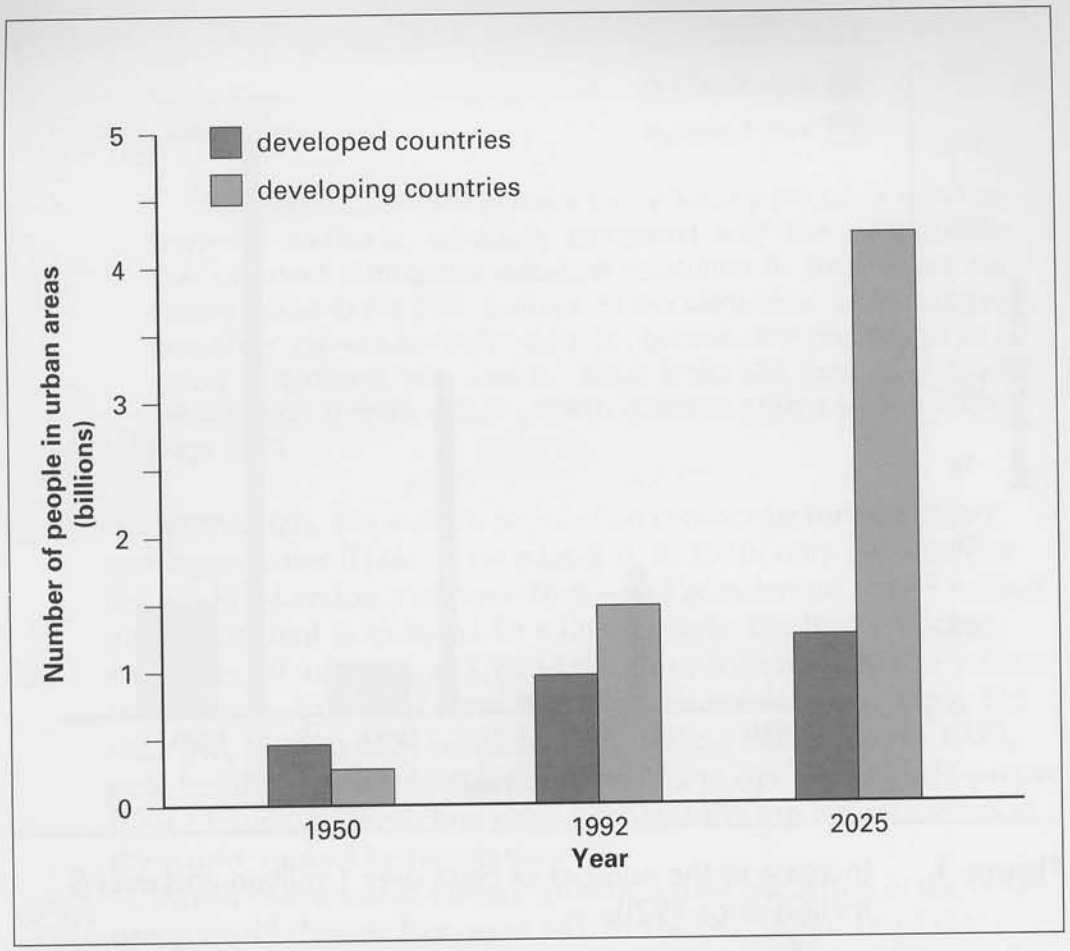


Figure 2 Number of people living in urban areas, 1950–2025.

Sources: Haub 1993; Population Reference Bureau 1992; *Information Please Almanac* 1992.

Did Mexico City shrink?

Table 4 Fluctuations in population estimates

Estimated population	1990	1992
Mexico City	20.2 million	15.3 million
Tokyo	18.1 million	25.8 million

Source: Haub 1993.

This is how a demographer explained the figures in Table 4.

In the 1990 [population estimate by the United Nations], Mexico City's population was listed as 20.2 million. The new [estimate] updates that figure for 1992, but shows a population of only 15.3 million. Tokyo's estimated population jumped in size from about 18 million to 26 million [Table 4 on page 14]. Did Mexico City shrink by nearly 5 million inhabitants between 1990 and 1992? Or did Tokyo grow by 8 million residents in two years? Not very likely, given Japan's extremely low birth rate and snail's pace population growth rate. Then what happened?

It was [the 1990] census data that reduced Mexico City's count. . . . Mexico City, expected to come in at 19 or 20 million, was found to have a much lower count of 15 million. Debate continues on whether or not the [census] suffered from an unusual undercount or if people moved out following the 1985 earthquake. . . .

Dense crowds cross Tokyo's streets during the Christmas shopping season.

To see why Tokyo's population estimate increased so much, we must [ask] what a city really is. . . . The UN defines urban [area] as all densely inhabited and contiguous territory surrounding a central city. This ideal definition ignores administrative boundaries, such as town boundaries or county lines, and describes the urban area as if seen from an airplane. With this [new estimate], the UN added a much larger surrounding area to Tokyo. . . . (Haub 1993, pages 1–2).

6. Why do you think it would be difficult to get an accurate count of people in a place like Mexico City?
7. How would you define a city for purposes of estimating its population?
8. How would you compare urbanization and urban growth among countries when information is collected or defined differently?

What has caused Mexico's urban growth?

Objectives

In this lesson, you will

- Describe how urbanization and urban growth result from both migration and natural increase.
- Map the locations of Mexico's largest cities.
- Examine the concept of a primate city.

Glossary Words

developed country
developing country
migration
natural increase
net in-migration
primate city
urban growth
urbanization

How has Mexico's population changed?

Mexico City is one of the world's fastest growing and most populous megacities. Mexico City is expected to reach a population of 18 million by the year 2010 (Haub 1993). Many of its people already suffer from substandard housing, underemployment, and marginal living conditions. As the *Washington Post* (1984) said, "the situation is a prescription for wretchedness."

Table 5 Mexico's urban population, 1930–1992

Year	Urban population	Total population of country
1930	5,540,631	16,552,722
1950	10,971,720	25,779,254
1980	44,299,729	66,846,833
1992	62,267,000	87,700,000

Note: Urban population includes all people living in places with populations greater than 2,500.

Sources: Pick et al. 1989; Population Reference Bureau 1992.

1. How would you describe the changes in Mexico's urban population in comparison to the country as a whole between 1930 and 1992?
2. What explanations can you offer for these changes?

Why has Mexico's urban population grown?

Mexico's population was over five times larger in 1992 than in 1930 (Table 5 above). What accounts for this growth?

Populations can grow in two ways—by *natural increase* and by *net in-migration*. People constantly enter (immigrate) and leave (emigrate) places. If more people enter a country than leave it, then the population grows by net in-migration. But the most important factor in Mexico's growth has been natural increase, which occurs when there are more births than deaths. For example, if a population of 100 people had a total of 20 births and 10 deaths in a year, the population would number 110 at the end of the year. Its natural increase would have been 10. The rate of natural increase for that year would be 10 percent (10/100 = 10 percent).

Mexico's rate of natural increase is slowing down, but it is still very high. It was 2.3 percent per year in 1992 (Population Reference Bureau 1992), but in the 1950s and 1960s, its rate of population growth was over 3 percent per year (Merrick 1986). By comparison, the growth rate in the United States was only 0.8 percent in 1992

(Population Reference Bureau 1992). It takes 89 years for a population growing at 0.8 percent per year to double, but it only takes 30 years to double a population growing at 2.3 percent.

High rates of natural increase are typical for developing countries such as Mexico. There are two reasons for this:

1. In developing countries, death rates have fallen as a result of successful public sanitation and health programs, such as inoculation against diseases.
2. Birth rates in developing countries have not come down as quickly as death rates because of a tradition of large families. Also, the knowledge and means for limiting family size are still not as widely available as they are in developed countries.

Rates of natural increase are usually higher in rural areas than in cities. There are two related reasons for this:

1. People in urban areas have greater access to the information and means needed to limit family size.
2. They do not follow the tradition of large families as much as rural people do.

Looking back at Table 5 (page 18), you can see that while Mexico's population increased by more than five times since 1930, its urban population grew more than 11 times! If rural areas have higher rates of natural increase than urban areas, what explains the fact that Mexico's urban population has grown so much faster than the country as a whole?

Although the rate of increase is reduced, Mexico's population keeps growing.

In addition to natural increase, another factor has helped cause the very rapid growth of Mexico's urban population—rural-to-urban migration. Rural-to-urban migration results in net in-migration into cities, because more people move into cities than move out. This causes a country's urban population to grow faster than its rural population. Rural-to-urban migration is typical of developing countries because they are shifting from agricultural societies to urban-industrial societies. Economic opportunities are declining in rural areas and increasing in urban areas.

Prior to about 1970, rural-to-urban migration was the main reason for Mexico's urbanization and urban growth. Although there is still rural-to-urban migration, natural increase is now the most significant factor adding to the growth of Mexico's urban population. This is because the new rural immigrants still have higher rates of natural increase. Now that so many people are living in cities, the urban populations continue to increase rapidly because births outnumber deaths significantly.

3. What do you think is the single most important reason for the high rates of natural increase in developing countries?
4. Birth rates are lower in developed countries than in developing countries. Why would birth rates be lower in richer societies?
5. Why do you think rural families in developing countries would find it important to maintain a tradition of having large families?
6. Why would people in urban areas be more likely to have greater access to information about limiting family size?

Where are Mexico's largest cities?

Table 6 (page 21) lists the populations of the 31 largest cities in Mexico, as counted by Mexico's 1990 census. Note that these are just populations of incorporated cities. They do not include adjoining suburbs that sprawl together with the major city to make up the populations of entire metropolitan areas. For example, the third-ranked

city listed, Nezahualcoyotl, is actually a suburb of Mexico City. Recall that Mexico City, which includes not only the Distrito Federal, but also the state of Mexico itself, was estimated to have a population of over 15 million in 1990.

Table 6 Mexico's largest cities (1990)

Rank	City	Population
1	Mexico City	8,236,960
2	Guadalajara	1,628,617
3	Nezahualcoyotl	1,259,543
4	Monterrey	1,064,197
5	Leon	872,453
6	Ciudad Juarez	797,679
7	Tijuana	742,686
8	Aguascalientes	719,650
9	Mexicali	602,390
10	Culiacan	602,114
11	Acapulco	592,187
12	Merida	557,340
13	Chihuahua	530,487
14	San Luis Potosi	525,819
15	Morelia	489,756
16	Toluca	487,630
17	Torreon	459,809
18	Queretaro	454,049
19	Hermosillo	449,472
20	Saltillo	440,845
21	Durango	414,015
22	Villahermosa	390,161
23	Irapuato	362,471
24	Veracruz	327,522
25	Mazatlan	314,249
26	Ciudad Obregon	311,078
27	Matamoros	303,392
28	Jalapa	288,331
29	Reynosa	281,752
30	Cuernavaca	281,618
31	Tampico	271,636

Source: Europa World Yearbook 1992.

How does Mexico City's growth compare to the country's as a whole?

Because Mexico City is so much larger than Mexico's second largest city (Guadalajara), it is what geographers call a *primate city.* There is no exact definition of a primate city, except that it is one that is much larger than the next largest city in the country. Since 1900, the proportion of Mexicans living in Mexico City has increased steadily (Figure 3 below).

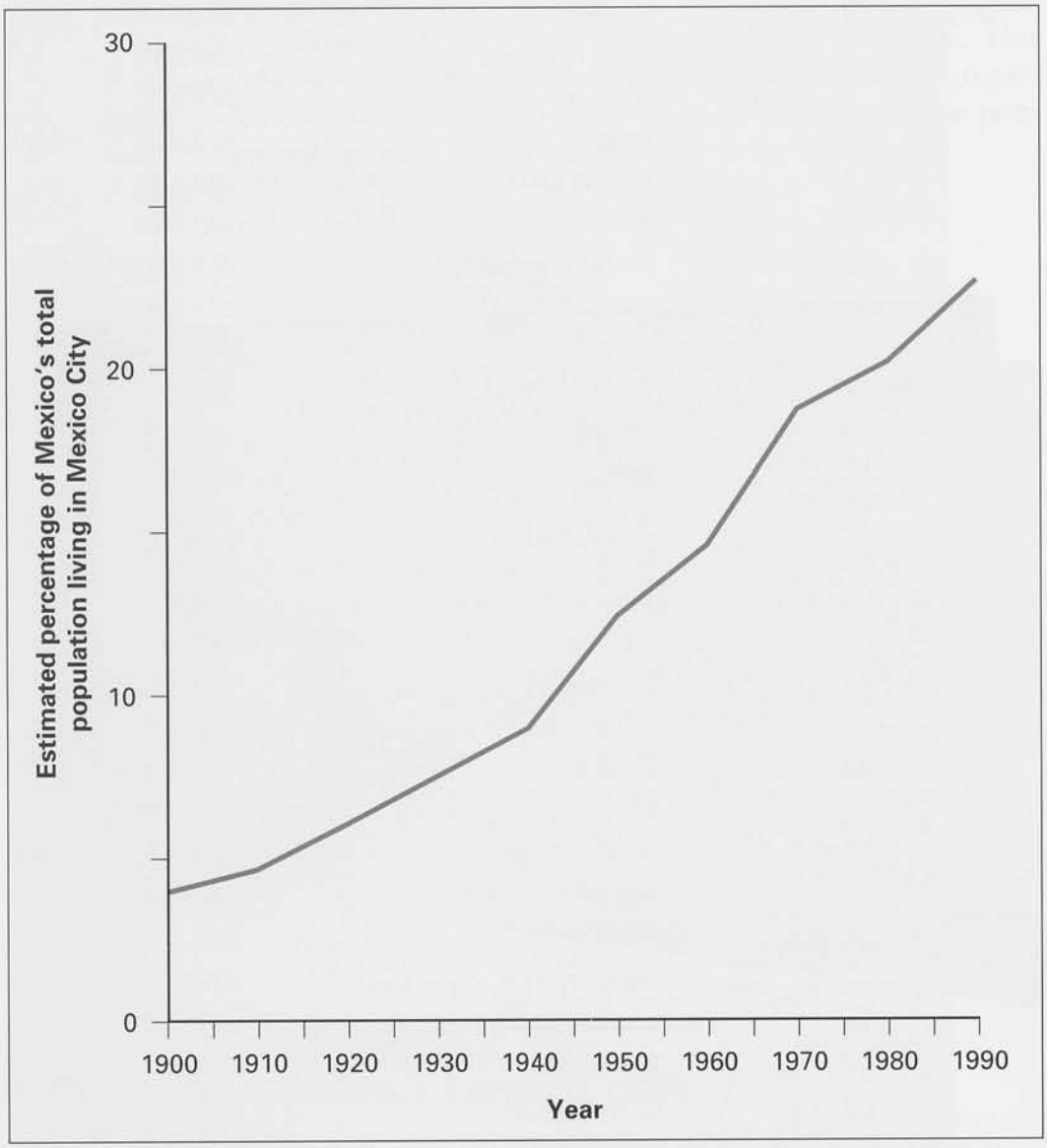


Figure 3 Percentage of Mexico's total population living in Mexico City, 1900–1990.

Sources: Arbingast et al. 1975; Pick et al. 1989; *Information Please Almanac* 1992.

7. What does Figure 3 tell you about the growth of Mexico City in the twentieth century? What does this suggest about the importance of Mexico City to the country as a whole?
8. Do you know of other cities in Latin America that might be called primate cities? Which ones?
9. Does the United States have a primate city? Does your state?

Why do Mexicans migrate to urban areas?

Objectives

In this lesson, you will

- Map and interpret migration data.
- Extract and generalize reasons why migration occurs.
- Examine the role of migration in urbanization.

Glossary Words

in-migration

migration

net migration

out-migration

urbanization

The following reading offers two case studies illustrating reasons given by two young Brazilians for moving to the city of Rio de Janeiro. Do you think that many Mexicans have the same reasons for moving to cities?

Urban growth in Brazil

Amaro came to Rio at the age of 19 to search for "better opportunities." At 17, Amaro had already left his birthplace, a [Brazilian plantation] and moved to the nearest [city] because "the situation was lousy and I wanted a better life." He had a brother in Rio who came to visit him and described "all the advantages in Rio, including better salaries and more *movimento* [excitement]."

> Shortly afterward, Amaro borrowed money from his mother for the trip and convinced a cousin to go along. . . . The [main] factor in his decision, and that of many like him, was the desire to "be where the action is." In his mind the countryside was a dead-end.
>
> [Another] example is Juliana, who came to Rio when she was 20. She was single and worried about becoming "an old maid." Relatives arranged for her to go directly to the home of a wealthy family in Copacabana [a rich neighborhood of Rio] as a [maid]. . . . Soon after arriving, she found a boyfriend and became pregnant. The family she worked for expelled her, and she moved in with her boyfriend in Catacumba [a Rio slum]. Three children later, he abandoned her. Now Juliana takes in washing so she can earn some money without leaving her children for long periods of time; she lives in the worst part of the [slum]—an open sewer runs by her front door—and she longs for the opportunity to buy some land and have a house of her own. Others like her, however, who also came as maids, still work, with fairly good pay, high job security, and lots of "fringe benefits" in the homes to which they were originally sent (Perlman 1976, pages 68–69).

Rural-to-urban migration has been an important cause of the concentration of people in Mexico City. Mexicans from every one of the country's states have been attracted to the capital and to other large cities. But the migration hasn't been even. Some states have lost population while others have gained population. Table 7 (page 27) shows which Mexican states were gaining people by in-migration and which were losing people by out-migration as of 1970, which was about the peak time of rural-to-urban migration in Mexico. The table also shows how much income people earned in each state to help you understand one reason why people migrated. Figure 4 on page 26 shows the location of Mexico's 32 states.

Geographers use maps to identify patterns in data. By mapping the migration and earnings data in Table 7, you may find some patterns. Then you can begin to speculate what causes the patterns. This speculation (what scientists call *hypothesizing*) forms the heart of geographic inquiry. Sometimes the patterns aren't perfectly clear, so it is important to take some risks by guessing. Making a reasonable guess is a first step toward finding answers.

To rural people, the city means hope for a better life.

Figure 4 Mexico and its states.

Table 7 Mexico's net migration and earnings by states, 1970

States	Net migration (percentage change per year)	Earnings per worker (average per year, U.S. $)
Net migration greater than +1%		
Baja California	+2.50	2,292
Mexico and Distrito Federal	+2.11	1,970
Nuevo Leon	+1.78	1,922
Morelos	+1.33	1,397
Baja California Sur	+1.25	1,867
Net migration between 0 and +1%		
Campeche	+.96	1,017
Colima	+.90	1,021
Nayarit	+.48	735
Jalisco	+.43	1,417
Tamaulipas	+.41	1,359
Sinaloa	+.27	1,233
Sonora	+.25	1,522
Net migration between 0 and –1%		
Chihuahua	–.01	1,331
Tabasco	–.03	1,062
Veracruz	–.18	1,183
Aguascalientes	–.27	1,001
Coahuila	–.46	1,271
Chiapas	–.47	894
Puebla	–.74	1,177
Queretaro	–.78	1,174
Net migration less than –1%		
Yucatan	–1.06	1,175
Guanajuato	–1.10	1,300
Guerrero	–1.33	2,158
Oaxaca	–1.35	886
Tlaxcala	–1.38	355
Durango	–1.54	669
Hidalgo	–1.56	877
San Luis Potosi	–1.70	1,263
Michoacan	–1.96	1,019
Zacatecas	–3.74	551
Quintana Roo	no data	no data

Source: Gordon and Theobald 1981.

1. By mapping the net migration data from Table 7, which regions did you discover were losing and which were gaining population?
2. By mapping the earnings data from Table 7, which regions did you discover had high and which had low workers' earnings?
3. What relationship can you find between the pattern of net migration and workers' earnings?

Now examine Figure 5 on page 29. This map shows the patterns of agricultural earnings in Mexico's states. For example, the map shows that between 25 and 49 percent of the farm workers in Chihuahua earned more than the equivalent of $40 per month in 1970. By contrast, less than 25 percent of farmworkers in Tabasco earned the equivalent of $40 per month.

4. How do the patterns shown in Figure 5 compare to the patterns of net migration you mapped from Table 7?
5. Imagine you are a poor farm worker in the state of Tabasco or Yucatan. What states or regions of Mexico would you find attractive to move to? Why?
6. Consider the pattern shown in Figure 5 and the pattern of workers' earnings you mapped from Table 7. How would you explain, in general terms, people's decision to migrate?
7. Which states in Mexico do you think would have the largest percentage of people living in urban areas?

Which of the push and pull factors suggested by these data influenced Amaro's and Juliana's decisions to migrate to a city?

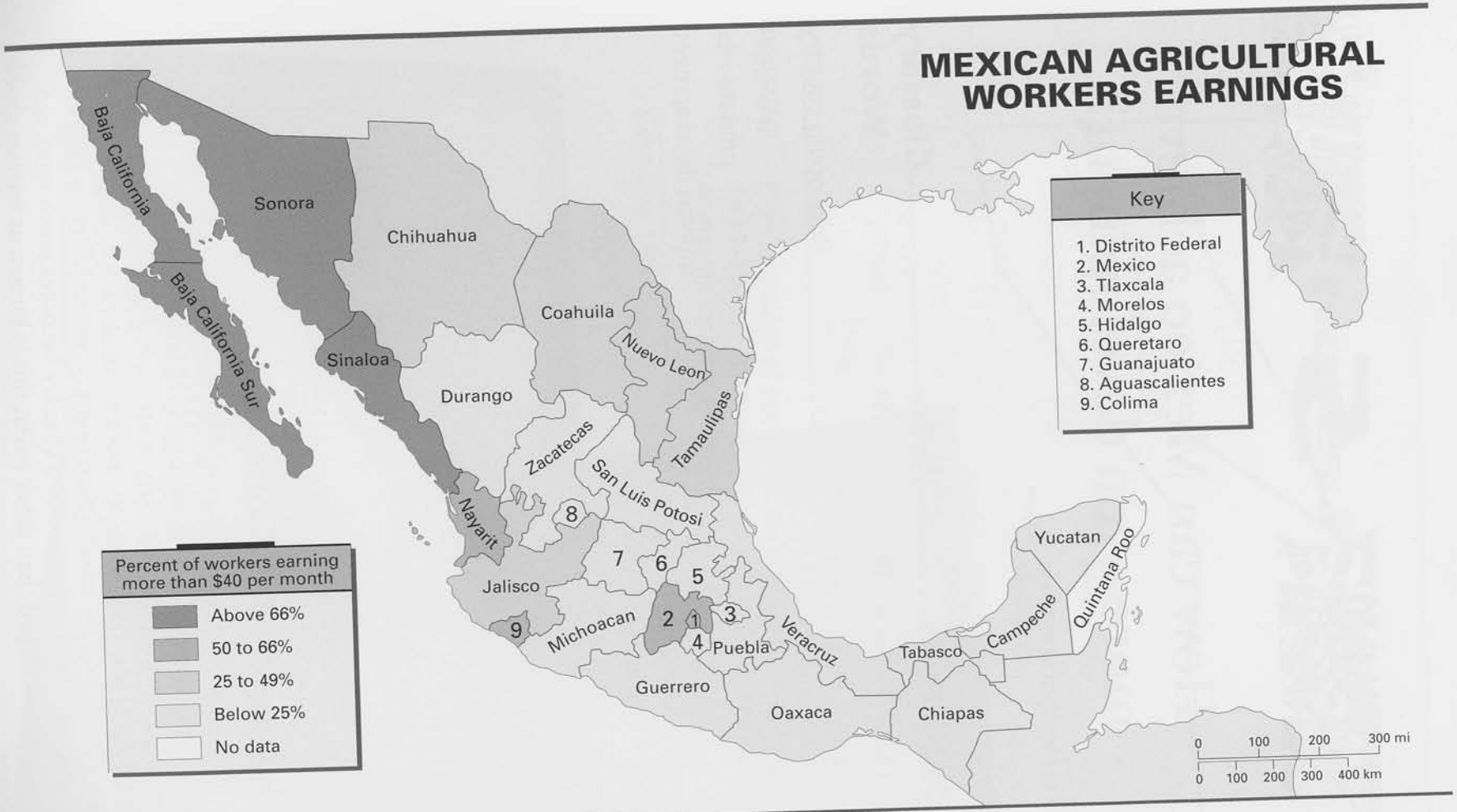


Figure 5 Percentage of Mexican agricultural workers earning more than the equivalent of $40 per month by state in 1970.

Source: Gordon and Theobald 1981.

How can Mexico achieve more even development?

Objectives

In this lesson, you will

- Describe why uneven development is a fundamental problem in Mexico.
- Identify how government policies could affect the geographic distribution of people and opportunity in Mexico.
- Appreciate the difficulty of achieving policy goals with various programs.

Glossary Words

developing country

migration

primate city

uneven development

What is uneven development?

One part of Mexico has attracted more people than any other place in the country. This is the capital, Mexico City, which includes both the Distrito Federal and the state surrounding it (also called Mexico). This is because many more economic opportunities have been available in the capital than in other parts of Mexico (Figure 6 on page 31). When one part of a country becomes much more economically developed than other parts, this is known as *uneven development.*

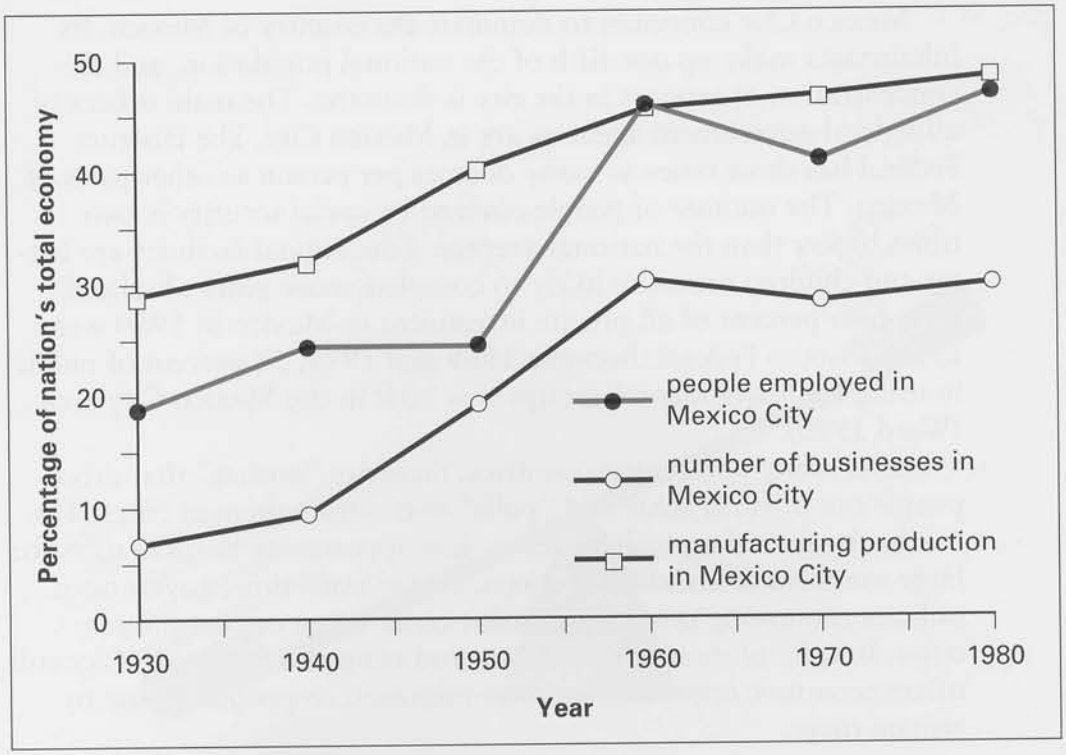


Figure 6 Concentration of economic opportunities in Mexico City, 1930–1980. Figures shown are percentages of Mexico's total economy located within Mexico City.

Source: Garza 1987.

1. What percentage of all Mexicans were employed in Mexico City in 1930? In 1980?
2. What percentage of all Mexican businesses were located in Mexico City in 1930? In 1980?
3. What percentage of Mexico's manufacturing production took place in Mexico City in 1930? In 1980?
4. What can you speculate about the trends in Mexico's economy over the 50-year period?
5. Compare Figure 6 above to Figure 3 on page 22. How would you explain the relationship you see between these two line graphs?

Mexico City continues to dominate the country of Mexico. Its inhabitants make up one-fifth of the national population, and the concentration of services in the city is dramatic. The main offices of all federal government agencies are in Mexico City. The Distrito Federal has three times as many doctors per person as other parts of Mexico. The number of people covered by social security is two times higher than the national average. Educational facilities are better and children are more likely to complete more years of school. Fifty-four percent of all private investment in Mexico in 1980 went to the Distrito Federal. Between 1968 and 1975, 58 percent of public housing for lower-income groups was built in the Mexico City area (Ward 1990).

As in many developing countries, there are "pushes" that drive people out of rural areas and "pulls" that attract them to cities. The mechanization of agriculture leaves less opportunity in rural areas for large numbers of unskilled workers. At the same time, government policies promoting urban investment create more opportunity in cities. In spite of its severe pollution and congestion, Mexico City still offers economic opportunities to in-migrants, so people choose to remain there.

What are the advantages and disadvantages of life in Mexico City?

> Mexico City is a megacity with megapollution problems. Air pollution is officially the city's number one problem. . . . Motor vehicles in the city generate tons of ozone, hydrocarbons, carbon monoxide, and other atmospheric contaminants. Smokestack industries belch sulfur and heavy metals. Small businesses and factories burn practically anything that [burns], including tires, waste oils, and refuse. . . . Conditions are so severe that Mexico City exceeded World Health Organization [air pollution standards] on 310 days in 1990 (Mumme 1991, page 11).

For many people, Mexico City's economic opportunities outweigh its problems.

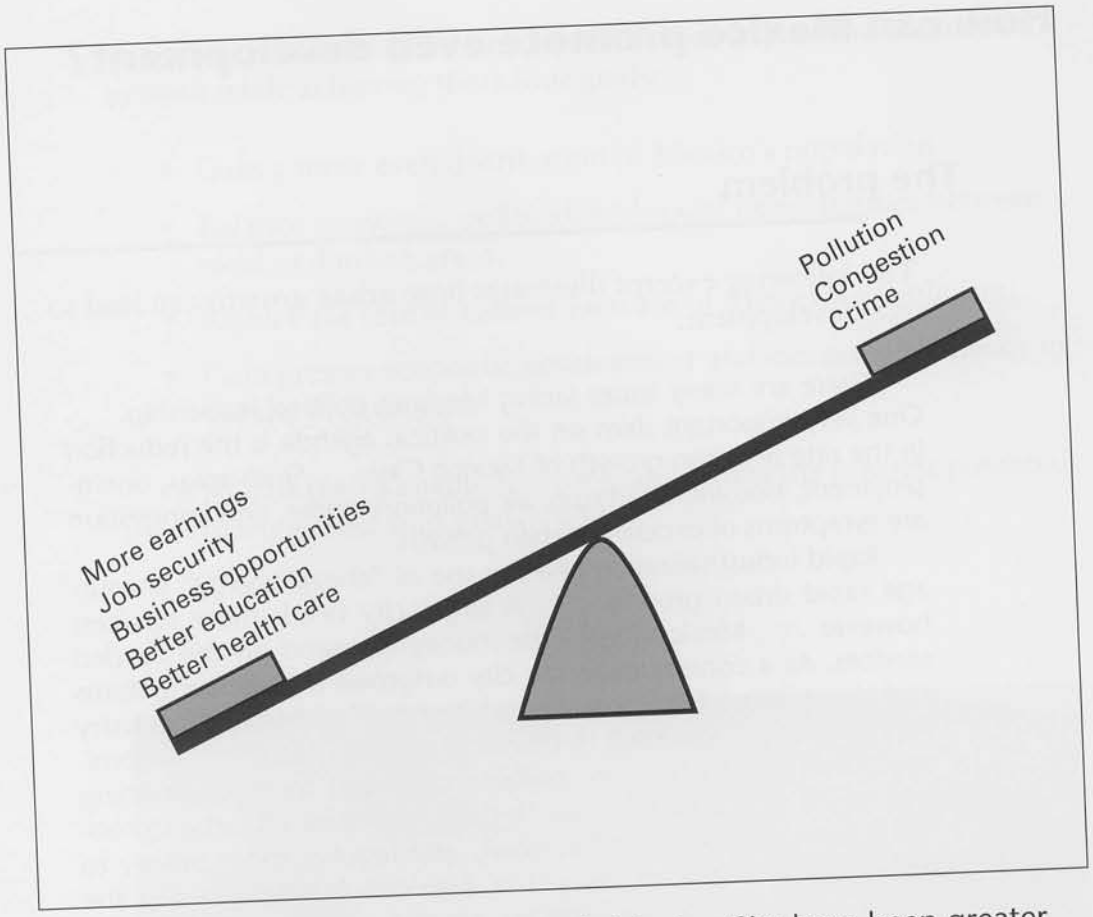


Figure 7 The advantages of living in Mexico City have been greater than the problems associated with a stressed environment.

6. Do you think the advantages of living in Mexico City will continue to outweigh the disadvantages? Why or why not?
7. Why do you think your family settled in your town?
8. What influences would you put on each side of the balance shown in Figure 7 for your own family's decision to migrate or stay in your town?

How can Mexico promote even development?

The problem

The following excerpt illustrates how urban growth can lead to uneven development.

> There are many issues facing Mexico's political leadership. . . . One very important item on the political agenda is the reduction in the rate of urban growth of Mexico City. . . . Slum areas, unemployment, housing shortages, air pollution, crime, and congestion are symptoms of excessive urban growth.
>
> Rapid industrialization and the use of "cheap energy" encourage rapid urban growth. . . . A larger city needs more services; however . . . Mexico [has] little money to spend on the needed services. As a consequence the city outgrows the service systems and the quality of life drops. . . . [Over half] of Mexico's industry and services are attracted to this large magnet. Mexico City dominates the country. It is a "primate city" and most of anything important is located here. As the city grows so do urban problems; the city becomes more needy and requires more money to sustain it. Seventy-two percent of Mexico's budget goes to the [cities]. . . . This leaves little for needed rural investment. This polarizes the rural and urban populations, creating great political divisions.
>
> Urban-decentralization policies have been debated in the [Mexican government] for years. In 1976, the Human Settlements Act was passed allowing the [federal government] to intervene in urban planning issues. Within a year the National Urban Development Plan . . . aimed to confront the huge [unevenness] in the distribution of the national population. . . . [T]he aim was to restrict the growth of the three largest urban areas, Mexico City, Guadalajara, and Monterrey, and to create an urban hierarchy with 11 centers of over 1 million people, 17 centers with 500,000 to 1 million, and 74 centers of over 100,000 (Ward 1990, pages 18–20).

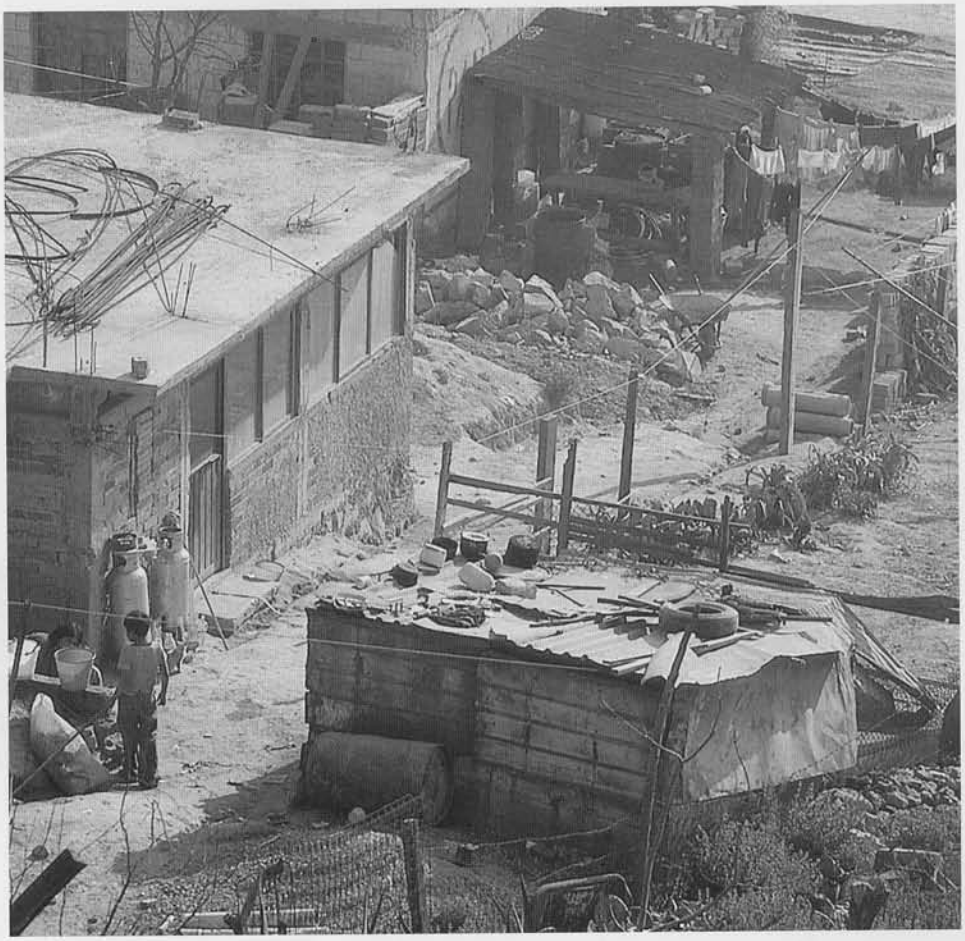
Four policy goals

If you were a Mexican government official, how would you attack the problems of uneven development? Assume that the President of Mexico has called for the government to consider five

programs. These programs are meant to reduce problems of urban growth while achieving these four goals:

- Gain a more even distribution of Mexico's population.
- Balance economic, political, and social opportunities between rural and urban areas.
- Reduce the rate of natural increase of Mexico's population.
- Gain greater economic development and increased efficiency in the use of resources.

Which of the following five programs offers the greatest potential for achieving these four goals? Why?



Mexico has little money to spend on needed services, so for some the quality of life declines.

Five programs

Urban relief

Spend money on transportation and water systems in Mexico City and Guadalajara that have fallen into disrepair. Purchase new buses to improve the mass transit system. Once this is done, enforce laws that prohibit driving on certain days. This would lessen air pollution and congestion and improve transportation. Also, improve sanitation systems and upgrade existing water facilities. Construct new water facilities as needed to provide water to outlying areas where new settlements have grown up. Policies could also include other projects addressing conditions within urban areas.

Industrial decentralization *(maquiladoras)*

To decrease the attraction of Mexico City, create five new *maquiladoras*. These are factories that have previously been located near the U.S. border, where Mexican workers manufacture products from imported parts and materials. *Maquiladoras* take advantage of Mexico's surplus labor supply and the lower wages paid in Mexico. Mexican wages are generally less than $4.00 per hour, while similar work in the United States often runs up to $15.00 per hour. New *maquiladoras* could also be located in the border states of Sonora, Chihuahua, Coahuila, and Baja California. Or, the new plants can be built in the Mexican interior. This would encourage investment in less-developed areas by attracting workers there (*Economist* 1991).

Projects to upgrade tourism

Improve tourism facilities along Mexico's coasts at a number of locations (Mazatlan, Puerto Vallarta, Manzanillo, Ixtapa, Acapulco, Puerto Escondido, and Cancun). Also, create new resorts along Mexico's northwest coast (north of Guaymas). Tourism is an important source of income for Mexico and, with development, can provide even more jobs. Upgrade facilities as well as build new facilities to advance the tourist industry.

Agricultural reform

In response to decreasing production and investment in agriculture, make farm reform a priority. Reforming the *ejidos* (communal farms) will be politically difficult and it may create heavy migration

to the already overcrowded cities. Yet, a revitalized agricultural sector could hold farmers on the land and contribute significantly to the economy.

Family planning

Promote a more aggressive population policy. Mexico's current birth rate, although much lower than in previous decades, is still high enough that the population will double in less than 35 years. Fund family planning centers. These centers would offer education and materials to encourage smaller families.

Tourism provides needed jobs in Mexico.

How does urban growth in Mexico affect the United States?

Objectives

In this lesson, you will

- Identify the push-pull factors that influence migration to the United States from Mexico.
- Evaluate the consequences in the United States of migration from Mexico.
- Consider the consequences of uneven social justice and opportunity between neighboring countries.
- Realize that movements of people, ideas, and values change a place.

Glossary Words

developing country
immigration
migration
urban growth
voluntary migration

How is the pattern of Mexican migration changing?

Mexico's uneven development is reflected in the migration within Mexico. But Mexico is also much less developed than the United States. What effect has this fact had on Mexico?

For Some, the Capital Is a Stop on the Way to the U.S.

by Katherine Ellison

"In two months, we'll go to Tijuana, and swim," boasted Julio Hernandez, 17, a restless newcomer to Mexico City from a small town in southern Oaxaca.

It was close to 9 A.M., . . . and Hernandez and his pal, Adelmo Ortiz, 18, had been milling around looking for work for four hours. Both had arrived in the capital with high hopes a month before but quickly decided there were too few jobs at too little pay with much too much competition.

They spoke amid a crowd of dozens of young men like them, all trying with little success to catch the eyes of recruiters of day-laborers for construction sites or shops or private homes.

If the two do indeed travel north, they will join what researchers say is an increasing trend of "step-migration" to the United States from Mexico City—. . . travelers who first try their luck in the capital before moving on in search of work.

In the past, almost all rural Mexicans who traveled to Mexico City did so as an alternative to illegal immigration to the United States. Yet so intolerable has capital life become in recent years that more and more rural migrants are [now] moving on to the United States anyway.

"Our neighborhoods have become a trampoline to the United States," said Gerardo Lopez, a . . . political organizer in the . . . capital slum of Nezahualcoyotl.

In Tijuana, that impression has been borne out in recent research by the Colegio de la Frontera Norte, a major border think tank.

"The proportion of migrants to the U.S. from Mexico City has more than tripled in the past five years," said Colegio director Jorge Bustamonte. From "next to nothing," he said, the share has grown to 6 percent of the border crossing by undocumented workers.

On the other side of the border, in San Diego, Bustamonte's findings have been echoed in research done at the Center for U.S.-Mexican Studies at the University of California.

In a survey of 200 job-seeking undocumented migrants arriving in Southern California, researchers at San Diego found nearly 17 percent had last lived in Mexico City before traveling north. Many of these had originally come from the provinces, said Wayne Cornelius, the center's director.

"Mexico City was never what we call a 'sending area,'" he added. "But now that's changing."

Bustamonte thinks one reason for the increase is that U.S. crackdowns have made illegal immigration more expensive, and many would-be travelers now must first work in the capital to save up for the trip.

But other migrants may be driven by simple desperation, having failed to find jobs or housing in the city.

Source: San Jose Mercury News, Mexico City Bureau, 1989.

Why can't illegal immigrants be stopped?

Curbing Illegal Immigration from Mexico: Obstacles to a Successful Legislative Solution

by Jose Cuello

On September 19, 1985 the first of two devastating earthquakes hit Mexico City. That same day, the U.S. Senate passed its version of the immigration control bill designed to curb the illegal flow of Mexican immigrants into this country.

. . . The [use] of already scarce resources to [rebuild] the Mexican capital will most likely increase the . . . pressures in Mexico [that] send so many of its people north. Congress may attempt to stem the flood, but there is no dam and no help is on the way.

. . . [P]ressures inside Mexico have been building and they are one of three insurmountable obstacles to Congress' efforts to regain control of the country's borders. The pressures result from Mexico's chronic poverty, which has defied the efforts . . . to [eliminate] it. The poverty has been [worsened] by a post-World War II population explosion and a foreign debt that has mushroomed to $100,000,000,000 in recent years. Like it or not, illegal Mexican immigration is not just a national problem. International in character, it will not be solved by a single legislative act of Congress, but will have to be addressed in the international arena with the cooperation of the Mexican government.

A second major obstacle to a successful legislative solution is the attraction the U.S. has for Mexicans. The attraction . . . [has] two components. One is the . . . relationship between the U.S. and Mexico. Congress cannot change the fact that the richest nation on Earth has a 2,000-mile border with a [developing] country in economic crisis. Migration to the U.S. is a "safety valve" for Mexico's economic and political system. Mexicans come to the U.S. not only because conditions are better here, but also because the dollar is worth much more than the peso. The majority of those who cross the border to work in the U.S. go back to Mexico and take with them dollars that help fuel the Mexican economy. Differences in standards of living will always be the cause of migration as surely as the laws of physics work to establish a physical equilibrium.

The second component of this attraction is [the] historic need [in the U.S.] for immigrant labor. . . . The . . . "pull" on the Mexican immigrant was at one time predominantly limited to the southwest U.S. . . . The demand for Mexican workers, however, has now become [almost] nationwide. . . .

The demand has attained a national scale because [U.S. businesses] . . . have found Mexicans as vital to their

economic success as does southwestern agriculture. Rather than [hurting] the [U.S.] economy, Mexicans play the role once filled by European immigrants outside the Southwest. . . .

The third major obstacle to any Congressional attempt to control illegal Mexican immigration and its effects on [U.S.] society is . . . costs. . . . Were Congress really serious about guaranteeing the security of the national boundaries, the Army would have to be deployed along the border.

False assumptions

The real dilemma is that illegal Mexican immigration plays a very complex set of roles in [U.S.] society and affects different interest groups in [different] ways. . . . Among the [reasons given] . . . to control immigration are that illegal immigrants are robbing [U.S. citizens] of jobs and lowering their wage levels, as well as draining the nation's resources through their dependence on public health, educational, and assistance programs. In other words, undocumented Mexican workers are endangering the property as well as the economic liberty and happiness of [U.S. workers].

These assumptions, however, are based more on . . . emotion than fact. The leading experts on Mexican immigration into the U.S.—such as Wayne Cornelius of the University of California at San Diego—have shown that [most] . . . undocumented workers take jobs that [U.S. workers] are unwilling to fill. This has been confirmed recently by . . . the Heritage Foundation, which concluded that legal and illegal aliens are net contributors to the [U.S.] economy. . . .

Source: USA Today Magazine, March 1986.

Many assumptions made about Mexican immigrants are based on emotion and not fact.

How do immigrants change the U.S. cultural landscape?

Table 8 Projected changes in population in the United States, 1995–2050

	1995		2050		1995–2050	
	Population (millions)	%	Population (millions)	%	Increase (millions)	Change (%)
Total	263.0	100	392.0	100	129.0	+49
White	193.6	74	205.8	53	12.2	+6
Black	31.6	12	56.5	14	24.9	+79
Asian-American	9.2	3	38.0	10	28.8	+313
Native American	1.8	1	3.5	1	1.7	+94
Hispanic*	26.8	10	88.2	22	61.4	+229

* Hispanics may be of any race.

Source: Bovee 1993.

The United States has always been a melting pot of nationalities and ethnic groups.

Beyond the Melting Pot

by William A. Henry III

Someday soon, surely much sooner than most people who filled out their census forms last week realize, white Americans will become a minority group. Long before that day arrives, the presumption that the "typical" U.S. citizen is someone who traces his or her descent in a direct line to Europe will be part of the past. . . .

Already one [U.S. citizen] in four defines himself or herself as Hispanic or nonwhite [Table 8 on page 42]. If current trends in immigration and birth rates persist, the Hispanic population will have further increased an estimated 21%, the Asian presence about 22%, blacks almost 12% and whites a little more than 2% when the 20th century ends. By 2020, . . . the number of U.S. residents who are Hispanic or nonwhite will have more than doubled, to nearly 115 million, while the white population will not be increasing at all. . . .

While there may remain towns or outposts where even a black family will be something of an oddity, where English and Irish and German surnames will predominate, where a traditional . . . [U.S.] will still be seen on almost every street corner, they will be only the [remains] of an earlier nation. The former [white] majority will learn, as a normal part of everyday life, the meaning of the Latin slogan engraved on U.S. coins—*E Pluribus Unum,* one formed from many.

Among the younger population that go to school and provide new entrants to the work force, the change will happen sooner. In some places a [U.S.] beyond the melting pot has already arrived. In New York State some 40% of elementary—and secondary—school children belong to an ethnic minority. Within a decade, the proportion is expected to approach 50%. In California white pupils are already a minority. Hispanics (who, regardless of their complexion, generally distinguish themselves from both blacks and whites) account for 31.4% of public school enrollment, blacks add 8.9%, and Asians and others amount to 11% for a nonwhite total of 51.3%. This finding is not only a reflection of white flight from desegregated public schools. Whites of all ages account for just 58% of California's population. In San Jose bearers of the Vietnamese surname Nguyen outnumber the Joneses in the telephone directory 14 columns to eight. . . .

"Once America was a microcosm of European nationalities," says Molefi Asante, chairman of the department of African-American studies at Temple University in Philadelphia. "Today America is a microcosm of the world." . . .

The U.S. was created, and continues to be redefined, primarily by voluntary immigration. This process has been one of the country's great strengths, infusing it with talent and energy. The "browning of America" offers tremendous opportunity for capitalizing anew on the merits of many people from many lands. Yet this fundamental change in the ethnic makeup of the U.S. also poses risks. The [U.S.] character is resilient and

thrives on change. But past periods of rapid evolution have also, alas, brought out deeper, more fearful aspects of the national soul.

In the 21st century—and that's not far off—racial and ethnnic groups in the U.S. will outnumber whites for the first time. The "browning of America" will alter everything in society, from politics and education to industry, values and culture.

Source: Time, April 9, 1990.

1. Do you think whites will become a minority group in the United States? Why or why not?
2. Do you agree with Henry that "the browning of America" will alter everything in U.S. society? Why or why not?

Can the United States control its 2,000-mile southern border and restrict migration from Mexico? The push-pull factors mobilizing the flow of people are numerous and strong and the situation very complex. The attempts to monitor and control immigration from Mexico to the United States evoke strong reactions from all sides.

One of the most controversial and heartfelt issues concerns values, specifically so-called U.S. values. Some argue that U.S. values, institutions, and landscape are threatened by the migration of Mexicans into the United States. Will this landscape remain "American" when the ratio of Anglos and Hispanics is equal? Can a country embrace different ethnic groups and still preserve a distinct national identity? Can the government still operate when people speak different languages? Governing a multi-ethnic society is hard and poses serious issues. Every society needs a universally accepted set of values. Does immigration today present more than the United States can assimilate?

Others describe this argument as one founded on prejudice. Historian Thomas Bender of New York University said U.S. values should be "the ever changing outcome of a continuing contest among social groups and ideas for the power to define public culture." Besides, he added, many immigrants come committed to U.S. values. Julian Simon, Professor of Business at the University of Maryland said, "the life and institutions here shape the immigrant and not vice

versa. The business about immigrants changing our institutions and our basic ways of life is hogwash. It's nativist scare talk" (*Forbes* 1990, pages 77–79).

As the next century approaches, many political decisions will be made that reflect values. The U.S. political, social, and cultural landscape will reflect these decisions; the national character, the sense of nation, will be affected by these decisions.

3. How does increasing ethnic diversity influence the status of the United States as a world power?
4. In what ways do you think multiculturalism can affect democracy?
5. Do you think it is fair for many people in the United States to have so much while many people in Mexico have so little? Why or why not?
6. Should people coming to the United States be required to speak English? What should be asked of immigrants coming to the United States?
7. Do you think the curriculum in schools should change as the ethnic makeup of the United States changes? If so, how? If not, why not?

Children in the United States today are exposed to an array of cultural diversity.

This module has examined urbanization and urban growth in Mexico and introduced the issues surrounding immigration of Mexicans to the United States. The issues are connected to each other, but more importantly they are connected to you. You have looked at what is happening to the population in Mexico, examined the consequences, and discussed why it is happening there. You have debated and ranked policies and programs. You have observed that the United States is perhaps a safety valve, absorbing migrants fleeing the economic, environmental, and political situations in Mexico. Again, in all cases, your values have shaped and will continue to shape the human landscape. Whether it is the consumption of goods manufactured at plants in Mexico, travel in Mexico, or participation in political decisions at home, you influence the geographic landscape.

Glossary

Demography The study of the characteristics of human populations, such as size, growth, distribution, and density.

Developed country A wealthy nation that has diverse industries, extensive transportation and communication systems, and mature financial institutions.

Developing country A poorer nation that is emerging from an agricultural economy and that has the beginnings of industry, transportation, and communication.

Immigration The process of people coming into a country or place to settle.

Infrastructure The network of basic services that support people in a region. This includes bridges, power lines, communication, roads, fresh water, and sewers.

In-migration The movement of people into a place in order to become residents.

Migration A change in residence intended to be permanent.

Natural increase The growth of a population due to the birth rate exceeding the death rate.

Net in-migration The addition of people to a region as a result of migration from other areas. Calculated by subtracting emigrants from immigrants.

Net migration The result of a region adding population by in-migration and subtracting population by out-migration.

Out-migration The movement of people away from a place where they have resided.

Per capita gross national product (GNP) The value of all goods and services produced by a country, divided by its population. Used to give a rough estimate of wealth or economic development.

Primate city The largest city in a country or area that is many times larger than the second-largest city.

Uneven development The concentration of human resources, industry, and investments in one region while other areas have little or no similar promotion of growth.

Urban growth The increase in both the absolute number of people living in urban areas and the amount of land devoted to urban places.

Urbanization The increase in the percentage of a population that lives in urban areas.

Voluntary migration A population movement in which people relocate in response to perceived opportunity, not because they are forced to move.

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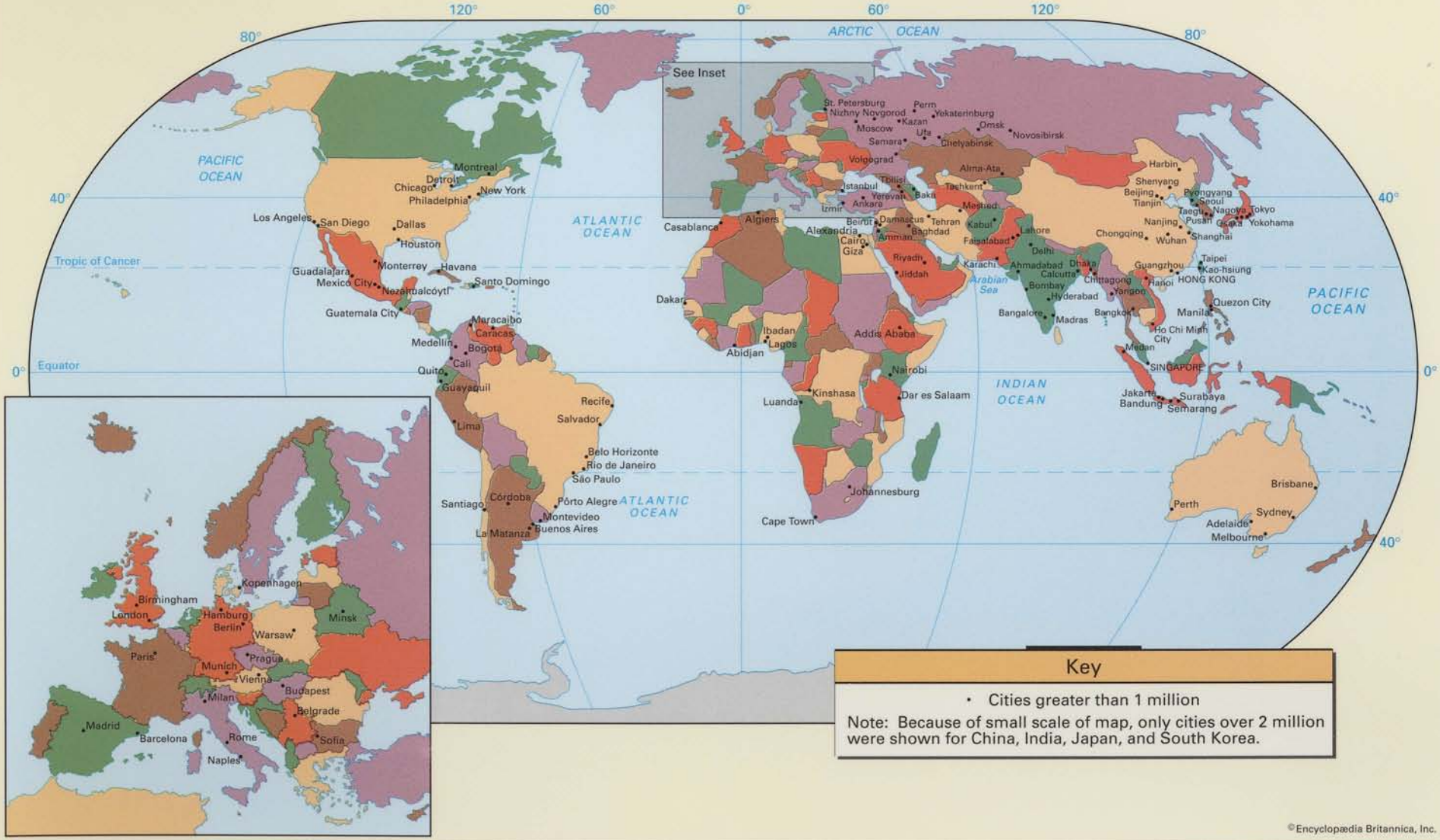
Geographic Inquiry into Global Issues

URBAN GROWTH

Map I

MAJOR CITIES OF THE WORLD



Key

- Cities greater than 1 million

Note: Because of small scale of map, only cities over 2 million were shown for China, India, Japan, and South Korea.

Geographic Inquiry into Global Issues

URBAN GROWTH

Map 2