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

Oil and Society

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TEACHER'S GUIDE

Regional Case Study
North Africa/Southwest Asia

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Contents

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, United States)
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 the global economy affect peoples and places?* 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, and Canada)	**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)

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, the Kurdish nation)	**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)

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

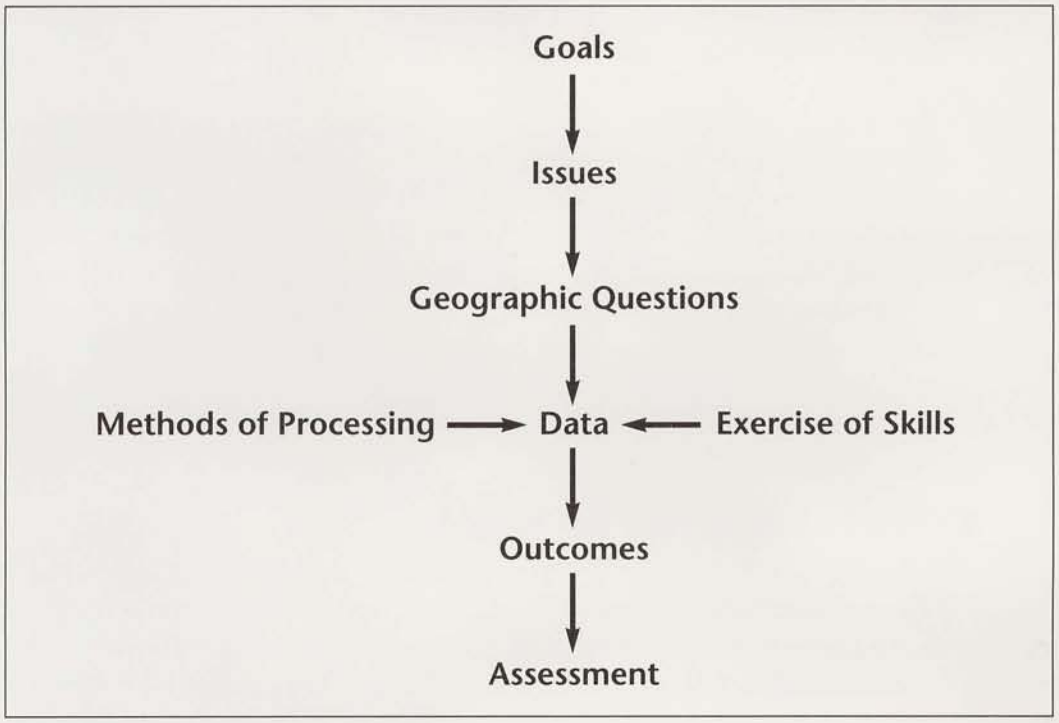

Figure 2 GIGI's model for issues-based geographic inquiry (after Slater 1993).

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

Oil and Society

How have oil riches changed nations?

Oil is arguably the most powerful resource on the planet. This "black gold" is distributed unevenly on Earth, so countries that have it in large quantities are able to both meet their own energy needs and gain strong political leverage in this increasingly oil-dependent world. Oil wealth has permitted countries like Saudi Arabia and Venezuela to accelerate change by pumping billions of dollars in oil revenues into infrastructure and services. But these changes are not problem-free. Societies change when exposed to radically different livelihoods. The change is exacerbated by the power of the Information Age, whereby people are exposed to a global culture. Serious cultural conflicts arise when a nation is divided by those who welcome the change and those who resist change. These are good reasons to make the study of this issue a part of the curriculum.

In this module, students take a geographic perspective in learning about oil wealth and its impact on society. This means close attention is given to the following themes: *Location* (where is oil found?); *Place* (what are countries like that have attained great financial wealth from oil?); *Human-Environment Interaction* (what happens to places where oil is extracted?); *Movement* (how does the oil industry generate movements of labor and energy?); and *Region* (how do countries in one region differ when some have oil and some do not?).

In Lesson 1, students discover the spatial distribution of oil production and consumption. Beginning in Lesson 2, the module's major case study focuses on Saudi Arabia and the physical reasons why oil is found in large quantities there. In Lesson 3, students see how Saudi Arabia invested heavily in its domestic economy to improve its standard of living and to ensure long-term well-being. Lesson 4 examines the impacts of oil wealth on both Saudi society and its natural environment. Students discover in Lesson 5 how Saudi Arabia uses its oil wealth to influence decisions made in other countries. A brief com-

parison case study in Lesson 6 examines Venezuela, a major South American oil exporter, to see how oil wealth has been used to keep its democratic society together. Lesson 7 closes the module by having students weigh the gains of oil wealth against the problems oil has brought to Alaska.

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

- Understand the dramatic changes that have occurred in countries as a result of oil development.
- Discover that the world's oil supply is not evenly distributed.
- Appreciate how oil wealth has changed the political and economic power of oil-exporting countries.
- Examine the concerns of oil dependency.
- Recognize the changes that will take place as the world oil supply runs out.
- Consider the environmental concerns of oil extraction and transportation.

Number of Days Required to Teach *Oil and Society*

Eleven to fifteen 50-minute class periods

Suggestions for Teacher Reading

Blank, David Eugene. 1984. *Venezuela: Politics in a Petroleum Republic.* New York: Praeger.

Calder, Nigel. 1991. *Spaceship Earth.* London: Viking.

De Blij, H. J., and Muller, Peter O. 1991. *Geography: Regions and Concepts,* 6th edition. New York: John Wiley.

Hardwick, Susan W. and Holtgrieve, Donald G. 1990. *Patterns on Our Planet: Concepts and Themes in Geography.* New York: Merrill.

Hill, A. David, and McCormick, Regina. 1989. Geography: *A Resource Book for Secondary Schools.* Santa Barbara, CA: ABC-Clio, Inc.

Marshall, Bruce, editor. 1991. *The Real World: Understanding the Modern World Through the New Geography.* Boston: Houghton Mifflin.

Metz, Helen Chapin, ed. 1993. *Saudi Arabia: A Country Study 1993.* Washington, DC: Library of Congress, Federal Research Division.

Middle East Journal. Washington, DC: Middle East Institute.

Silverstein, Ken. 1993. 'CAP'-ing the oil gusher: the miracle runs out in Venezuela. *The Nation,* June 28: 904–906.

Sindlelar, H. Richard III, and Peterson, J. E., editors. 1988. *Crosscurrents in the Gulf.* New York: Routledge.

Venezuela Area Handbook, 4th edition. 1993. Washington, DC: Library of Congress, Federal Research Division.

Lesson 1

What are the world patterns of oil consumption and production?

Time Required

Two or three 50-minute class periods

Materials Needed

Copies of Activity 1 for each pair of students
Copies of Activity 2 for all students
Transparency of Overhead 1
Transparency of Overhead 2

Glossary Words

barrel of oil

gigajoule

gross national product (GNP)

hydroelectricity

nonrenewable resource

oil consumption

oil production

Getting Started

- Have students read the Memo to the Student on page 1 and the overview on pages 2–3 in the Student DataBook prior to beginning the module. Also make students aware that there is a Glossary in the back of their DataBooks.
- Ask students to read the first paragraph in the section titled "Where is the world supply of oil consumed?" and play a quick game to identify everything in class that comes from oil. Have teams of four students work for two minutes to make the longest list. To extend the game, have the groups create a poster that shows how our society depends on oil for a large number of products.

  Ask students where they think the United States gets the oil to make all of the products named in their lists. Students may say that some of the oil that goes into producing these products comes from reserves located in the United States. Oil may also be brought in from countries in Southwest Asia, such as Saudi Arabia and Kuwait, and perhaps Latin American countries, such as Mexico, Ecuador, and Venezuela. Close the discussion by saying that the world's demand for oil is very great, but it is not found everywhere in the world.

Procedures

Where is the world supply of oil consumed? (pages 4–7)

A. Have students read the text on pages 4–5 and examine Figure 1. After a brief discussion about Questions 1 and 2, inform the class that this lesson is going to look closely at why oil consumption and oil production are not found evenly around the world.

B. Distribute copies of **Activity 1** to each pair of students. The world map shows the regional boundaries used in Table 1 (page 6). It also indicates the high-income countries or regions with a $$$. Have students map the oil consumption data from Table 1 onto the Activity. **Overhead 1** *(Key for Activity 1)* shows the resulting regional variation in oil consumption.

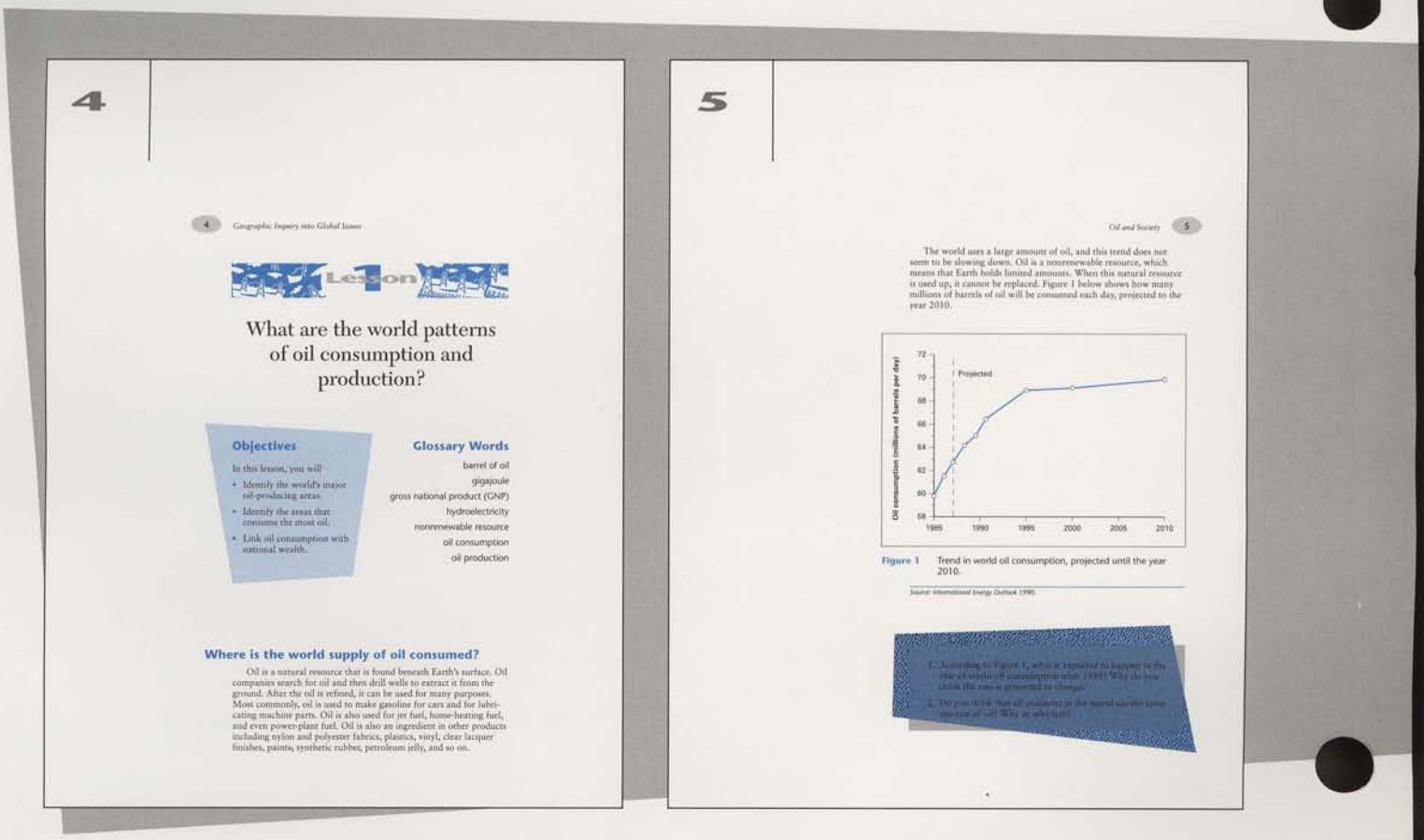
When completed, Activity 1 represents a type of map known as a *choropleth map,* or area-value map, in which different shades are used to show relative values. As a rule, darker shades show higher amounts and lighter shades show lower amounts.

Note that Activity 1 defines three categories for mapping. Use a light color for areas that use less than 100 million tons of oil each year; slightly darker color for areas that use between 100 and 999 million tons each year; and a darker color for areas that use more than 1,000 million tons of oil each year.

Questions and Answers for page 5

1. According to Figure 1, what is expected to happen to the rate of world oil consumption after 1995? Why do you think the rate is projected to change?
   - The first part of the question tests the ability to read the graphic. The figure projects an increase in consumption until 1995, then the rate of increase will slow down, though consumption is not projected to decrease. Students can speculate that the rate of increase will slow down because of conservation efforts or because other sources of energy will take on greater importance.

2. Do you think that all countries in the world use the same amount of oil? Why or why not?
   - This question is included to motivate students to think about what oil is used for and whether all countries need the same amounts of oil.



This activity is a first step in discovering which regions consume the most oil. In the paragraph before Table 1, students read that oil still generates 40 percent of the world's energy, so some may correctly begin to suspect the importance of oil in the world political arena.

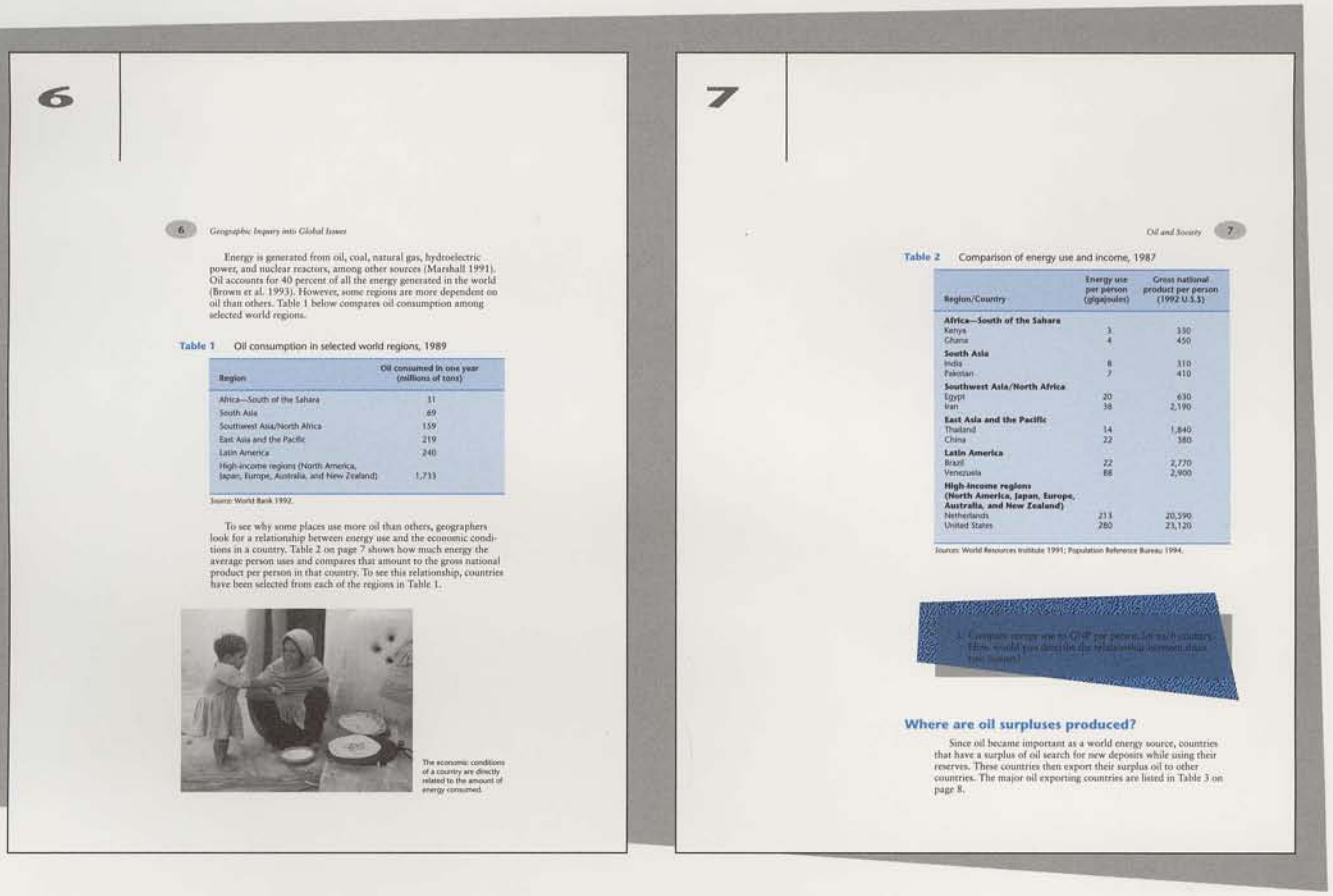
Students will return to Activity 1 later in this lesson to map the export values from Table 3. For now, ask students to speculate on why countries would consume such greatly different amounts of energy.

C. This procedure is ideally suited for older students. If you choose to skip this step, then have students review Table 2 on page 7 and answer Question 3. Otherwise, this optional step gives students a chance to develop skills in data presentation.

Have students discover a strong relationship between earnings and energy use by plotting the data from Table 2 onto the scatter diagram on **Activity 2** and then answering Question 3. If time is not available to com-

Question and Answer for page 7

3. Compare energy use to GNP per person for each country. How would you describe the relationship between these two factors?
   - There is a consistent positive relationship: Countries that use more energy earn more income. You can extend the answer to this question by asking students if they think one factor causes the other. Causation is not always present when statistical relationships exist, but in this case, there is probably good reason to suspect that affluent societies like the United States can afford to purchase and consume more energy.



6

6 *Geographic Inquiry into Global Issues*

Energy is generated from oil, coal, natural gas, hydroelectric power, and nuclear reactors, among other sources (Marshall 1991). Oil accounts for 40 percent of all the energy generated in the world (Brown et al. 1993). However, some regions are more dependent on oil than others. Table 1 below compares oil consumption among selected world regions.

Table 1 Oil consumption in selected world regions, 1989

Region	Oil consumed in one year (millions of tons)
Africa—South of the Sahara	31
South Asia	69
Southwest Asia/North Africa	159
East Asia and the Pacific	219
Latin America	240
High-income regions (North America, Japan, Europe, Australia, and New Zealand)	1,733

Source: World Bank 1992.

To see why some places use more oil than others, geographers look for a relationship between energy use and the economic conditions in a country. Table 2 on page 7 shows how much energy the average person uses and compares that amount to the gross national product per person in that country. To see this relationship, countries have been selected from each of the regions in Table 1.

The economic conditions of a country are directly related to the amount of energy consumed.

7

Oil and Society 7

Table 2 Comparison of energy use and income, 1987

Region/Country	Energy use per person (gigajoules)	Gross national product per person (1992 U.S.$)
Africa—South of the Sahara		
Kenya	3	330
Ghana	4	450
South Asia		
India	8	310
Pakistan	7	410
Southwest Asia/North Africa		
Egypt	20	630
Iran	38	2,190
East Asia and the Pacific		
Thailand	14	1,840
China	22	380
Latin America		
Brazil	22	2,770
Venezuela	88	2,900
High-income regions (North America, Japan, Europe, Australia, and New Zealand)		
Netherlands	213	20,590
United States	280	23,120

Sources: World Resources Institute 1991; Population Reference Bureau 1994.

3. Compare energy use to GNP per person for each country. How would you describe the relationship between these two factors?

Where are oil surpluses produced?

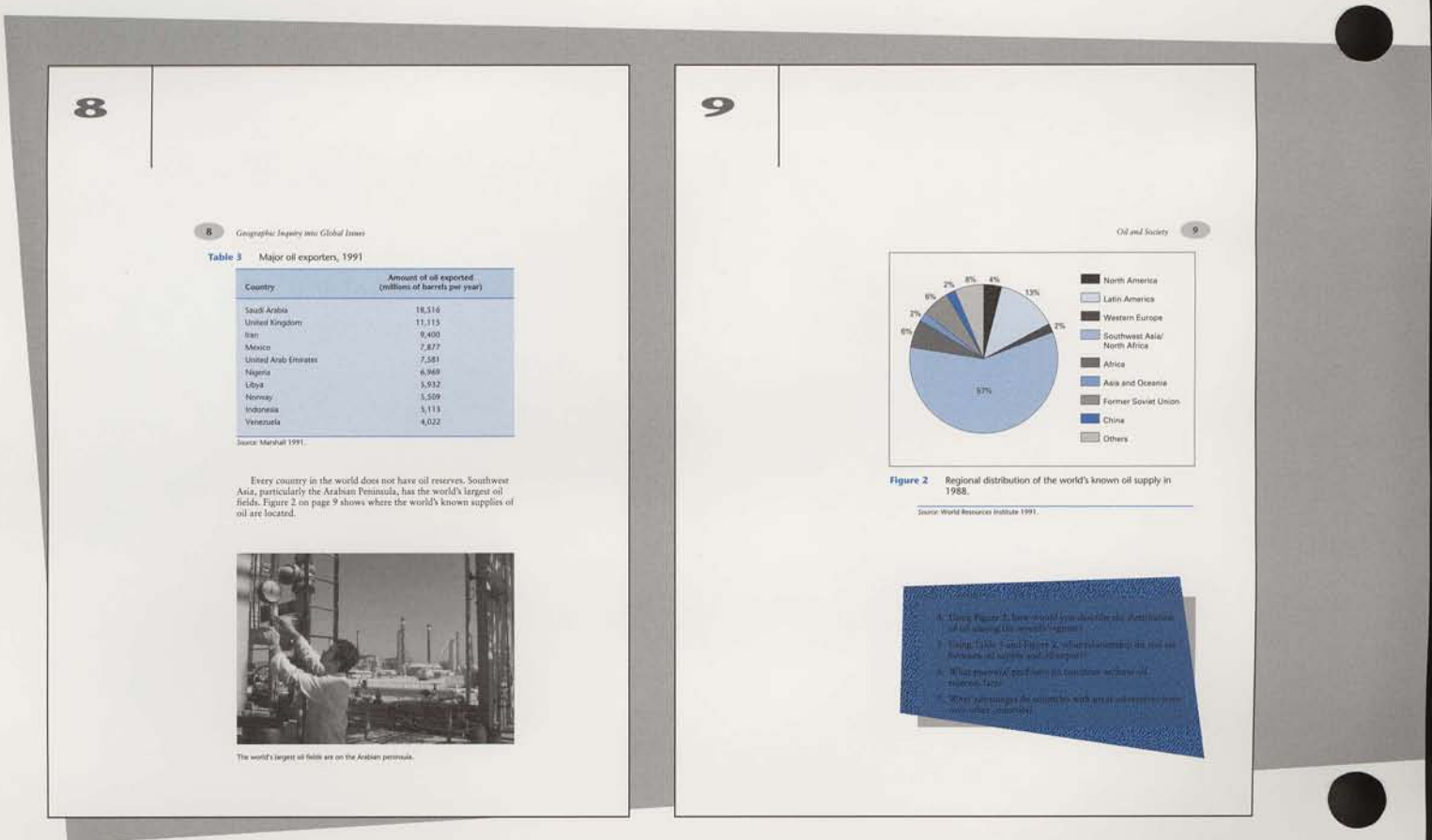
Since oil became important as a world energy source, countries that have a surplus of oil search for new deposits while using their reserves. These countries then export their surplus oil to other countries. The major oil exporting countries are listed in Table 3 on page 8.

plete this activity, then have the class examine the table and pose hypotheses that explain the data. Some students may notice that countries were chosen that are typical of the region, rather than the exceptions. The *Key for Activity 2* shows the completed scatter diagram.

Where are oil surpluses produced? (pages 7–9)

D. Have students return to Activity 1. Ask them to add the export values from Table 3 on page 8 to their maps to help them identify which countries produce more oil than they use. Project Overhead 1 (the *Key for Activity 1*) to show the final appearance of this thematic map. Once completed, ask the class to make a list of those countries on the map they think would be *net* importers of oil. Explain that net importers use more oil than they produce, so they must purchase oil to address the deficit. When the list is complete, display their predictions on a bulletin board and compare them to those listed on **Overhead 2.** Students may be surprised to see that the United States is a very large importer of oil.

E. Have students work in pairs to study Figure 2 on page 9 and Table 3 and discuss answers to Questions 4–7 on page 9. The goal is to let students discover that although a great proportion of oil is found in one world region, not every country in that region is oil producing and wealthy.



8

8 *Geographic Inquiry into Global Issues*

Table 3 Major oil exporters, 1991

Country	Amount of oil exported (millions of barrels per year)
Saudi Arabia	18,516
United Kingdom	11,115
Iran	9,400
Mexico	7,877
United Arab Emirates	7,581
Nigeria	6,969
Libya	5,932
Norway	5,509
Indonesia	5,113
Venezuela	4,022

Source: Marshall 1991.

Every country in the world does not have oil reserves. Southwest Asia, particularly the Arabian Peninsula, has the world's largest oil fields. Figure 2 on page 9 shows where the world's known supplies of oil are located.

The world's largest oil fields are on the Arabian peninsula.

9

Oil and Society 9

Figure 2 Regional distribution of the world's known oil supply in 1988.

Source: World Resources Institute 1991.

Questions and Answers for page 9

4. Using Figure 2, how would you describe the distribution of oil among the world's regions?
   - Seventy percent of the world's known oil reserves are found in only two regions (Southwest Asia/North Africa and Latin America). The rest of the world's oil supply is fairly evenly divided.

5. Using Table 3 and Figure 2, what relationship do you see between oil supply and oil export?
   - Of the 10 exporters listed in Table 3, six are in either Southwest Asia/North Africa or Latin America. In other words, 60 percent of the 10 largest exporters come from the two world regions that combined have 70 percent of the world's known oil supply. With a few exceptions, there is a strong positive relationship between oil reserves and oil export.

6. What potential problems do countries without oil reserves face?
   - This question is included to get students thinking about energy dependency. Countries without sufficient energy supplies must make arrangements with oil exporters and must deal with uncertainty when oil supplies are threatened in some way.

7. What advantages do countries with great oil reserves have over other countries?
   - This calls for speculation. Students may correctly guess that oil would bring in large amounts of revenue that could be used to modernize a country and attract people to good-paying jobs and opportunities in urban areas.

For Further Inquiry

- To extend Procedure B, have the students plot GNP data in Table 2 on page 7 to see that there is a strong relationship between energy consumption and GNP. Energy consumption is high in wealthy countries and low in developing countries.
- Have students discuss reasons why it is wise to reduce oil consumption. Then, have students list how they can change their patterns of consumption in order to decrease their use of oil. Examples of altering consumption patterns would be encouraging family and friends to ride bicycles instead of driving, keeping cars tuned better, and using cars that get better mileage. Another example is using fewer gasoline-powered tools, such as power lawnmowers, weed cutters, and leaf blowers.

Lesson 2

Why does Saudi Arabia have so much oil?

Time Required

One 50-minute class period

Materials Needed

Copies of Activity 3 for each group of students
Transparency of Overhead 3
Mini-Atlas map 1

Glossary Words

absolute monarchy

ARAMCO

plate tectonics

sedimentary rock

tectonic plates

Getting Started

- To set the stage for the inquiry into why there is so much oil under the ground where the country of Saudi Arabia is located, invite students to discuss what they know about the movement of the plates that make up the surface of Earth, including how that movement causes earthquakes and the eventual formation of mountains. You may want to introduce the terms *plate tectonics, sedimentary rock,* and *tectonic plates* before the lesson begins as a way of clarifying these basic concepts. All three terms are in the Glossary of the Student DataBook.
- Point out to students that there are several ways in which the tectonic plates move. One of these ways, called compression, occurred beneath the surface of Saudi Arabia, causing the huge oil pockets there. In compression, the edges of tectonic plates collide, with one plate going under the other (in a process called subduction), causing bending and uplifting. The compression of tectonic plates is often accompanied by earthquakes and volcanoes.
- You may want to show students the plate tectonics track of the BGGS videodisc or another explanatory video such as the program "Restless Rocks—Plate Tectonics" from the series *Spaceship Earth.* Contact South Carolina Educational Television, 2712 Millwood Ave. Columbia, SC 29250 for information.

Procedures

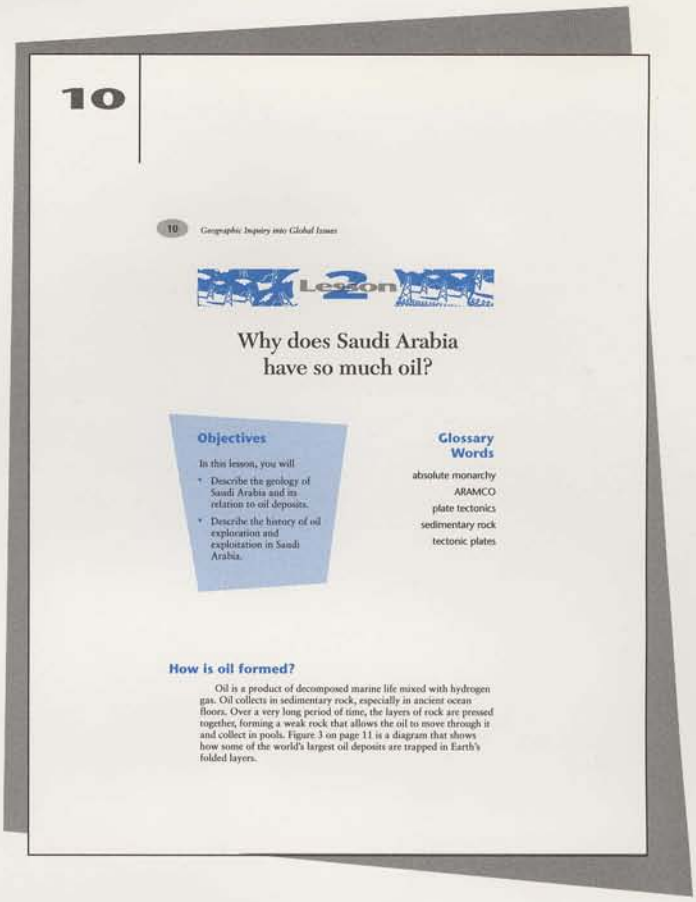
How is oil formed? (pages 10–11)

A. After students have read this section, divide the class into small groups and give each group a copy of **Activity 3** and **Mini-Atlas map 1.** Draw students' attention to the location of Saudi Arabia in relation to the edges of tectonic plates. Then have students plot the locations of major oil reserves on the map. Project **Overhead 3** *(Key for Activity 3)* to show the locations of the world's major oil fields in relation to tectonic boundaries. Use Questions 1–3 on the Activity to guide the groups' inquiry. Have students speculate or explain about the correlation between plate boundaries and the

location of major oil fields. You can add that geologists do not assume that plate boundaries necessarily contain pools of oil, because the way oil is trapped and stored is very complex. The activity gives students one explanation of why oil is found in the Saudi Arabian region.

How did Saudi Arabia become a major oil producer? (pages 12–13)

B. Even though a country has oil reserves, it is no guarantee that the country will benefit from them. The next part of the lesson helps prepare students for Lesson 3 by briefly showing how Saudi Arabia came to control its own resources. Have students read this segment and examine Table 4. Hold a class discussion on Questions 1 and 2 on page 13.



10

10 *Geographic Inquiry into Global Issues*

Lesson 2

Why does Saudi Arabia have so much oil?

Objectives

In this lesson, you will

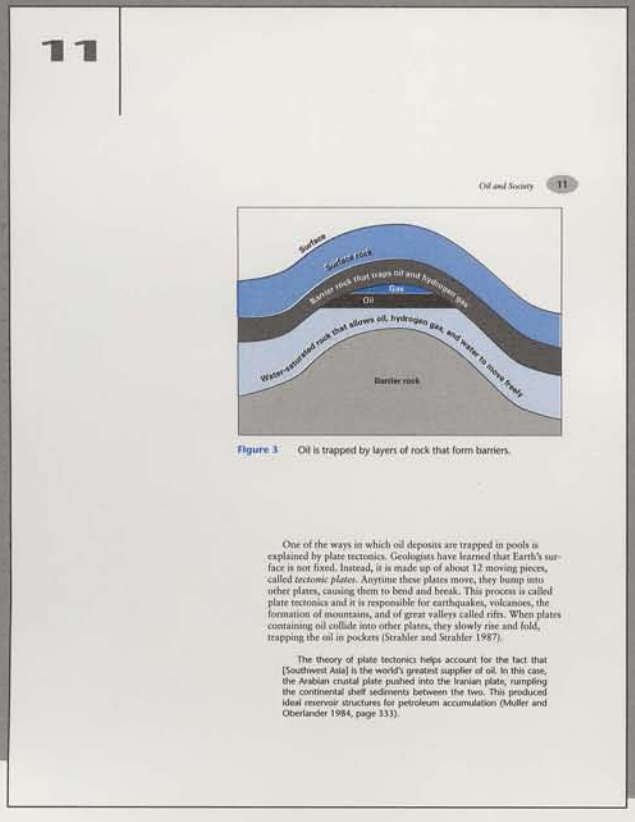
- Describe the geology of Saudi Arabia and its relation to oil deposits.
- Describe the history of oil exploration and exploitation in Saudi Arabia.

Glossary Words

absolute monarchy
ARAMCO
plate tectonics
sedimentary rock
tectonic plates

How is oil formed?

Oil is a product of decomposed marine life mixed with hydrogen gas. Oil collects in sedimentary rock, especially in ancient ocean floors. Over a very long period of time, the layers of rock are pressed together, forming a weak rock that allows the oil to move through it and collect in pools. Figure 3 on page 11 is a diagram that shows how some of the world's largest oil deposits are trapped in Earth's folded layers.



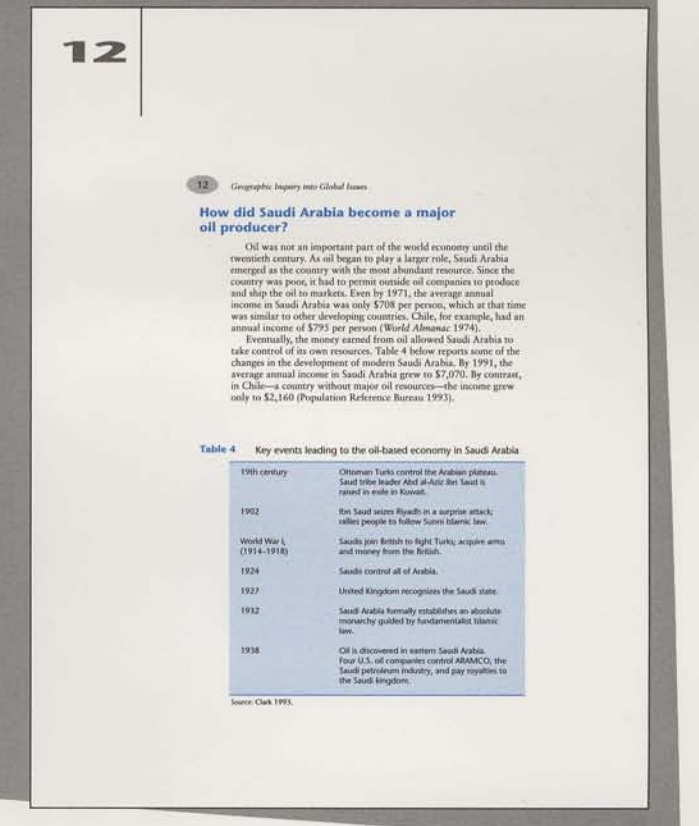
11

Oil and Society 11

Figure 3 Oil is trapped by layers of rock that form barriers.

One of the ways in which oil deposits are trapped in pools is explained by plate tectonics. Geologists have learned that Earth's surface is not fixed. Instead, it is made up of about 12 moving pieces, called *tectonic plates*. Anytime these plates move, they bump into other plates, causing them to bend and break. This process is called plate tectonics and it is responsible for earthquakes, volcanoes, the formation of mountains, and of great valleys called rifts. When plates containing oil collide into other plates, they slowly rise and fold, trapping the oil in pockets (Strahler and Strahler 1987).

The theory of plate tectonics helps account for the fact that [Southwest Asia] is the world's greatest supplier of oil. In this case, the Arabian crustal plate pushed into the Iranian plate, rumpling the continental shelf sediments between the two. This produced ideal reservoir structures for petroleum accumulation (Muller and Oberlander 1984, page 333).



12

12 *Geographic Inquiry into Global Issues*

How did Saudi Arabia become a major oil producer?

Oil was not an important part of the world economy until the twentieth century. As oil began to play a larger role, Saudi Arabia emerged as the country with the most abundant resource. Since the country was poor, it had to permit outside oil companies to produce and ship the oil to markets. Even by 1971, the average annual income in Saudi Arabia was only $708 per person, which at that time was similar to other developing countries. Chile, for example, had an annual income of $795 per person (*World Almanac* 1974).

Eventually, the money earned from oil allowed Saudi Arabia to take control of its own resources. Table 4 below reports some of the changes in the development of modern Saudi Arabia. By 1991, the average annual income in Saudi Arabia grew to $7,070. By contrast, in Chile—a country without major oil resources—the income grew only to $2,160 (Population Reference Bureau 1993).

Table 4 Key events leading to the oil-based economy in Saudi Arabia

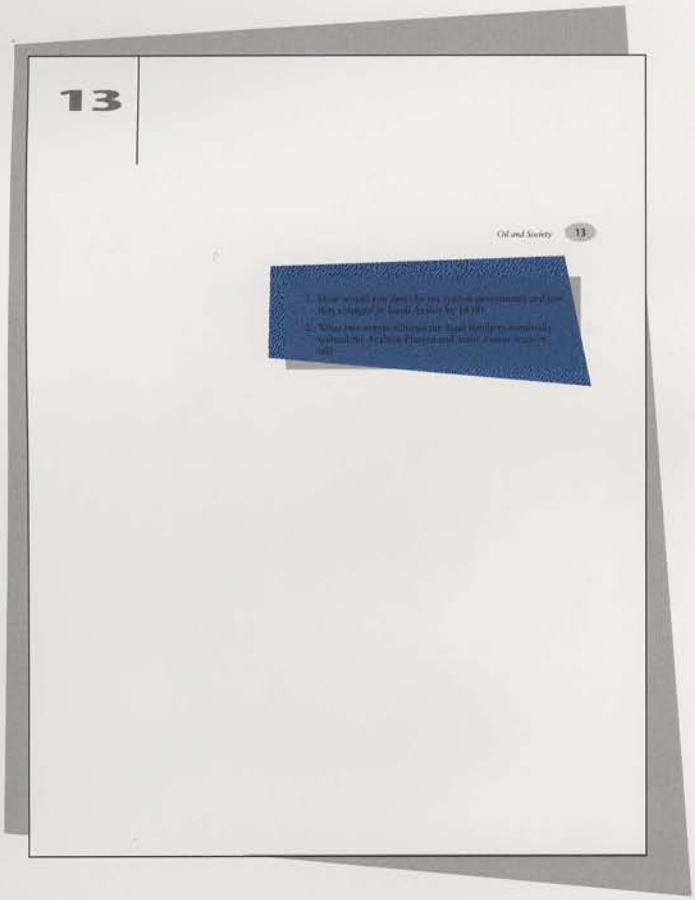
19th century	Ottoman Turks control the Arabian plateau. Saud tribe leader Abd al-Aziz ibn Saud is raised in exile in Kuwait.
1902	Ibn Saud seizes Riyadh in a surprise attack; rallies people to follow Sunni Islamic law.
World War I, (1914–1918)	Saudis join British to fight Turks; acquire arms and money from the British.
1924	Saudis control all of Arabia.
1927	United Kingdom recognizes the Saudi state.
1932	Saudi Arabia formally establishes an absolute monarchy guided by fundamentalist Islamic law.
1938	Oil is discovered in eastern Saudi Arabia. Four U.S. oil companies control ARAMCO, the Saudi petroleum industry, and pay royalties to the Saudi kingdom.

Source: Clark 1993.

Questions and Answers for page 13

1. How would you describe the type of government and law that emerged in Saudi Arabia by 1938?
   - The country was an absolute monarchy governed by the religious laws of Islam.

2. What two events allowed the Saud family to eventually control the Arabian Plateau and make money from its oil?
   - The British helped the Saudis to gain control of their land during World War I. Foreign oil companies provided Saudi Arabia with the technology needed to extract oil and ship it to markets.



For Further Inquiry

- Have students use library or other resources to learn more about how oil companies search for oil.
- Students can write to oil companies and ask them to reflect on nationalized oil industries. Libya, Algeria, Saudi Arabia, Mexico, and Venezuela are examples of countries that took control of their industries. Students can then write to the embassies of those countries to get the governments' perspective on the same issue. Reports can offer a point/counterpoint style of presentation.

Lesson 3

How have oil resources been used?

Time Required

Two or three 50-minute class periods

Materials Needed

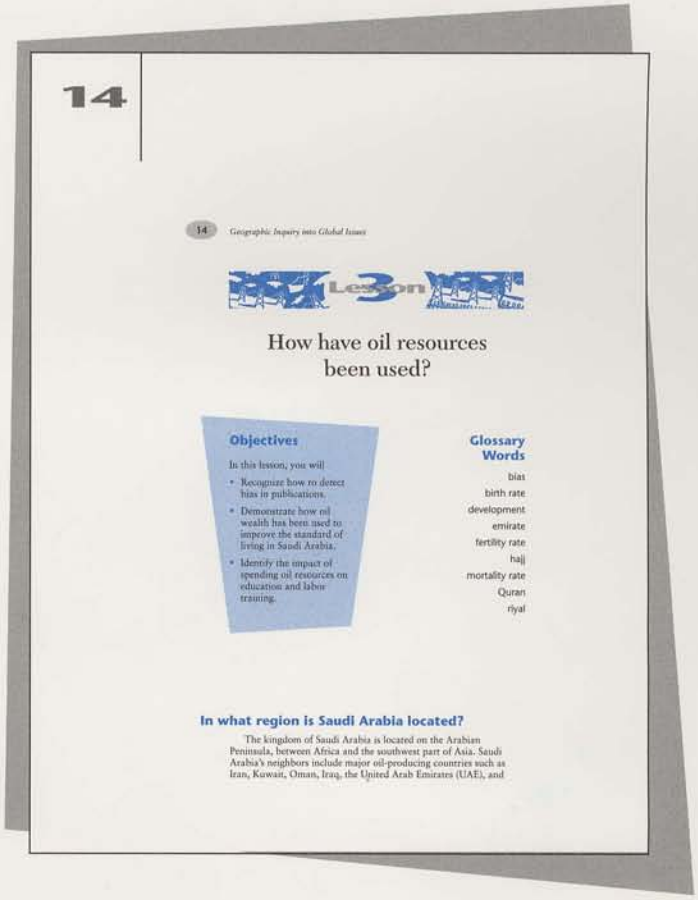
Mock lottery tickets for all students
Copies of Activity 4 for each group of students
Transparency of Overhead 4

Glossary Words

bias
birth rate
development
emirate
fertility rate
hajj
mortality rate
Quran
riyal

Getting Started

Have the class form groups of three or four students and ask them to imagine themselves the representatives of a very poor country, much as Saudi Arabia was before it began to reap the benefits of oil. Ask each group to write a wish list of changes they would make for their country if they had enough money. Hold a lottery by distributing tickets among the groups and having each group write a number on their lottery ticket. Then randomly select a number and write it on the chalkboard. The country that wins the lottery receives $3 billion dollars—the annual income Saudi Arabia earned from oil in the early 1980s. Have the representatives of the winning country then briefly work together to decide one major change they would make for their country with the money. Later in this lesson, students will get a chance to modify their ideas for promoting economic development.


14

14 Geographic Inquiry into Global Issues

Lesson 3

How have oil resources been used?

Objectives

In this lesson, you will

- Recognize how to detect bias in publications.
- Demonstrate how oil wealth has been used to improve the standard of living in Saudi Arabia.
- Identify the impact of spending oil resources on education and labor training.

Glossary Words

bias
birth rate
development
emirate
fertility rate
hajj
mortality rate
Quran
riyal

In what region is Saudi Arabia located?

The kingdom of Saudi Arabia is located on the Arabian Peninsula, between Africa and the southwest part of Asia. Saudi Arabia's neighbors include major oil-producing countries such as Iran, Kuwait, Oman, Iraq, the United Arab Emirates (UAE), and

Procedures

In what region is Saudi Arabia located? (pages 14–16)

A. Have students work in pairs to read the text, study Figures 4 and 5 on pages 15 and 16, and answer Questions 1 and 2 on page 16. When students have completed the task of writing their lists of differences in the two maps, have the class share what they found. Lead a discussion based on their responses to the questions on how bias enters into writing and, in this case, maps.

Questions and Answers for page 16

1. What differences can you find in the two maps in Figures 4 and 5?
   - On the Saudi government map (Figure 4), the outline of Israel is different than on the U.S. map (Figure 5). A comparison shows that the Saudis do not recognize the West Bank as belonging to Israel. They also include the Gaza Strip as part of Egypt. In fact, the Saudi map does not even label Israel. The U.S. map includes the island country of Cyprus and oil-rich Bahrain in the Persian Gulf. Students may notice that the Saudi map calls the same body of water the Arabian Gulf. The U.S. map was drawn in 1993, so it shows Yemen as one country (the two Yemens unified in 1990). The border between Saudi Arabia and Yemen is drawn as a definite boundary, when in fact it is still uncertain.

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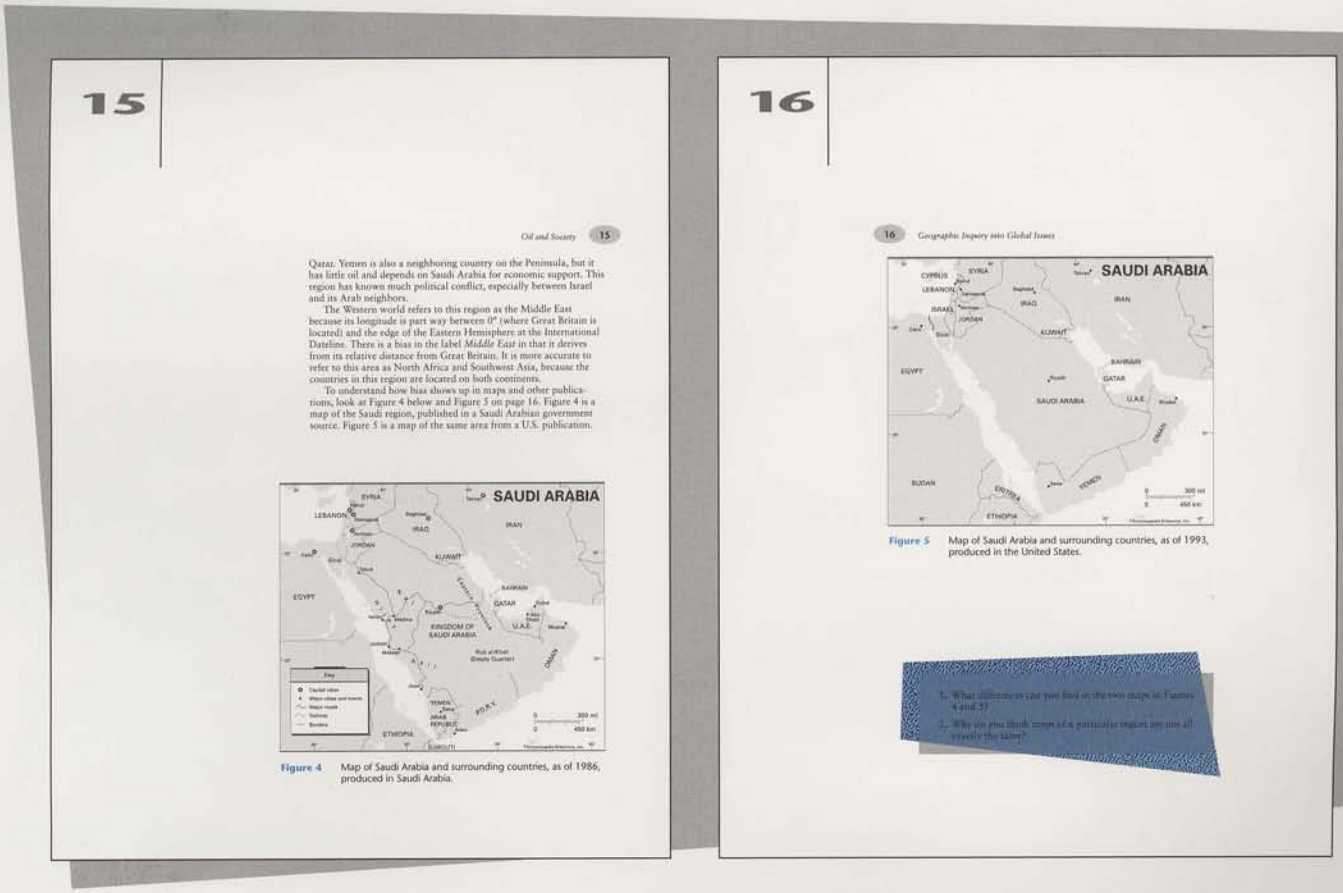

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Qatar. Yemen is also a neighboring country on the Peninsula, but it has little oil and depends on Saudi Arabia for economic support. This region has known much political conflict, especially between Israel and its Arab neighbors.

The Western world refers to this region as the Middle East because its longitude is part way between 0° (where Great Britain is located) and the edge of the Eastern Hemisphere at the International Dateline. There is a bias in the label *Middle East* in that it derives from its relative distance from Great Britain. It is more accurate to refer to this area as North Africa and Southwest Asia, because the countries in this region are located on both continents.

To understand how bias shows up in maps and other publications, look at Figure 4 below and Figure 5 on page 16. Figure 4 is a map of the Saudi region, published in a Saudi Arabian government source. Figure 5 is a map of the same area from a U.S. publication.

Figure 4 Map of Saudi Arabia and surrounding countries, as of 1986, produced in Saudi Arabia.

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Figure 5 Map of Saudi Arabia and surrounding countries, as of 1993, produced in the United States.

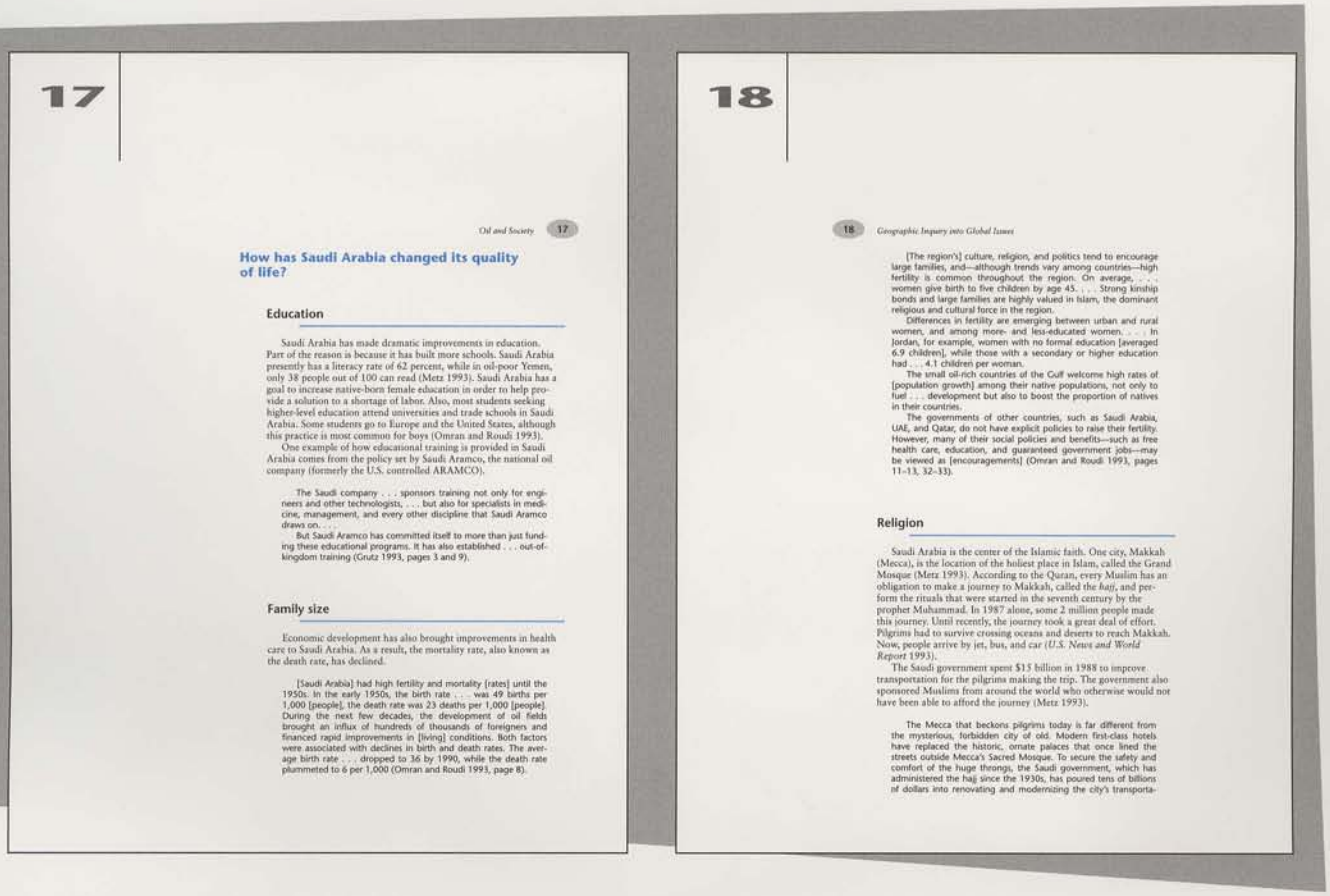
1. What differences can you find in the two maps in Figures 4 and 5?
2. Why do you think most of a particular region are not all exactly the same?

2. Why do you think maps of a particular region are not all exactly the same?
   - Students can only speculate about this, but they may rightly argue that maps reflect the beliefs and values of the human beings who prepared them. Choices of labels, positions of boundaries, color shading, label size, and the map projection all reflect biases that emphasize some aspects and downplay others.

How has Saudi Arabia changed its quality of life? (pages 17–19)

B. Divide the class into expert groups. Assign each group to one of the three topics in the Student DataBook ("Education," "Family size," and "Religion"). Have them read only their topic, and then hold a group discussion to ensure that each person understands how Saudi Arabia and other oil-rich countries have used their new-found wealth to improve their quality of life.

C. Have students form new groups of three students, including one student from each of the three topics. Explain to students that each one of them will be responsible for teaching that group of students about his or her topic.



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How has Saudi Arabia changed its quality of life?

Education

Saudi Arabia has made dramatic improvements in education. Part of the reason is because it has built more schools. Saudi Arabia presently has a literacy rate of 62 percent, while in oil-poor Yemen, only 38 people out of 100 can read (Metz 1993). Saudi Arabia has a goal to increase native-born female education in order to help provide a solution to a shortage of labor. Also, most students seeking higher-level education attend universities and trade schools in Saudi Arabia. Some students go to Europe and the United States, although this practice is most common for boys (Omran and Roudi 1993).

One example of how educational training is provided in Saudi Arabia comes from the policy set by Saudi Aramco, the national oil company (formerly the U.S. controlled ARAMCO).

> The Saudi company . . . sponsors training not only for engineers and other technologists, . . . but also for specialists in medicine, management, and every other discipline that Saudi Aramco draws on. . . .
>
> But Saudi Aramco has committed itself to more than just funding these educational programs. It has also established . . . out-of-kingdom training (Grutz 1993, pages 3 and 9).

Family size

Economic development has also brought improvements in health care to Saudi Arabia. As a result, the mortality rate, also known as the death rate, has declined.

> [Saudi Arabia] had high fertility and mortality [rates] until the 1950s. In the early 1950s, the birth rate . . . was 49 births per 1,000 [people], the death rate was 23 deaths per 1,000 [people]. During the next few decades, the development of oil fields brought an influx of hundreds of thousands of foreigners and financed rapid improvements in [living] conditions. Both factors were associated with declines in birth and death rates. The average birth rate . . . dropped to 36 by 1990, while the death rate plummeted to 6 per 1,000 (Omran and Roudi 1993, page 8).

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> [The region's] culture, religion, and politics tend to encourage large families, and—although trends vary among countries—high fertility is common throughout the region. On average, . . . women give birth to five children by age 45. . . . Strong kinship bonds and large families are highly valued in Islam, the dominant religious and cultural force in the region.
>
> Differences in fertility are emerging between urban and rural women, and among more- and less-educated women. . . . In Jordan, for example, women with no formal education [averaged 6.9 children], while those with a secondary or higher education had . . . 4.1 children per woman.
>
> The small oil-rich countries of the Gulf welcome high rates of [population growth] among their native populations, not only to fuel . . . development but also to boost the proportion of natives in their countries.
>
> The governments of other countries, such as Saudi Arabia, UAE, and Qatar, do not have explicit policies to raise their fertility. However, many of their social policies and benefits—such as free health care, education, and guaranteed government jobs—may be viewed as [encouragements] (Omran and Roudi 1993, pages 11–13, 32–33).

Religion

Saudi Arabia is the center of the Islamic faith. One city, Makkah (Mecca), is the location of the holiest place in Islam, called the Grand Mosque (Metz 1993). According to the Quran, every Muslim has an obligation to make a journey to Makkah, called the *hajj*, and perform the rituals that were started in the seventh century by the prophet Muhammad. In 1987 alone, some 2 million people made this journey. Until recently, the journey took a great deal of effort. Pilgrims had to survive crossing oceans and deserts to reach Makkah. Now, people arrive by jet, bus, and car (*U.S. News and World Report* 1993).

The Saudi government spent $15 billion in 1988 to improve transportation for the pilgrims making the trip. The government also sponsored Muslims from around the world who otherwise would not have been able to afford the journey (Metz 1993).

> The Mecca that beckons pilgrims today is far different from the mysterious, forbidden city of old. Modern first-class hotels have replaced the historic, ornate palaces that once lined the streets outside Mecca's Sacred Mosque. To secure the safety and comfort of the huge throngs, the Saudi government, which has administered the hajj since the 1930s, has poured tens of billions of dollars into renovating and modernizing the city's transporta-

How has Saudi Arabia invested money to support economic development? (pages 19–23)

D. Each group now chooses one person to study one of the three categories in Table 5 on page 20. Each member will report their findings to the other group members. Teams will then work to answer Questions 3 and 4. After reviewing the answers to the questions, ask the "country" that won the lottery at the beginning of the lesson if they wish to change what they would do with the money they won.

Questions and Answers for page 20

3. Which of the three categories in Table 5 has grown the most, when comparing the 1981 level to the 1987 level? Which category has grown more proportionally, factories or hotel rooms?
   - The number of businesses has grown the most, more than doubling in size. Students may choose this same answer because the raw increase in the number of businesses is larger.

   Younger students who have not mastered proportions can skip the second part of this question. Older students can calculate proportional increase. Factories increased by 27 percent, compared to an increase of only 12 percent in hotel rooms.

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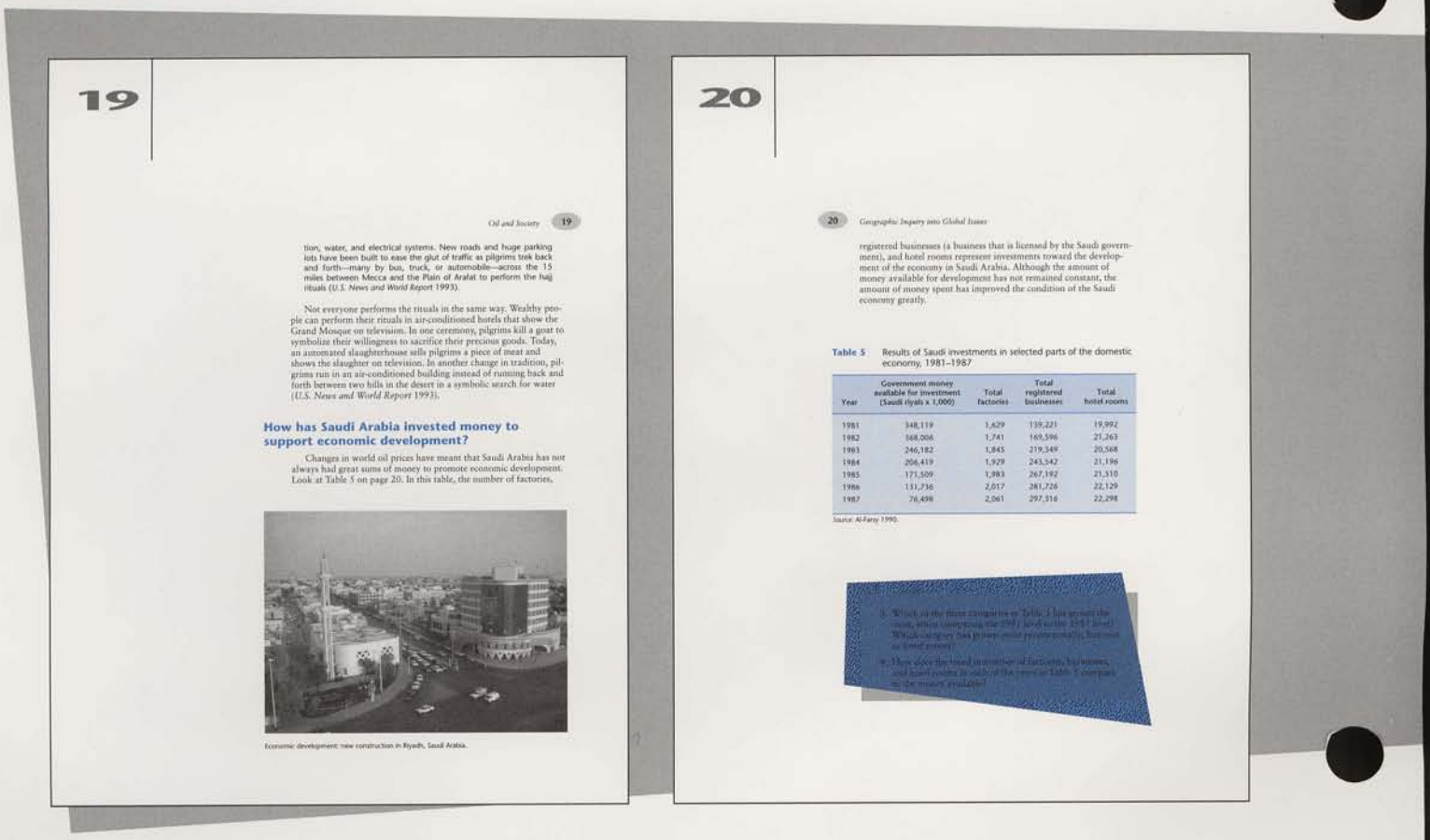

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tion, water, and electrical systems. New roads and huge parking lots have been built to ease the glut of traffic as pilgrims trek back and forth—many by bus, truck, or automobile—across the 15 miles between Mecca and the Plain of Arafat to perform the hajj rituals (*U.S. News and World Report* 1993).

Not everyone performs the rituals in the same way. Wealthy people can perform their rituals in air-conditioned hotels that show the Grand Mosque on television. In one ceremony, pilgrims kill a goat to symbolize their willingness to sacrifice their precious goods. Today, an automated slaughterhouse sells pilgrims a piece of meat and shows the slaughter on television. In another change in tradition, pilgrims run in an air-conditioned building instead of running back and forth between two hills in the desert in a symbolic search for water (*U.S. News and World Report* 1993).

How has Saudi Arabia invested money to support economic development?

Changes in world oil prices have meant that Saudi Arabia has not always had great sums of money to promote economic development. Look at Table 5 on page 20. In this table, the number of factories,

Economic development: new construction in Riyadh, Saudi Arabia.

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registered businesses (a business that is licensed by the Saudi government), and hotel rooms represent investments toward the development of the economy in Saudi Arabia. Although the amount of money available for development has not remained constant, the amount of money spent has improved the condition of the Saudi economy greatly.

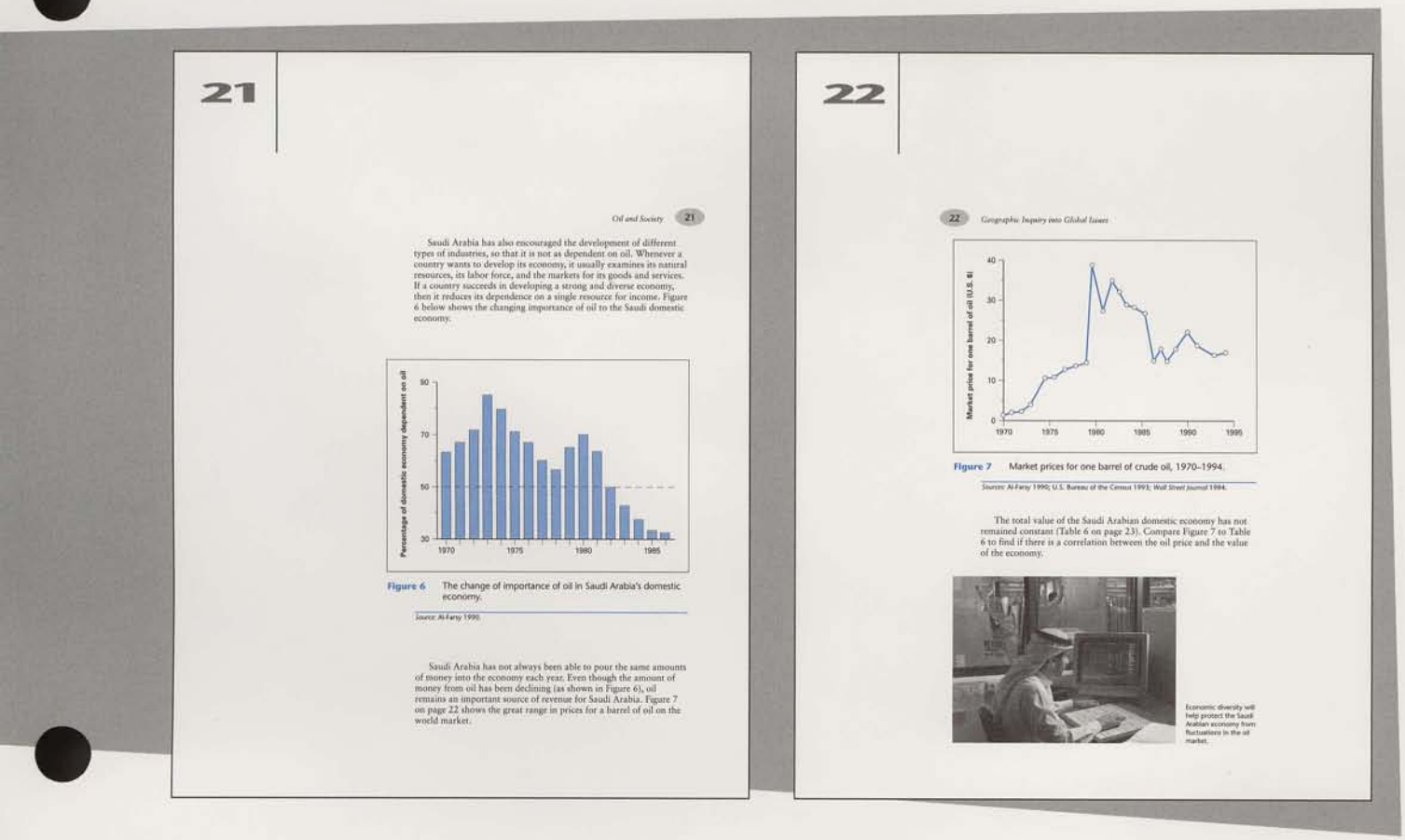
Table 5 Results of Saudi investments in selected parts of the domestic economy, 1981–1987

Year	Government money available for investment (Saudi riyals x 1,000)	Total factories	Total registered businesses	Total hotel rooms
1981	348,119	1,629	139,221	19,992
1982	368,006	1,741	169,596	21,263
1983	246,182	1,845	219,349	20,568
1984	206,419	1,929	243,542	21,196
1985	171,509	1,983	267,192	21,310
1986	131,736	2,017	281,726	22,129
1987	76,498	2,061	297,316	22,298

Source: Al-Farsy 1990.

4. How does the trend in number of factories, businesses, and hotel rooms in each of the years in Table 5 compare to the money available?
   - Each of the three categories has increased, although at a noticeably slower rate, as much less money became available in 1987. Students can simply state that money from the government decreased since 1982, and all three examples of domestic activity grew, although at a slowing pace toward 1987.

E. Have the groups now read the remaining text beginning just prior to Figure 6 on page 21 and prepare answers to Questions 5–7 for a short class discussion. The analysis of this material prepares the teams for the activity in Procedure F and allows students to think about the limitations of line graphs in presenting data.



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Saudi Arabia has also encouraged the development of different types of industries, so that it is not as dependent on oil. Whenever a country wants to develop its economy, it usually examines its natural resources, its labor force, and the markets for its goods and services. If a country succeeds in developing a strong and diverse economy, then it reduces its dependence on a single resource for income. Figure 6 below shows the changing importance of oil to the Saudi domestic economy.

Figure 6 The change of importance of oil in Saudi Arabia's domestic economy.

Source: Al-Farsy 1990.

Saudi Arabia has not always been able to pour the same amounts of money into the economy each year. Even though the amount of money from oil has been declining (as shown in Figure 6), oil remains an important source of revenue for Saudi Arabia. Figure 7 on page 22 shows the great range in prices for a barrel of oil on the world market.

22

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Figure 7 Market prices for one barrel of crude oil, 1970–1994.

Sources: Al-Farsy 1990; U.S. Bureau of the Census 1993; *Wall Street Journal* 1994.

The total value of the Saudi Arabian domestic economy has not remained constant (Table 6 on page 23). Compare Figure 7 to Table 6 to find if there is a correlation between the oil price and the value of the economy.

Economic diversity will help protect the Saudi Arabian economy from fluctuations in the oil market.

Questions and Answers for page 23

5. How does Figure 6 show that the Saudi government succeeded in reducing its dependence on oil?

   - The only evidence students will be able to determine is that the domestic economy has lowered its dependence on oil as a fraction of the economy. Students cannot reasonably extend their answers to include the supposition that the non-oil economy is evenly spread out because Figure 6 does not report on how the rest of the economy is comprised.

6. What is the relationship between world oil prices (Figure 7) and changes in the domestic economy in Saudi Arabia?

   - Students can describe a parallel trend between world oil prices and the value of Saudi Arabia's domestic economy. A comparison of the two functions suggests that the Saudi economy is highly dependent on world oil prices. With some exceptions, the economy grew when oil prices rose, and vice versa. Students may have difficulty seeing how well the relationship fits when they work with tabular data, but the next procedure in this lesson will give them a chance to plot the relationship on a single line graph.

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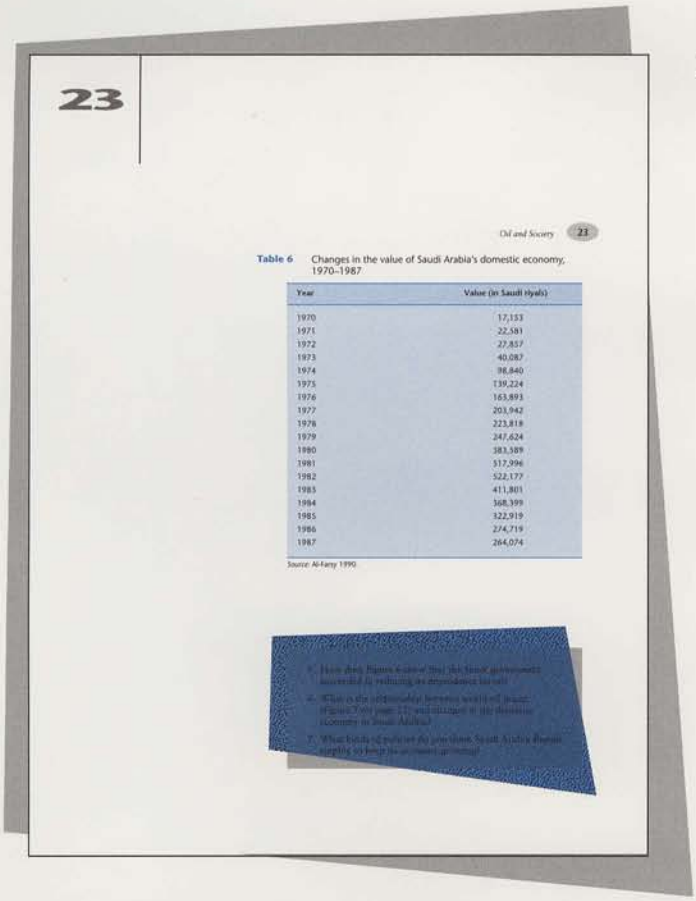
23

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Table 6 Changes in the value of Saudi Arabia's domestic economy, 1970–1987

Year	Value (in Saudi Riyals)
1970	17,153
1971	22,581
1972	27,857
1973	40,087
1974	98,840
1975	139,224
1976	163,893
1977	203,942
1978	223,818
1979	247,624
1980	383,589
1981	517,996
1982	522,177
1983	411,801
1984	368,399
1985	322,919
1986	274,719
1987	264,074

Source: Al-Farsy 1990

F. Distribute **Activity 4** to each group of students. Have them help one another use Figure 7 on page 22 and Table 6 on page 23 to graph the changes in Saudi Arabia's domestic economy to see how it is affected by world oil prices.

   To check the accuracy of the students' double-line graphs, display **Overhead 4** (*Key for Activity 4*).

   Younger students may struggle with a line graph that has two Y-axes. To simplify this, you can create two separate line graphs that are the same size. Students can be given one graph (with world oil prices) and plot the domestic economy on the other. They can overlay and trace one onto the other, or plot the domestic economy onto clear plastic and overlay both to perform their analysis.

7. What kinds of policies do you think Saudi Arabia should employ to keep its economy growing?

   - Students may suggest that the Saudis do whatever is in their power to keep world oil prices high. But this is not practical because high prices usually result in a drop in demand for oil. Probe further to see if students can suggest strategies that balance the need for oil revenue and the need to maintain world demand for oil. These strategies may include the following:

     a. Limit oil production in oil-exporting countries (a common strategy), but keep the price of oil moderate to reduce the chance of the European Community deploying conservation strategies (e.g., creating a carbon tax for oil users to try to lower consumption).

     b. Encourage world demand for oil to retain or increase market share.

     c. Continue lowering the importance of oil to the Saudi economy, as suggested in Figure 6 earlier.

For Further Inquiry

- Students can refer to several atlases to see how each source presents the region of Southwest Asia/North Africa differently. Analyzing maps for bias is great fun and it promotes the notion that published materials need to be questioned and not accepted at face value.

- In Procedure F, students are given oil prices that are not current. The *Wall Street Journal* reports the current prices of crude oil for several oil marketplaces. Have students find the current prices and extend the oil-price graph presented in Figure 7.

Lesson 4

What are the impacts of oil riches?

Time Required

Two or three 50-minute class periods

Materials Needed

None

Glossary Words

abaya

absolute monarchy

gitwa

Gulf Cooperation Council

Islam

mutawa

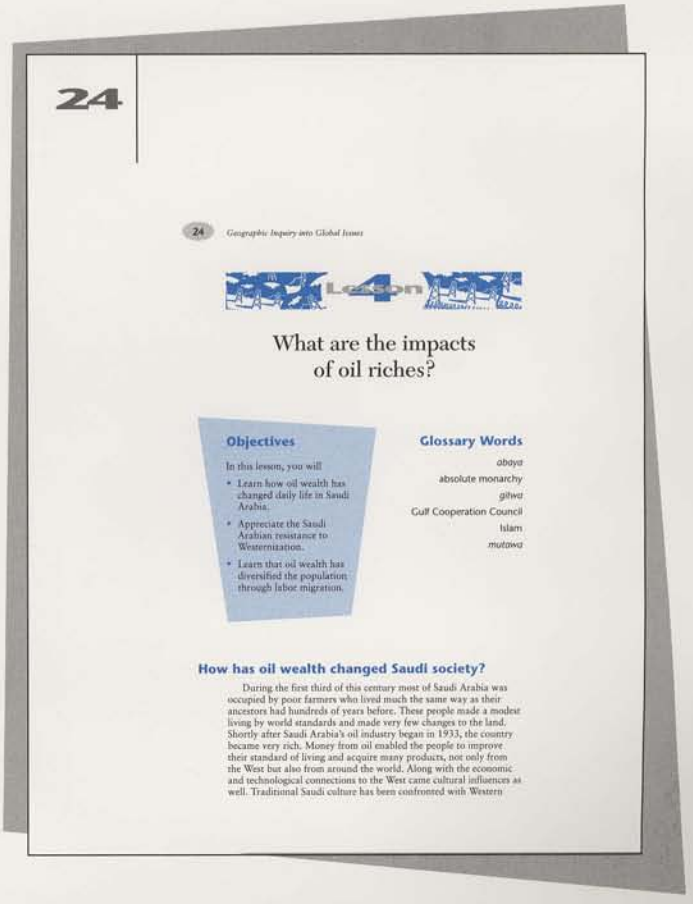
Getting Started

This lesson will look at cultural impacts and changes to the Saudi workforce, and the implications of those changes for the future of Saudi Arabia. Begin the lesson with a brainstorming session to generate a list of the kinds of changes that the oil industry brings to a society. Students will probably mention a steady base of employment and a relatively steady economy that allows society to grow and improve. They may also mention a possibility that the economy could become dependent on oil revenues (studied in Lesson 6) and that oil production causes environmental problems (covered in Lesson 7).

Procedures

How has oil wealth changed Saudi society? (pages 24–26)

A. Have students read this section through the excerpt about VCRs on page 25 in the Student DataBook. Ask the class for reactions to this quote. The advent of television, radio, and VCRs has not been universally accepted in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Lesson 4

What are the impacts of oil riches?

Objectives

In this lesson, you will

- Learn how oil wealth has changed daily life in Saudi Arabia.
- Appreciate the Saudi Arabian resistance to Westernization.
- Learn that oil wealth has diversified the population through labor migration.

Glossary Words

abaya
absolute monarchy
gitwa
Gulf Cooperation Council
Islam
mutawa

How has oil wealth changed Saudi society?

During the first third of this century most of Saudi Arabia was occupied by poor farmers who lived much the same way as their ancestors had hundreds of years before. These people made a modest living by world standards and made very few changes to the land. Shortly after Saudi Arabia's oil industry began in 1933, the country became very rich. Money from oil enabled the people to improve their standard of living and acquire many products, not only from the West but also from around the world. Along with the economic and technological connections to the West came cultural influences as well. Traditional Saudi culture has been confronted with Western

Saudi Arabia. Ask the class what kinds of conflicts they would expect as boys and girls view programs that were produced outside Saudi Arabia.

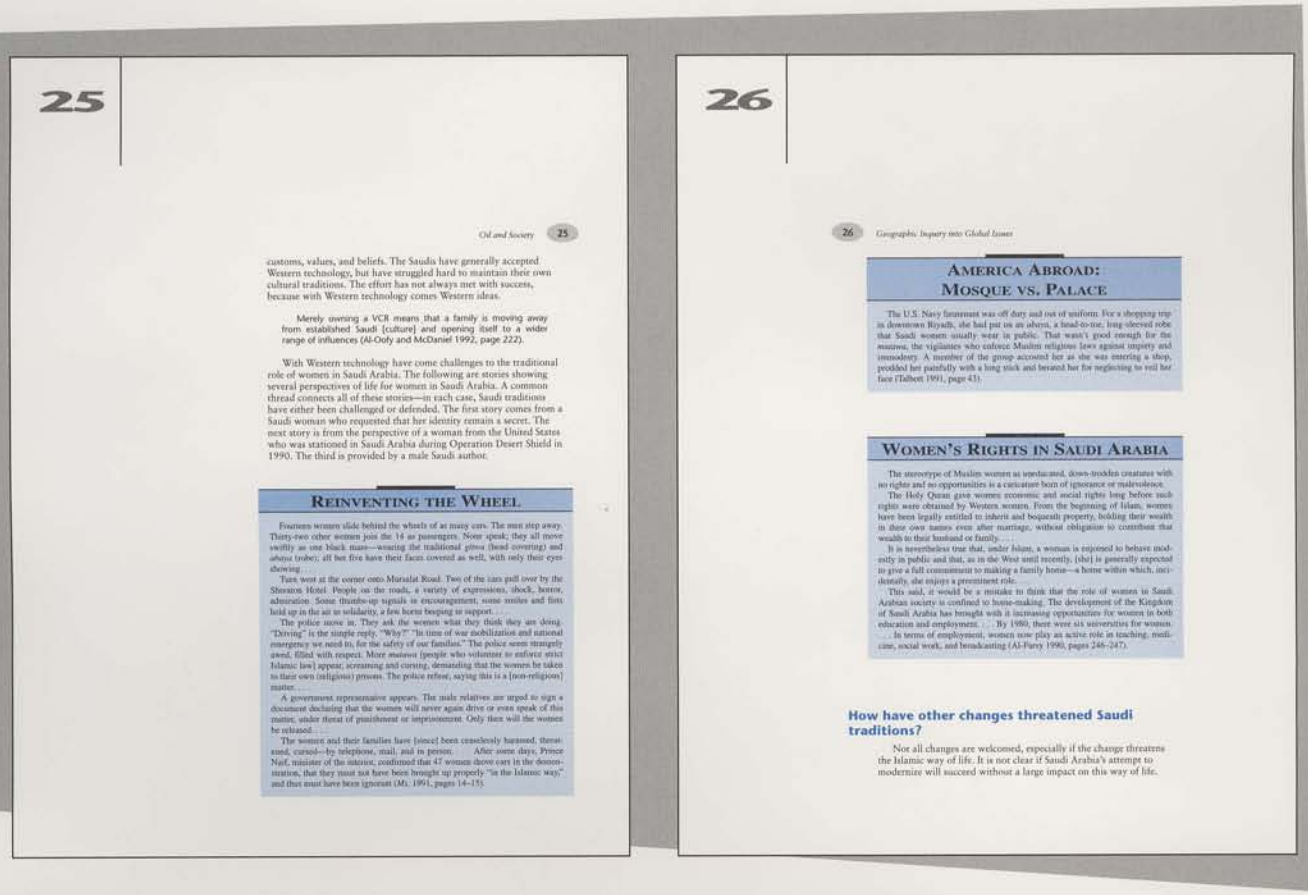
B. Have students read the three extracts on pages 25–26 ("Reinventing the Wheel," "America Abroad: Mosque vs. Palace" and "Women's Rights in Saudi Arabia"). Continue the discussion or have students prepare a one-page point/counterpoint essay on the dilemma of cultural change in Saudi Arabia.

Ask the class to discuss why Muslim women wear a veil over their faces. The veil is called a *gitwa* and it is worn in public as a demonstration of modesty.

Probe further to let students discover that some Saudis protest when women do not wear the gitwa in public. Ask the class to identify the dilemma faced by Saudi Arabia as it deals with cultural change. Students should be clear that some Saudis welcome the change, while others demand that no changes occur.

How have other changes threatened Saudi traditions? (pages 26–28)

C. Have the class read the text and work through Questions 1 and 2 on page 28. Then ask the class to speculate about why Saudi Arabia would need foreign labor to enter its workforce. You can make students aware that some of the jobs are not well-paying, so foreigners are hired for the kinds of jobs Saudis do not want. Also, there are simply not enough workers in Saudi Arabia to handle all the jobs needed for the oil industry.



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customs, values, and beliefs. The Saudis have generally accepted Western technology, but have struggled hard to maintain their own cultural traditions. The effort has not always met with success, because with Western technology comes Western ideas.

> Merely owning a VCR means that a family is moving away from established Saudi [culture] and opening itself to a wider range of influences (Al-Oofy and McDaniel 1992, page 222).

With Western technology have come challenges to the traditional role of women in Saudi Arabia. The following are stories showing several perspectives of life for women in Saudi Arabia. A common thread connects all of these stories—in each case, Saudi traditions have either been challenged or defended. The first story comes from a Saudi woman who requested that her identity remain a secret. The next story is from the perspective of a woman from the United States who was stationed in Saudi Arabia during Operation Desert Shield in 1990. The third is provided by a male Saudi author.

Reinventing the Wheel

Fourteen women slide behind the wheels of as many cars. The men step away. Thirty-two other women join the 14 as passengers. None speak; they all move swiftly as one black mass—wearing the traditional *gitwa* (head covering) and *abaiya* (robe); all but five have their faces covered as well, with only their eyes showing. . . .

Turn west at the corner onto Muraiat Road. Two of the cars pull over by the Sheraton Hotel. People on the roads, a variety of expressions, shock, horror, admiration. Some thumbs-up signals in encouragement, some smiles and fists held up in the air as solidarity, a few horns beeping to support. . . .

The police move in. They ask the women what they think they are doing. "Driving" is the simple reply. "Why?" "In time of war mobilization and national emergency we need to, for the safety of our families." The police seem strangely awed, filled with respect. More *mutawa* (people who volunteer to enforce strict Islamic law) appear, screaming and cursing, demanding that the women be taken to their own (religious) prisons. The police refuse, saying this is a [non-religious] matter. . . .

A government representative appears. The male relatives are urged to sign a document declaring that the women will never again drive or even speak of this matter, under threat of punishment or imprisonment. Only then will the women be released. . . .

The women and their families have [since] been ceaselessly harassed, threatened, cursed—by telephone, mail, and in person. . . . After some days, Prince Naif, minister of the interior, confirmed that 47 women drove cars in the demonstration, that they must not have been brought up properly "in the Islamic way," and that must have been ignorant (*Ms.* 1991, pages 14–15).

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America Abroad: Mosque vs. Palace

The U.S. Navy lieutenant was off duty and out of uniform. For a shopping trip in downtown Riyadh, she had put on an *abaya*, a head-to-toe, long-sleeved robe that Saudi women usually wear in public. That wasn't good enough for the *mutawa*, the vigilantes who enforce Muslim religious laws against impurity and immodesty. A member of the group accosted her as she was entering a shop, prodded her painfully with a long stick and berated her for neglecting to veil her face (Talbott 1991, page 43).

Women's Rights in Saudi Arabia

The stereotype of Muslim women as uneducated, down-trodden creatures with no rights and no opportunities is a caricature born of ignorance or malevolence.

The Holy Quran gave women economic and social rights long before such rights were obtained by Western women. From the beginning of Islam, women have been legally entitled to inherit and bequeath property, holding their wealth in their own names even after marriage, without obligation to contribute that wealth to their husband or family. . . .

It is nevertheless true that, under Islam, a woman is enjoined to behave modestly in public and that, as in the West until recently, [she] is generally expected to give a full commitment to making a family home—a home within which, incidentally, she enjoys a preeminent role. . . .

This said, it would be a mistake to think that the role of women in Saudi Arabian society is confined to home-making. The development of the Kingdom of Saudi Arabia has brought with it increasing opportunities for women in both education and employment. . . . By 1980, there were six universities for women. . . . In terms of employment, women now play an active role in teaching, medicine, social work, and broadcasting (Al-Farsy 1990, pages 246–247).

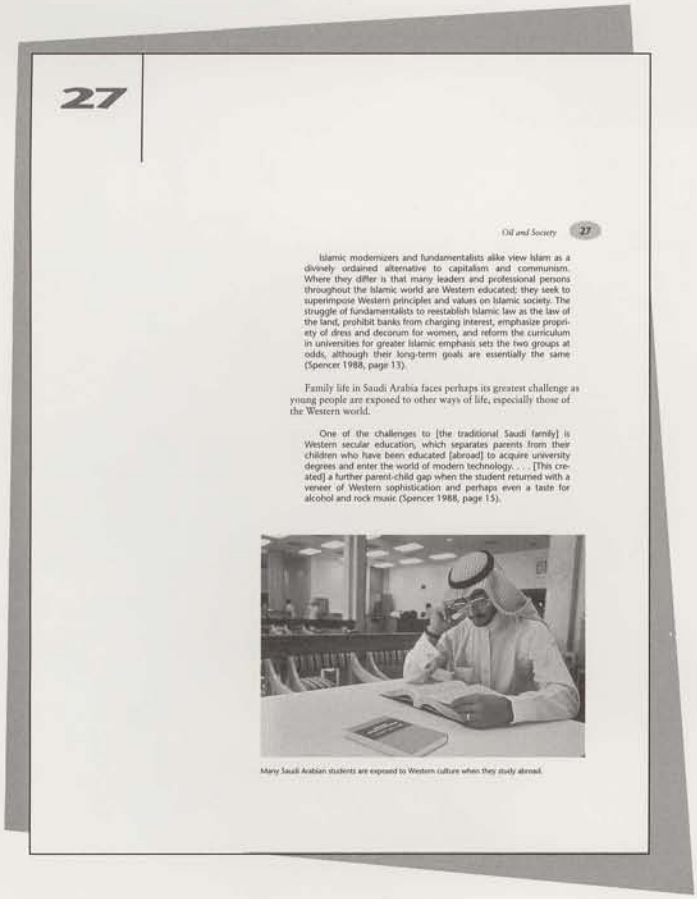
How have other changes threatened Saudi traditions?

Not all changes are welcomed, especially if the change threatens the Islamic way of life. It is not clear if Saudi Arabia's attempt to modernize will succeed without a large impact on this way of life.

Questions and Answers for page 28

1. What kinds of disagreements would you expect between the people who want Saudi Arabia to modernize and the people who resist change?
   - This question allows students to discuss the dilemma faced by a country that is divided on how to direct the country. The generation gap is one aspect of this problem because young people are attracted to Western approaches to life, while the older people tend to want to live more traditionally. Encourage a wide range of ideas to surface.

2. How can Saudi Arabia lessen the cultural impact from sending students to the West for their education?
   - Students may provide a simple answer and say that Saudi Arabia could build enough universities within its borders. That will not, however, erase the impact that has already taken place. It will also take a great deal of time to build and develop a strong university system. In the meantime, the impact would continue. This question gives students an opportunity to look for creative solutions to a very real problem in Saudi Arabia.


27

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Islamic modernizers and fundamentalists alike view Islam as a divinely ordained alternative to capitalism and communism. Where they differ is that many leaders and professional persons throughout the Islamic world are Western educated; they seek to superimpose Western principles and values on Islamic society. The struggle of fundamentalists to reestablish Islamic law as the law of the land, prohibit banks from charging interest, emphasize propriety of dress and decorum for women, and reform the curriculum in universities for greater Islamic emphasis sets the two groups at odds, although their long-term goals are essentially the same (Spencer 1988, page 13).

Family life in Saudi Arabia faces perhaps its greatest challenge as young people are exposed to other ways of life, especially those of the Western world.

One of the challenges to [the traditional Saudi family] is Western secular education, which separates parents from their children who have been educated [abroad] to acquire university degrees and enter the world of modern technology. . . . [This created] a further parent-child gap when the student returned with a veneer of Western sophistication and perhaps even a taste for alcohol and rock music (Spencer 1988, page 15).

Many Saudi Arabian students are exposed to Western culture when they study abroad.

How has foreign labor affected Saudi Arabian culture? (pages 28–29)

D. Have students pair off and read the text for this section, up to Question 3. Student pairs can then answer Question 3 on a separate sheet of paper. Have the pairs offer their explanation to the class as a whole and seek a consensus.

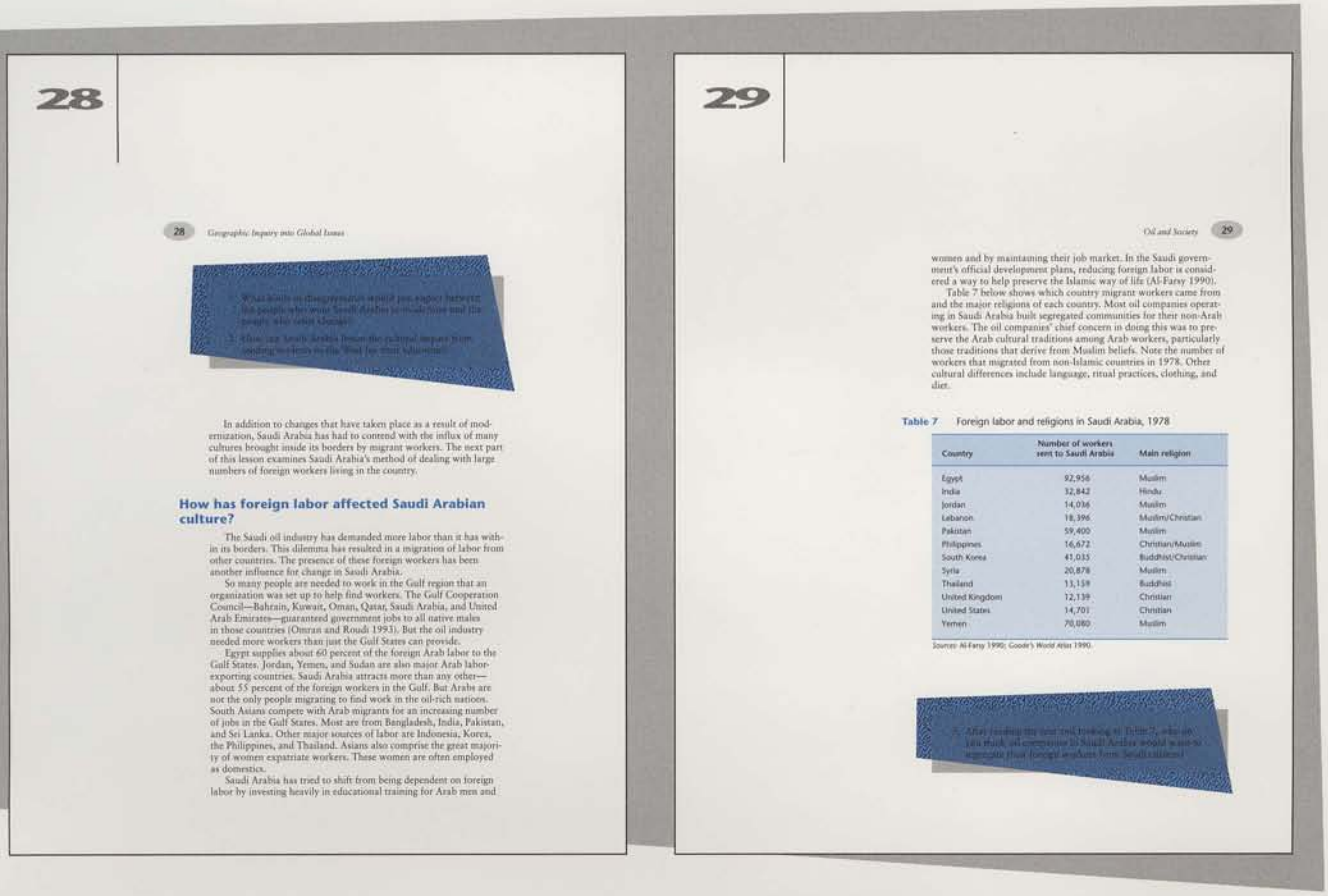
Question and Answer for page 29

3. After reading the text and looking at Table 7, why do you think oil companies in Saudi Arabia would want to segregate their foreign workers from Saudi citizens?

   - This question permits a tangent to be explored. Students can see from Table 7 that many foreign workers in Saudi Arabia are not Muslims, so they may correctly hypothesize that a conflict would occur when the Saudis, living under strict Islamic law, are exposed to foreign workers who do not follow those beliefs. Students may also point out that the foreign workers may be more comfortable living with other workers from their own country. Foreign workers may also have a better chance to practice their own customs within the confines of their living community.

What is the future of the Saudi kingdom? (pages 30–31)

E. This section introduces the changes that are planned for the government of Saudi Arabia. Have students work together in teams of four to read this section. As students discuss the planned changes, they will see that the Saudi absolute monarchy is very much intact. Students could create a comic strip or political cartoon that shows some of the contradictions in the planned changes. After completing the reading, have students prepare a poster that depicts the way in which Saudi Arabia has changed as a result of its oil resources. The poster may include their answers to Questions 4–6 on page 31.



Questions and Answers for page 31

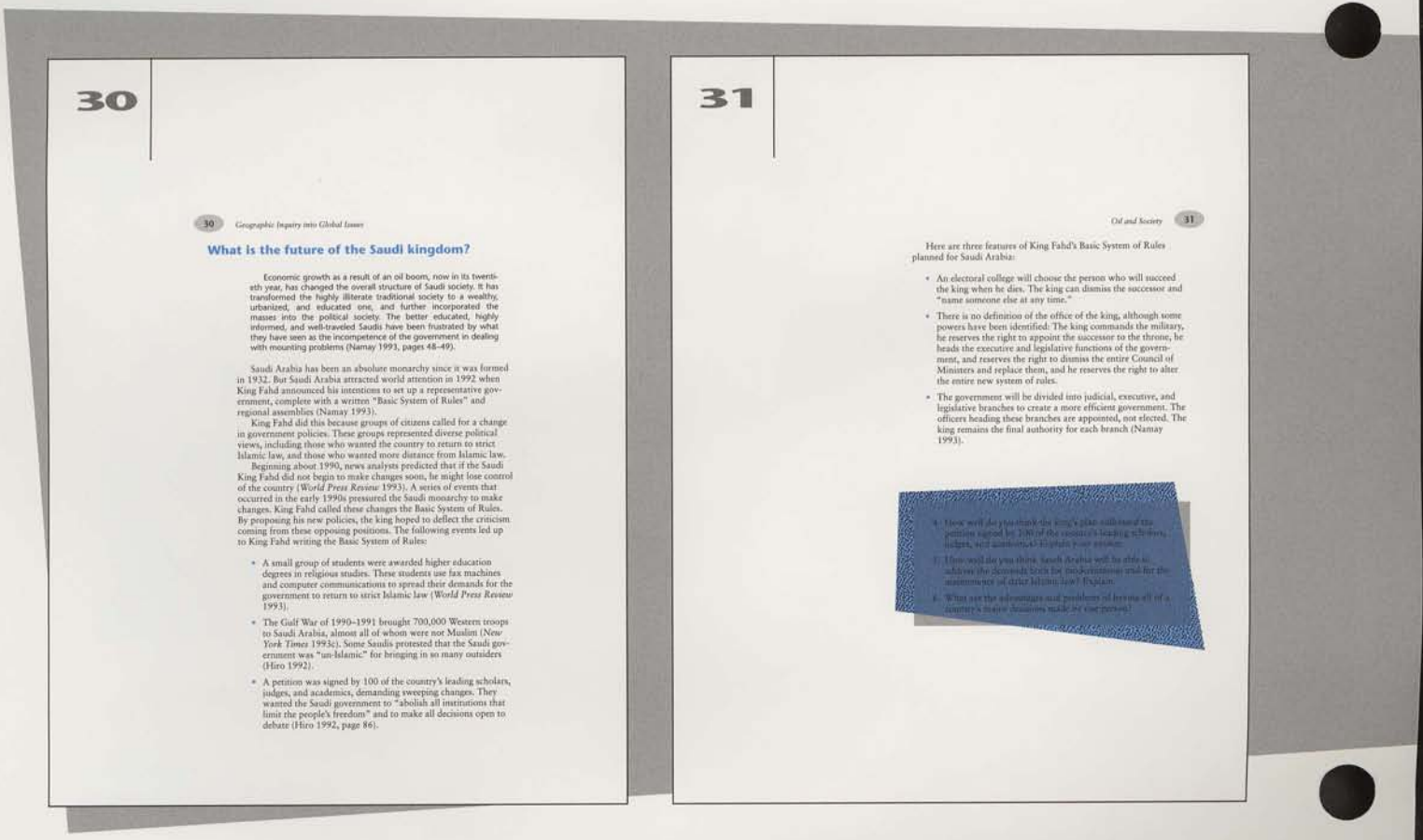
4. How well do you think the king's plan addressed the petition signed by 100 of the country's leading scholars, judges, and academics? Explain your answer.

   - On the surface, the changes announced by King Fahd are extraordinary. Establishing judicial, executive, and legislative branches will open channels for the general population to have a role in decision making and debate. But the king still makes all major decisions, so the will of the people remains limited. Students may correctly point out that the announcement by King Fahd may be confusing to Saudis, who may believe that sweeping changes are on the way.

5. How well do you think Saudi Arabia will be able to address the demands both for modernization and for the maintenance of strict Islamic law? Explain.

   - This question allows students to reexamine the issue of balancing modernization with fundamentalist demands for traditional life. Now, students can add the political maneuvering used by the king as a strategy for quieting opposition from both sides.

continued



30

30 *Geographic Inquiry into Global Issues*

What is the future of the Saudi kingdom?

Economic growth as a result of an oil boom, now in its twentieth year, has changed the overall structure of Saudi society. It has transformed the highly illiterate traditional society to a wealthy, urbanized, and educated one, and further incorporated the masses into the political society. The better educated, highly informed, and well-traveled Saudis have been frustrated by what they have seen as the incompetence of the government in dealing with mounting problems (Namay 1993, pages 48–49).

Saudi Arabia has been an absolute monarchy since it was formed in 1932. But Saudi Arabia attracted world attention in 1992 when King Fahd announced his intentions to set up a representative government, complete with a written "Basic System of Rules" and regional assemblies (Namay 1993).

King Fahd did this because groups of citizens called for a change in government policies. These groups represented diverse political views, including those who wanted the country to return to strict Islamic law, and those who wanted more distance from Islamic law.

Beginning about 1990, news analysts predicted that if the Saudi King Fahd did not begin to make changes soon, he might lose control of the country (*World Press Review* 1993). A series of events that occurred in the early 1990s pressured the Saudi monarchy to make changes. King Fahd called these changes the Basic System of Rules. By proposing his new policies, the king hoped to deflect the criticism coming from these opposing positions. The following events led up to King Fahd writing the Basic System of Rules:

- A small group of students were awarded higher education degrees in religious studies. These students use fax machines and computer communications to spread their demands for the government to return to strict Islamic law (*World Press Review* 1993).
- The Gulf War of 1990–1991 brought 700,000 Western troops to Saudi Arabia, almost all of whom were not Muslim (*New York Times* 1993c). Some Saudis protested that the Saudi government was "un-Islamic" for bringing in so many outsiders (Hiro 1992).
- A petition was signed by 100 of the country's leading scholars, judges, and academics, demanding sweeping changes. They wanted the Saudi government to "abolish all institutions that limit the people's freedom" and to make all decisions open to debate (Hiro 1992, page 86).

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Here are three features of King Fahd's Basic System of Rules planned for Saudi Arabia:

- An electoral college will choose the person who will succeed the king when he dies. The king can dismiss the successor and "name someone else at any time."
- There is no definition of the office of the king, although some powers have been identified: The king commands the military, he reserves the right to appoint the successor to the throne, he heads the executive and legislative functions of the government, and reserves the right to dismiss the entire Council of Ministers and replace them, and he reserves the right to alter the entire new system of rules.
- The government will be divided into judicial, executive, and legislative branches to create a more efficient government. The officers heading these branches are appointed, not elected. The king remains the final authority for each branch (Namay 1993).

4. How well do you think the king's plan addressed the petition signed by 100 of the country's leading scholars, judges, and academics? Explain your answer.
5. How well do you think Saudi Arabia will be able to address the demands both for modernization and for the maintenance of strict Islamic law? Explain.
6. What are the advantages and problems of having all of a country's major decisions made by one person?

6. What are the advantages and problems of having all of a country's major decisions made by one person?

   - If a country is fortunate to have a leader who is honest and wants all resources of the country to improve conditions for the citizens, then an absolute monarch can be an efficient form of goverment. A major disadvantage would be the misuse of power for personal gain or for agendas other than those that would help improve the general population. Students can make many other arguments to support their positions. Encourage them to cite historical examples with which they are familiar.

For Further Inquiry

- Have students add up the number of people in Table 7 on page 29 who come from each of the religions and make a pie chart to show percentages. When countries are listed with multiple religions, they can divide it equally to get a crude idea of how many non-Muslim workers were in Saudi Arabia in 1978.
- Have students write an essay on how oil riches have challenged Saudi society.

Lesson 5

How has Saudi Arabia used its influence?

Time Required

Two or three 50-minute class periods

Materials Needed

Mini-Atlas map 2
Copies of Activity 5 for all students
Copies of Activity 6 for all students
Copies of Activity 7 for each pair of students
Transparency of Overhead 5

Glossary Words

ARAMCO

gross national product (GNP)

hajj

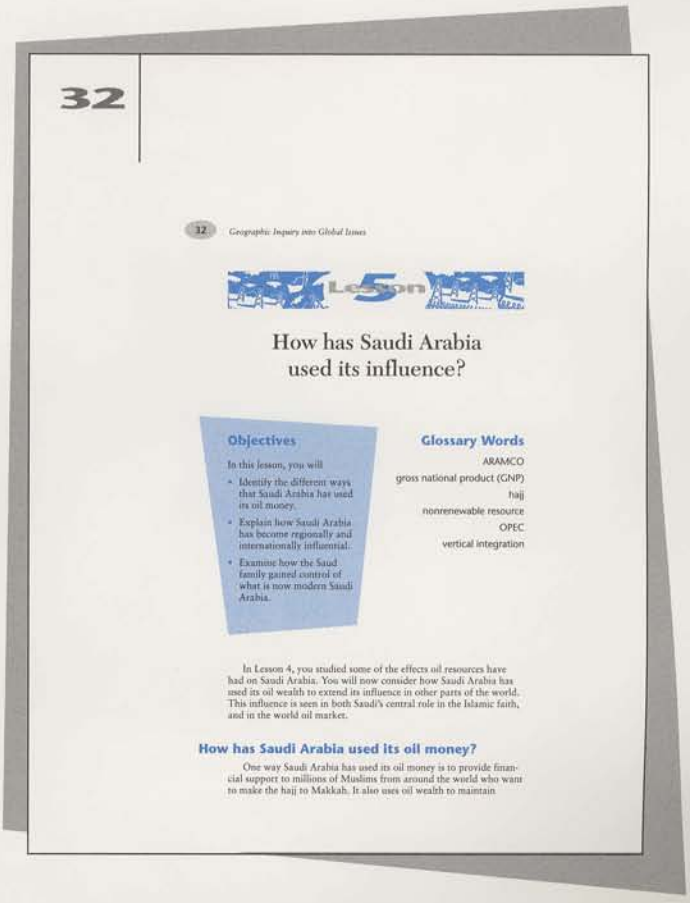
nonrenewable resource

OPEC

vertical integration

Getting Started

- To get students thinking about how a country uses its influence to attain its goals, have them focus on the concept of influence. You can pose any one of the following questions to get things started: How does school influence students? What kinds of things do parents do to influence their children? How do friends influence each other? The point here is that the influencer usually has a goal in mind and then uses strategies to influence others in order to accomplish the goal. This lesson examines that issue as it pertains to Saudi Arabia.
- Ask the class to describe a major difference between the ways the United States and Saudi Arabia deal with government and religion. Some students may correctly point out that the United States Constitution mandates that government and religious beliefs remain apart, or that Saudi Arabia enjoys strong loyalty from its people through their religious beliefs.


32

32 Geographic Inquiry into Global Issues

Lesson 5

How has Saudi Arabia used its influence?

Objectives

In this lesson, you will

- Identify the different ways that Saudi Arabia has used its oil money.
- Explain how Saudi Arabia has become regionally and internationally influential.
- Examine how the Saud family gained control of what is now modern Saudi Arabia.

Glossary Words

ARAMCO
gross national product (GNP)
hajj
nonrenewable resource
OPEC
vertical integration

In Lesson 4, you studied some of the effects oil resources have had on Saudi Arabia. You will now consider how Saudi Arabia has used its oil wealth to extend its influence in other parts of the world. This influence is seen in both Saudi's central role in the Islamic faith, and in the world oil market.

How has Saudi Arabia used its oil money?

One way Saudi Arabia has used its oil money is to provide financial support to millions of Muslims from around the world who want to make the hajj to Makkah. It also uses oil wealth to maintain

Procedures

How has Saudi Arabia used its oil money? (pages 32–36)

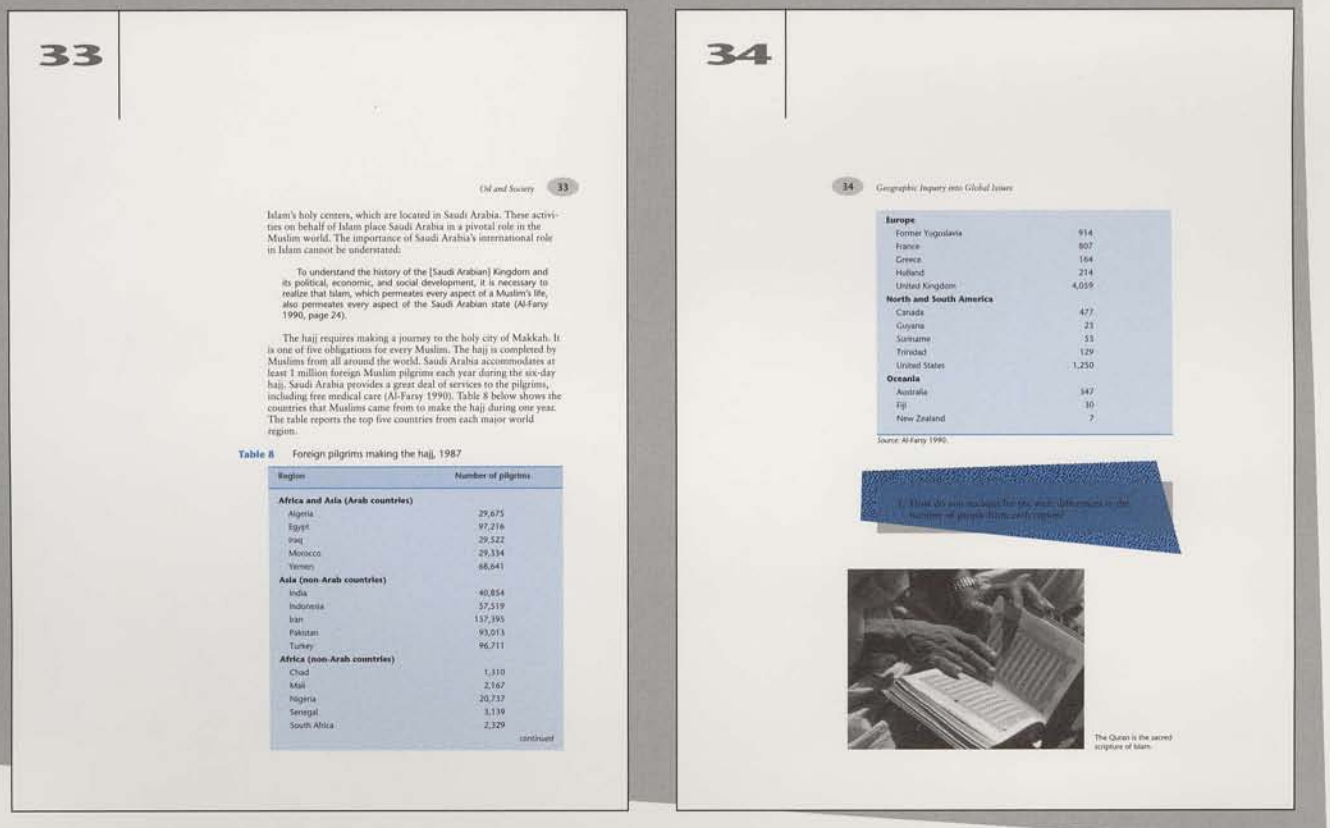
A. If you can obtain the video *The Prize*, this would be a good time for the class to view the first half of it, or to save time, you can view it alone first in order to select a shorter portion of it that makes the point that OPEC members, including Saudi Arabia, have become powerful political players controlling a large percentage of the world's oil reserves.

B. Have the class read the text up to Table 8 on page 33 and use **Mini-Atlas map 2** of world political boundaries and Table 8 to examine connections to the Saudi world through the Islamic faith. Distribute copies of **Activity 5** to students. The goal of Activity 5 is to create a vector map showing how many people come from around the world to make the extraordinary journey to Makkah to perform the hajj. It also gives students a chance to see on a map how Saudi Arabia has an international role and sphere of influence through its religious role in the Islamic faith. It would take a lot of class time to plot all of the countries in Table 8, so one solution is to have students choose the country from each region that has the most people who performed the hajj in 1987. Then draw a line connecting those countries to the Saudi city of Makkah and write on the line the number of people who completed the hajj.

After completing Activity 5, ask students how they would describe the pattern seen on their maps. [More people make the journey from countries closer to Saudi Arabia. The number of people making the journey decreases as distance from Saudi Arabia increases. Students may argue that the sphere of influence decreases with distance, or they may point out that Muslims are internationally connected through the hajj. The *Key for Activity 5* shows the numbers of people coming from the countries in each region.]

> Older students can devise proportional line widths to represent the amount of people making the hajj and make lines for every country in Table 8.

Have students discuss Question 1 on page 34.



33

Oil and Society 33

Islam's holy centers, which are located in Saudi Arabia. These activities on behalf of Islam place Saudi Arabia in a pivotal role in the Muslim world. The importance of Saudi Arabia's international role in Islam cannot be understated:

> To understand the history of the [Saudi Arabian] Kingdom and its political, economic, and social development, it is necessary to realize that Islam, which permeates every aspect of a Muslim's life, also permeates every aspect of the Saudi Arabian state (Al-Farsy 1990, page 24).

The hajj requires making a journey to the holy city of Makkah. It is one of five obligations for every Muslim. The hajj is completed by Muslims from all around the world. Saudi Arabia accommodates at least 1 million foreign Muslim pilgrims each year during the six-day hajj. Saudi Arabia provides a great deal of services to the pilgrims, including free medical care (Al-Farsy 1990). Table 8 below shows the countries that Muslims came from to make the hajj during one year. The table reports the top five countries from each major world region.

Table 8 Foreign pilgrims making the hajj, 1987

Region	Number of pilgrims
Africa and Asia (Arab countries)	
Algeria	29,675
Egypt	97,216
Iraq	29,522
Morocco	29,334
Yemen	68,641
Asia (non-Arab countries)	
India	40,854
Indonesia	57,519
Iran	157,395
Pakistan	93,013
Turkey	96,711
Africa (non-Arab countries)	
Chad	1,310
Mali	2,167
Nigeria	20,737
Senegal	3,139
South Africa	2,329

continued

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34 *Geographic Inquiry into Global Issues*

Europe	
Former Yugoslavia	914
France	807
Greece	164
Holland	214
United Kingdom	4,059
North and South America	
Canada	477
Guyana	23
Suriname	53
Trinidad	129
United States	1,250
Oceania	
Australia	347
Fiji	10
New Zealand	7

Source: Al-Farsy 1990.

1. How do you account for the wide differences in the number of people from each region?

The Quran is the sacred scripture of Islam.

Question and Answer for page 34

1. How do you account for the wide differences in the number of people from each region?
   - Students may reasonably guess that the cost of going to Saudi Arabia gets higher and higher as the distance increases. The cost of making the journey to Makkah is affordable to fewer and fewer people from distant countries. A second explanation that may come out is that the Islamic faith is concentrated near Saudi Arabia and its sphere of influence decays with distance. (Another way to view this is that Islam may not have had enough time to gain more followers in more-distant places.)

C. Have students review the section titled "Vertical integration" and Table 9 on page 35. Distribute copies of **Activity 6** to the class. Work together with the class to organize the events in Table 9 under the headings provided in the Activity. What emerges is a picture of how Saudi Arabia made a transition into the world's largest oil exporter. Project **Overhead 5** (*Key for Activity 6*) to show how these events can be organized. Students can then complete Questions 2–4 on page 36 to look at the reasons behind the changes in Saudi Arabia that occurred because of oil.

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Oil and Society 35

Vertical integration

Another way that Saudi Arabia uses oil wealth is to increase its control over more facets of the oil industry in order to be less dependent on foreign companies. Being less dependent means that Saudi Arabia has greater freedom to direct its own affairs. This freedom gives Saudi Arabia a degree of influence in the world oil market. To achieve this, Saudi Arabia has worked to control every part of the oil industry. Taking control in this way is called *vertical integration*. In Saudi Arabia's vertically integrated oil industry, the country controls the search for oil. It also ships the oil and refines it into gasoline and other products. Finally, it sells these products to companies that supply local gas pumps. Table 9 below shows the trend toward vertical integration of the Saudi oil industry.

Table 9 Recent events in Saudi Arabia's oil development

Year	Event
1970s	The Saudi kingdom begins to purchase ownership in ARAMCO, the first oil company in Saudi Arabia. The name stands for Arab American Oil Company.
1973	The Saudis order cuts in oil production to reduce oil supply to the United States, to show support for Egypt's war with Israel.
	Oil price rises from $3 per barrel to $34.
	The United States and other oil-importing countries endure severe energy crisis and economic hardship.
1980s	The Saudis take over ARAMCO and rename it Saudi Aramco.
	Jordan and Syria receive $1 billion each year from Saudi Arabia to help them with their political opposition to Israel. Money is also given to the Palestine Liberation Organization, Jordan, and Syria to influence them to stop anti-Saudi activities in Saudi Arabia.
1988	Saudi Arabia buys 50 percent of three U.S. oil refineries.
	Saudi Arabia buys retail outlets for Texaco gasoline in the United States.
1991	Saudi Arabia buys 35 percent share of South Korea's third-largest oil refinery.
1992	Saudi Aramco uses eight of their own oil supertankers to export products and orders fifteen more to be built.

Source: Clark 1993.

36

36 *Geographic Inquiry into Global Issues*

Is Saudi Arabia vulnerable or in control of the world oil market?

Saudi Arabia is the largest supplier of oil in the world. But this does not necessarily give it control over the world oil market. It can be argued that Saudi Arabia has little control and is vulnerable to oil price fluctuations, or that it has controlling influence over oil prices. Both sides of this issue of control over world oil prices are examined in the following Point/Counterpoint discussion.

POINT
SAUDI ARABIA IS VULNERABLE TO WORLD OIL PRICES

After two decades of economic growth driven by vast income from oil exports, Saudi Arabia has announced that it is slashing its budget by 20 percent this year because of the decline in world oil prices. . . .

The kingdom's monthly revenue has plunged by $10 billion from levels a year ago.

While all oil producers have suffered, Saudi Arabia was hit hardest because it had the lion's share of the world market, producing eight million barrels a day. The kingdom still depends on revenue from its crude oil and refined products for most of its income (Ibrahim 1994, page A3).

Questions and Answers for page 36

2. What evidence is shown in Table 9 that oil gives Saudi Arabia international power?
   - Two key events are noted. First, the Saudi decision to cut oil production in 1973 was a clear example of using the U.S. dependence on oil as a way to try to influence the official U.S. policy of supporting Israel in its war against Egypt. The Saudis also began sending money to Jordan and Syria to influence policies toward Israel and to discourage anti–Saudi Arabian activities by Jordan, Syria, and the PLO within Saudi Arabia.

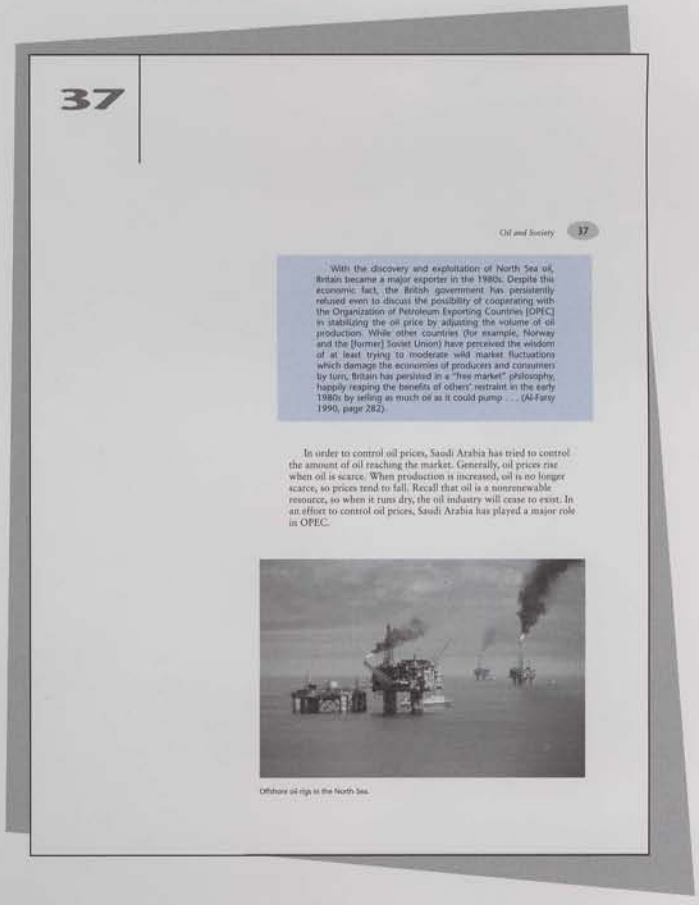
3. How has Saudi Arabia taken steps to control every aspect of its oil industry?
   - By purchasing ARAMCO, Saudi Arabia took over the extraction end of the industry. Purchasing ships to carry oil to other countries gave Saudi Arabia control over transportation. Saudi Arabia has recently focused on buying shares in U.S. and Korean refineries and retail outlets.

4. What factors made it possible for Saudi Arabia to take complete control of its own oil industry?
   - By now, students can argue that great amounts of money have made it possible for Saudi Arabia to take control of its resources. A less-obvious reason is that the country is governed by an absolute monarchy that can make decisions with little debate. Saudi Arabia is also strongly unified by common religious beliefs and a desire to be pure, by minimizing the presence of outsiders. Therefore, the people would support the king's moves for complete autonomy.

Is Saudi Arabia vulnerable or in control of the world oil market? (pages 36–39)

D. After reading this section, students can conduct a short debate to allow them to gain an appreciation of the complex problem of oil price control and the vulnerability of Saudi Arabia's economy to world oil-price fluctuations.

Divide the class into teams of four to read both of the viewpoints on pages 36–39. Group students heterogeneously so that each group has at least one student who is an especially capable reader. Have groups complete Questions 5 and 6 on page 39 to help them prepare for a debate. Then divide the class in half and conduct a short debate on Saudi Arabia's control of oil prices or lack of it.


37

Oil and Society 37

With the discovery and exploitation of North Sea oil, Britain became a major exporter in the 1980s. Despite this economic fact, the British government has persistently refused even to discuss the possibility of cooperating with the Organization of Petroleum Exporting Countries [OPEC] in stabilizing the oil price by adjusting the volume of oil production. While other countries (for example, Norway and the [former] Soviet Union) have perceived the wisdom of at least trying to moderate wild market fluctuations which damage the economies of producers and consumers alike, by turn, Britain has persisted in a "free market" philosophy, happily reaping the benefits of others' restraint in the early 1980s by selling as much oil as it could pump . . . (Al-Farsy 1990, page 282).

In order to control oil prices, Saudi Arabia has tried to control the amount of oil reaching the market. Generally, oil prices rise when oil is scarce. When production is increased, oil is no longer scarce, so prices tend to fall. Recall that oil is a nonrenewable resource, so when it runs dry, the oil industry will cease to exist. In an effort to control oil prices, Saudi Arabia has played a major role in OPEC.

Offshore oil rigs in the North Sea.

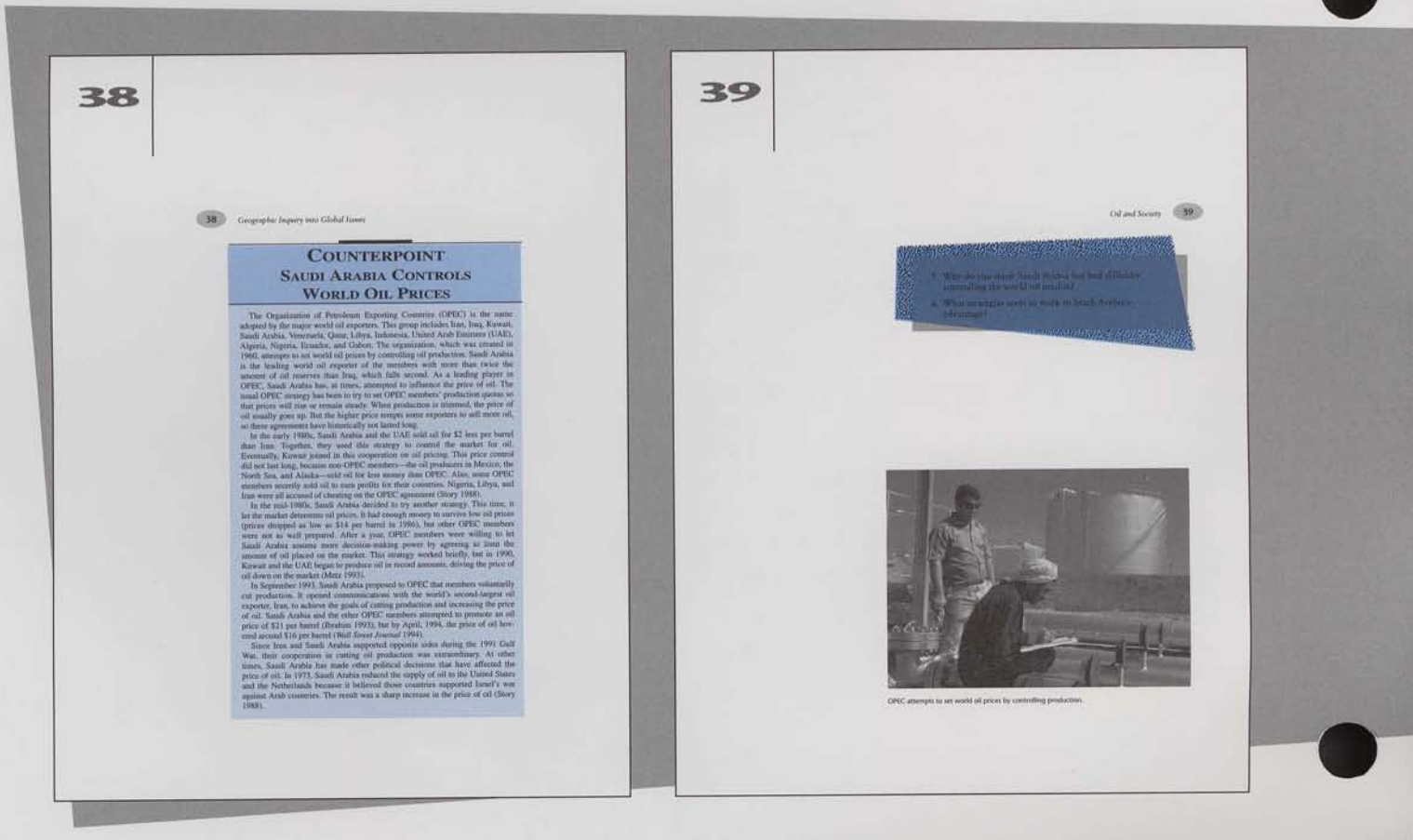
Questions and Answers for page 39

5. Why do you think Saudi Arabia has had difficulty controlling the world oil market?
   - Students can speculate that Saudi Arabia has had trouble controlling the oil market because it is vulnerable to price changes. Also, OPEC members have undercut Saudi Arabia's oil prices because they are also highly dependent on oil revenue to run their countries. In addition, it is difficult to monitor oil exporters that are spread throughout the world. These factors have kept the price of oil lower than what Saudi Arabia wants. The readings also suggest that market price is not only determined by oil supply; political events such as wars affect oil supply and its price.

6. What strategies seem to work to Saudi Arabia's advantage?
   - Probably Saudi Arabia's best strategy was to let the market run by itself for a while, resulting in lower prices. The other oil producers count on large amounts of money from oil, so they soon agreed to control production and get the same amount of money for less oil.

What is the future of the oil industry? (pages 40–42)

E. Tell the class that they have been appointed to the U.S. Department of Energy as an analyst. They have been hired to write a one-page advisory for the president. In this advisory, they will offer projections about the future of oil production by answering Questions 7 and 8 on page 41. Their goal is to advise the president so that an energy crisis can be avoided.


38

38 Geographic Inquiry into Global Issues

COUNTERPOINT
SAUDI ARABIA CONTROLS WORLD OIL PRICES

The Organization of Petroleum Exporting Countries (OPEC) is the name adopted by the major world oil exporters. This group includes Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Libya, Indonesia, United Arab Emirates (UAE), Algeria, Nigeria, Ecuador, and Gabon. The organization, which was created in 1960, attempts to set world oil prices by controlling oil production. Saudi Arabia is the leading world oil exporter of the members with more than twice the amount of oil reserves than Iraq, which falls second. As a leading player in OPEC, Saudi Arabia has, at times, attempted to influence the price of oil. The usual OPEC strategy has been to try to set OPEC members' production quotas so that prices will rise or remain steady. When production is trimmed, the price of oil usually goes up. But the higher price tempts some exporters to sell more oil, so these agreements have historically not lasted long.

In the early 1980s, Saudi Arabia and the UAE sold oil for $2 less per barrel than Iran. Together, they used this strategy to control the market for oil. Eventually, Kuwait joined in this cooperation on oil pricing. This price control did not last long, because non-OPEC members—the oil producers in Mexico, the North Sea, and Alaska—sold oil for less money than OPEC. Also, some OPEC members secretly sold oil to earn profits for their countries. Nigeria, Libya, and Iran were all accused of cheating on the OPEC agreement (Story 1988).

In the mid-1980s, Saudi Arabia decided to try another strategy. This time, it let the market determine oil prices. It had enough money to survive low oil prices (prices dropped as low as $14 per barrel in 1986), but other OPEC members were not as well prepared. After a year, OPEC members were willing to let Saudi Arabia assume more decision-making power by agreeing to limit the amount of oil placed on the market. This strategy worked briefly, but in 1990, Kuwait and the UAE began to produce oil in record amounts, driving the price of oil down on the market (Metz 1993).

In September 1993, Saudi Arabia proposed to OPEC that members voluntarily cut production. It opened communications with the world's second-largest oil exporter, Iran, to achieve the goals of cutting production and increasing the price of oil. Saudi Arabia and the other OPEC members attempted to promote an oil price of $21 per barrel (Ibrahim 1993), but by April, 1994, the price of oil hovered around $16 per barrel (*Wall Street Journal* 1994).

Since Iran and Saudi Arabia supported opposite sides during the 1991 Gulf War, their cooperation in cutting oil production was extraordinary. At other times, Saudi Arabia has made other political decisions that have affected the price of oil. In 1973, Saudi Arabia reduced the supply of oil to the United States and the Netherlands because it believed those countries supported Israel's war against Arab countries. The result was a sharp increase in the price of oil (Story 1988).

39

Oil and Society 39

OPEC attempts to set world oil prices by controlling production.

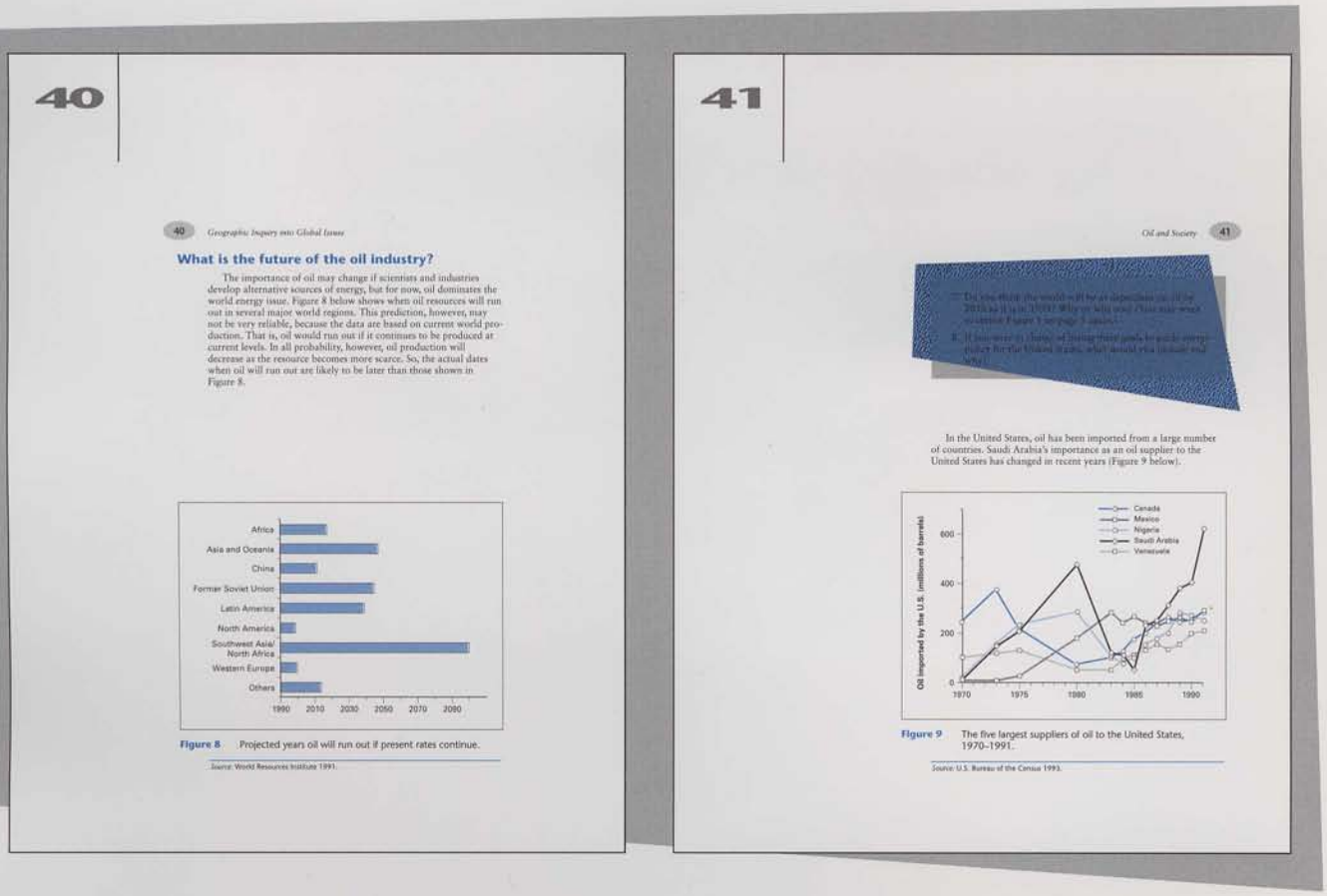
Questions and Answers for page 41

7. Do you think the world will be as dependent on oil by 2050 as it is in 1995? Why or why not?

   - Oil use is projected to continue at even greater rates into the future, as shown by Figure 1. Oil is projected to reach very small levels by 2050, except in Southwest Asia/North Africa. The world will likely be as dependent as it is today, but that dependence will probably be focused on the oil-rich region of Southwest Asia/North Africa.

8. If you were in charge of listing three goals to guide energy policy for the United States, what would you include and why?

   - Students may argue that one goal would be to focus research on alternative energy such as solar power, nuclear power, coal, natural gas, hydropower or fusion power. Another energy policy might be to maintain and foster strong ties to Saudi Arabia and other major oil exporters to minimize the chance of being a victim of those countries' oil policies. Conservation efforts would reduce the demand of energy and reduce reliance on foreign energy sources. Some may suggest that the United States increase its search and exploitation of oil within its borders.

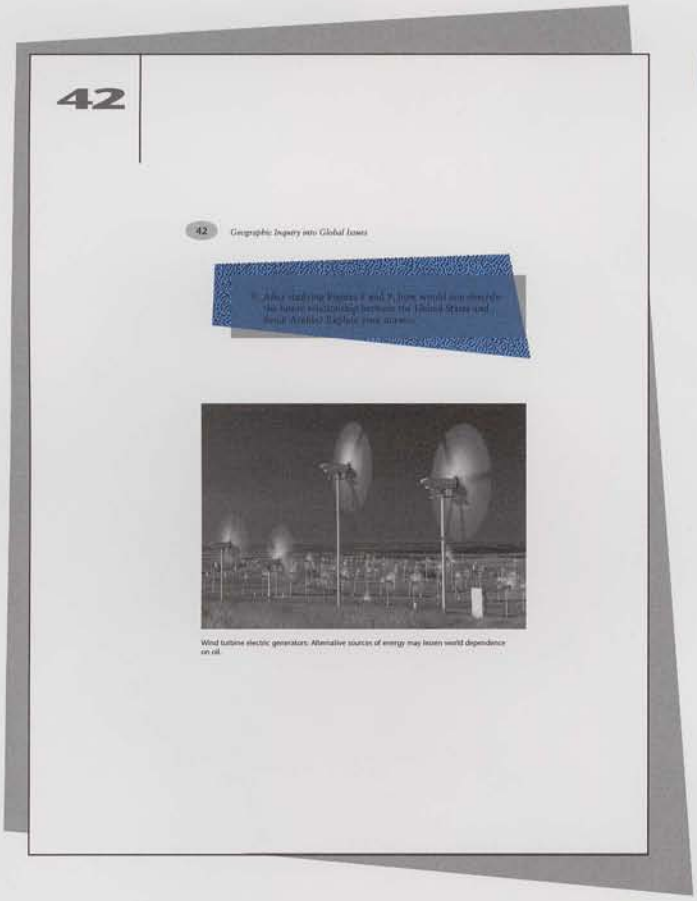


F. Next have students study Figure 9 and answer Question 9 as a class. This question helps to ensure that students understand that Saudi Arabia's importance as an oil supplier to the United States has grown rapidly since 1985. Then distribute **Activity 7** to each pair of students. After they read the short discussion that precedes Figure 9 about the rise of importance of Saudi Arabia as a supplier of oil to the United States, have each pair compare Figure 9 to the data provided in Activity 7. Answer the questions included on the Activity. This exercise gives students a chance to compare a variety of ways to plot identical data. Review the exercise using the *Key for Activity 7*.

Question and Answer for page 42

9. After studying Figures 8 and 9, how would you describe the future relationship between the United States and Saudi Arabia? Explain your answer.

   - Figure 9 shows how much oil the United States has purchased from its five largest suppliers. But as shown in Figure 8, the United States does not have a large supply of its own oil remaining, so it will depend on oil exporters like Saudi Arabia to provide oil for its energy needs. This condition places the United States in an energy-dependent relationship with its oil suppliers, especially Saudi Arabia because it is likely to continue to be the major supplier.


42

42 Geographic Inquiry into Global Issues

Wind turbine electric generators: Alternative sources of energy may lessen world dependence on oil.

For Further Inquiry

The U.S. Government publishes a statistical abstract that contains the most current oil-importing data. Students can find that new information to see if the trends reported in Figure 9 have continued.

Lesson 6

How has Venezuelan society been changed by oil?

Time Required

One 50-minute class period

Materials Needed

Copies of Activity 8 for students in Getting Started role play
Copies of Activity 9 for each pair of students
Mini-Atlas map 2
Mini-Atlas map 3

Glossary Words

agrarian economy

crude oil

hydroelectricity

industrial economy

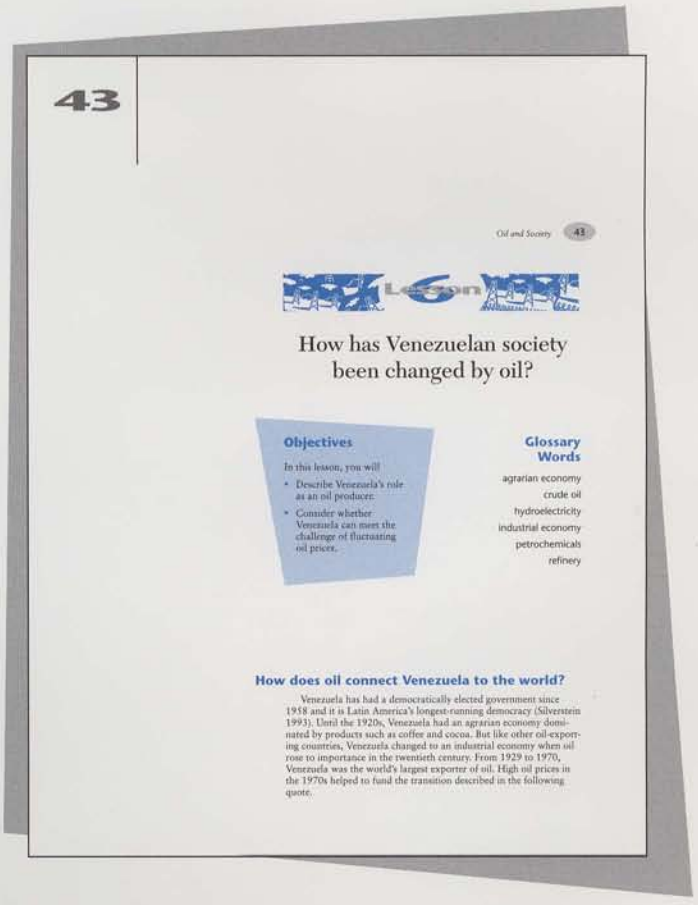
petrochemicals

refinery

Carlos Andrés Pérez is the former president of Venezuela (1989–1993).

Ramón José Velásquez is a Venezuelan historian and the interim president.

Maria Isabelle Ortega is a citizen of Caracas.



Getting Started

Tell students that this lesson looks at an oil-exporting country in Latin America, namely, Venezuela. Like Saudi Arabia, Venezuela is a country that depends heavily on oil. The day before this lesson, recruit three students to perform a short skit (**Activity 8**). Introduce the three characters to the class before allowing the skit to begin. The first two characters are based on real people, the third is fictional.

Procedures

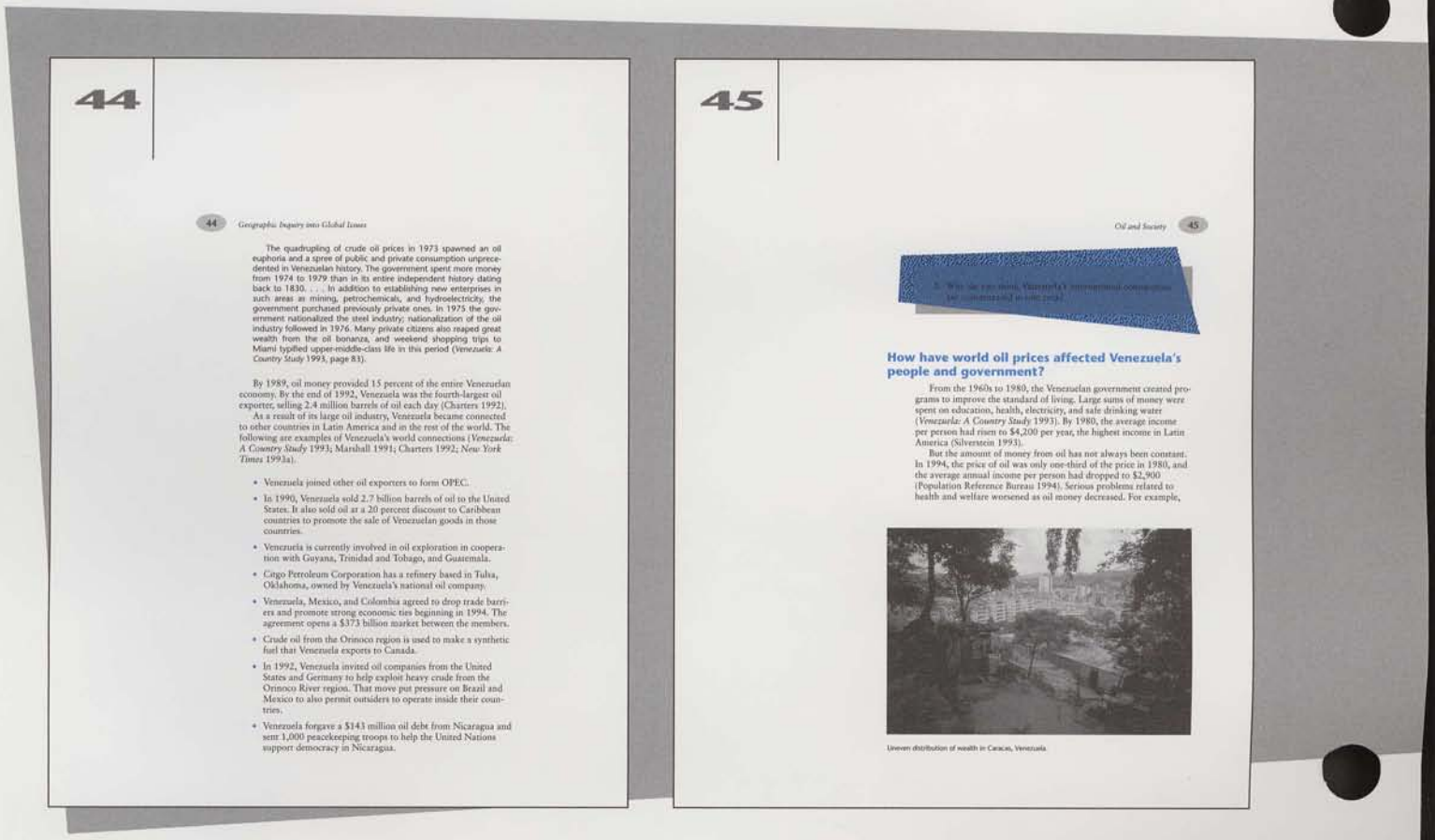
How does oil connect Venezuela to the world? (pages 43–45)

A. Have students read the text, including the quote and the list of connections on page 44. Then look at **Mini-Atlas map 3** to help answer Question 1 on page 45.

B. Split the class into pairs and distribute copies of **Activity 9** to each pair. They will need to refer to **Mini-Atlas map 2** to find the countries mentioned in the list of connections and enter them on Activity 9. Have students draw lines connecting Venezuela to other countries mentioned in the list. The resulting map (see *Key for Activity 9*) shows how the oil industry has spawned connections between Venezuela and many parts of the world.

Question and Answer for page 45

1. Why do you think Venezuela's international connections are concentrated in one area?
   - Venezuela's connections are concentrated in the Americas, especially in the Caribbean. Common languages, physical proximity, environmental conditions, economic goals, and political struggles help explain why Venezuela has stronger ties within Latin America than with other major world regions.



44

44 *Geographic Inquiry into Global Issues*

The quadrupling of crude oil prices in 1973 spawned an oil euphoria and a spree of public and private consumption unprecedented in Venezuelan history. The government spent more money from 1974 to 1979 than in its entire independent history dating back to 1830. . . . In addition to establishing new enterprises in such areas as mining, petrochemicals, and hydroelectricity, the government purchased previously private ones. In 1975 the government nationalized the steel industry; nationalization of the oil industry followed in 1976. Many private citizens also reaped great wealth from the oil bonanza, and weekend shopping trips to Miami typified upper-middle-class life in this period (*Venezuela: A Country Study* 1993, page 83).

By 1989, oil money provided 15 percent of the entire Venezuelan economy. By the end of 1992, Venezuela was the fourth-largest oil exporter, selling 2.4 million barrels of oil each day (Charters 1992).

As a result of its large oil industry, Venezuela became connected to other countries in Latin America and in the rest of the world. The following are examples of Venezuela's world connections (*Venezuela: A Country Study* 1993; Marshall 1991; Charters 1992; *New York Times* 1993a).

- Venezuela joined other oil exporters to form OPEC.
- In 1990, Venezuela sold 2.7 billion barrels of oil to the United States. It also sold oil at a 20 percent discount to Caribbean countries to promote the sale of Venezuelan goods in those countries.
- Venezuela is currently involved in oil exploration in cooperation with Guyana, Trinidad and Tobago, and Guatemala.
- Citgo Petroleum Corporation has a refinery based in Tulsa, Oklahoma, owned by Venezuela's national oil company.
- Venezuela, Mexico, and Colombia agreed to drop trade barriers and promote strong economic ties beginning in 1994. The agreement opens a $373 billion market between the members.
- Crude oil from the Orinoco region is used to make a synthetic fuel that Venezuela exports to Canada.
- In 1992, Venezuela invited oil companies from the United States and Germany to help exploit heavy crude from the Orinoco River region. That move put pressure on Brazil and Mexico to also permit outsiders to operate inside their countries.
- Venezuela forgave a $143 million oil debt from Nicaragua and sent 1,000 peacekeeping troops to help the United Nations support democracy in Nicaragua.

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Oil and Society 45

How have world oil prices affected Venezuela's people and government?

From the 1960s to 1980, the Venezuelan government created programs to improve the standard of living. Large sums of money were spent on education, health, electricity, and safe drinking water (*Venezuela: A Country Study* 1993). By 1980, the average income per person had risen to $4,200 per year, the highest income in Latin America (Silverstein 1993).

But the amount of money from oil has not always been constant. In 1994, the price of oil was only one-third of the price in 1980, and the average annual income per person had dropped to $2,900 (Population Reference Bureau 1994). Serious problems related to health and welfare worsened as oil money decreased. For example,

Uneven distribution of wealth in Caracas, Venezuela.

Questions and Answers for page 46

2. What are the differences when comparing the impact of fluctuating oil prices on Saudi Arabia to Venezuela? Why did the income of Venezuelans drop from 1980 to 1994?

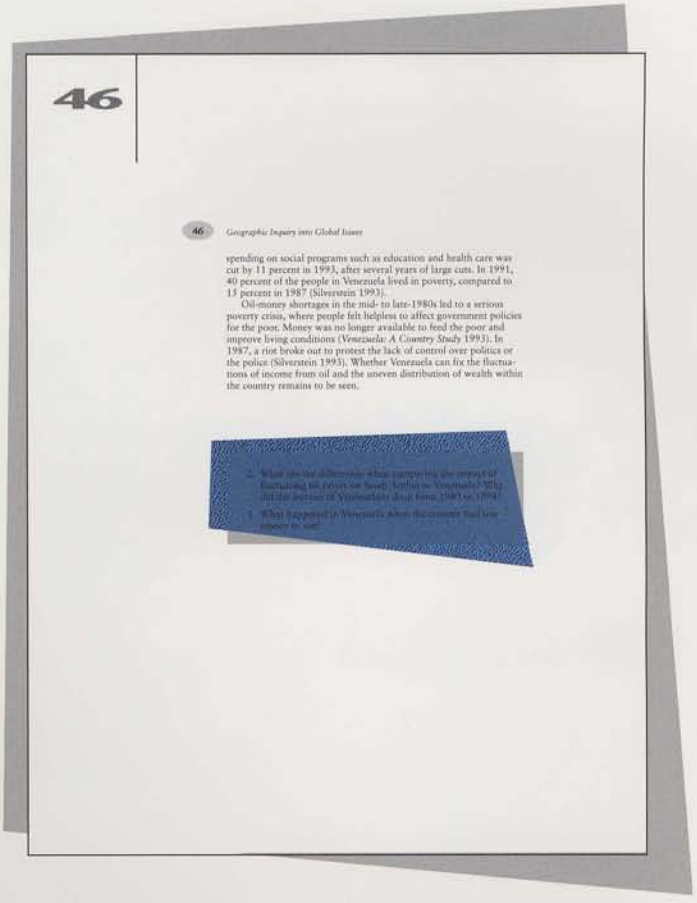
   - When world oil prices fell in the 1980s, Saudi Arabia had already developed substantially. The drop in revenues slowed their economic development, but its government remained in control. In Venezuela, economic development had not progressed as far, so the standard of living was much more dependent on high oil prices. When prices fell, the standard of living fell quickly. The substantial drop in per person GNP between 1980 and 1994 reinforces the point that Venezuela's economy is highly sensitive to the world price of oil. If time permits, you can add the point that even if oil revenues were stable, the average income in Venezuela would drop, since its population is growing.

3. What happened in Venezuela when the country had less money to use?

   - Social programs were cut, the proportion of people living in poverty grew dramatically, and people rioted out of frustration with the government.

How have world oil prices affected Venezuela's people and government? (pages 45–46)

C. Divide the class into teams of four. Have each team read this section, then discuss Questions 2 and 3 on page 46. Following that, have teams generate a list of questions that they believe would test another team's understanding of the material. The questions they want to create need to go beyond simple recall to see if another team actually understands the underlying meaning of the reading. Page 32 of this Teacher's Guide lists some examples of student questions.


46

46 *Geographic Inquiry into Global Issues*

spending on social programs such as education and health care was cut by 11 percent in 1993, after several years of large cuts. In 1991, 40 percent of the people in Venezuela lived in poverty, compared to 15 percent in 1987 (Silverstein 1993).

Oil-money shortages in the mid- to late-1980s led to a serious poverty crisis, where people felt helpless to affect government policies for the poor. Money was no longer available to feed the poor and improve living conditions (*Venezuela: A Country Study* 1993). In 1987, a riot broke out to protest the lack of control over politics or the police (Silverstein 1993). Whether Venezuela can fix the fluctuations of income from oil and the uneven distribution of wealth within the country remains to be seen.

Possible Student Questions and Responses

1. If a larger number of people is considered to be poor, then where is Venezuela's oil money going?
   - Venezuela's rich are getting richer. But a drop in oil prices worldwide means that Venezuela has less money in distribution.
2. What evidence is there that Venezuela's government may be in trouble if oil prices continue to decline?
   - The increasing proportion of people living in poverty is linked to a drop in oil prices, so if that trend continues, more people will be dissatisfied with the existing government and may demand a change. Riots like the ones in 1987 threaten the government's control and demonstrate an inability to address the needs of less fortunate people. Similarly, cuts in education and health care can lead to attempts to change a form of government to one that promises to improve things.

For Further Inquiry

To extend Procedure C, have teams swap their questions and judge the quality of each question on a scale of 1 to 10, where a score of 1 means the question is really just a recall question, and a score of 10 really encourages comprehension.

Lesson 7

How has oil changed Alaska?

Time Required

One 50-minute class period

Glossary Words

Bureau of Indian Affairs

permafrost

Materials Needed

Mini-Atlas map 4

47

Oil and Society 47

Lesson 7

How has oil changed Alaska?

Objectives

In this lesson, you will

- Describe the environmental effects of the oil industry.
- Identify topics and issues related to Alaska's oil industry.

Glossary Words

Bureau of Indian Affairs

permafrost

Why do oil companies want to drill for oil in a wildlife refuge?

In 1968, a large oil and gas field was discovered near Prudhoe Bay on Alaska's northern coast. The Prudhoe Bay field was estimated to be twice as large as any other oil field in North America. The 800-mile-long Trans-Alaska Pipeline to Valdez was completed in 1977, to ship the oil and gas from the Arctic coast to warm-water ports in southern Alaska (Figure 10 on page 48). Recently, oil companies have sought to expand oil exploration in other areas along the Arctic coast.

48

48 *Geographic Inquiry into Global Issues*

Figure 10 Alaska, showing major cities and the Trans-Alaska Pipeline.

Oil companies want to explore the Arctic National Wildlife Refuge (ANWR) on the northeast coast of Alaska, not far from Prudhoe Bay. The companies say there is a 46 percent chance of finding as much as $250 billion worth of oil there. The companies maintain that developing access to this oil would use only 1 percent of the area of the ANWR.

Not everyone agrees that the oil companies should be allowed to pursue this plan. People who disagree point out that $250 billion worth of oil will be used up by the United States in only 200 days, and that there is a 95 percent chance that there is no more oil available there. The Native Americans who live in the area fear that caribou hunting will be permanently destroyed for them by this action of the oil companies.

Although the United States Congress described ANWR as "the most important wilderness sanctuary for arctic wildlife in the world" when it established the refuge in 1960, the United States Department of Energy now says "The nation can obtain the extensive benefits associated with oil development without harming the environment" (DOE 1991). Who do you think is right?

Procedures

Why do oil companies want to drill for oil in a wildlife refuge? (pages 47–48)

A. This lesson concludes the module by examining the conflict surrounding oil development in the wilderness of Alaska. To introduce this lesson, have the class read the text about Prudhoe Bay and the oil development being contemplated by the U.S. government in the Arctic National Wildlife Refuge. Ask students to make alternating arguments for or against oil extraction. A few points have been presented to get the discussion started. Students can refer to Figure 10 on page 48 to become familiar with Alaskan place names.

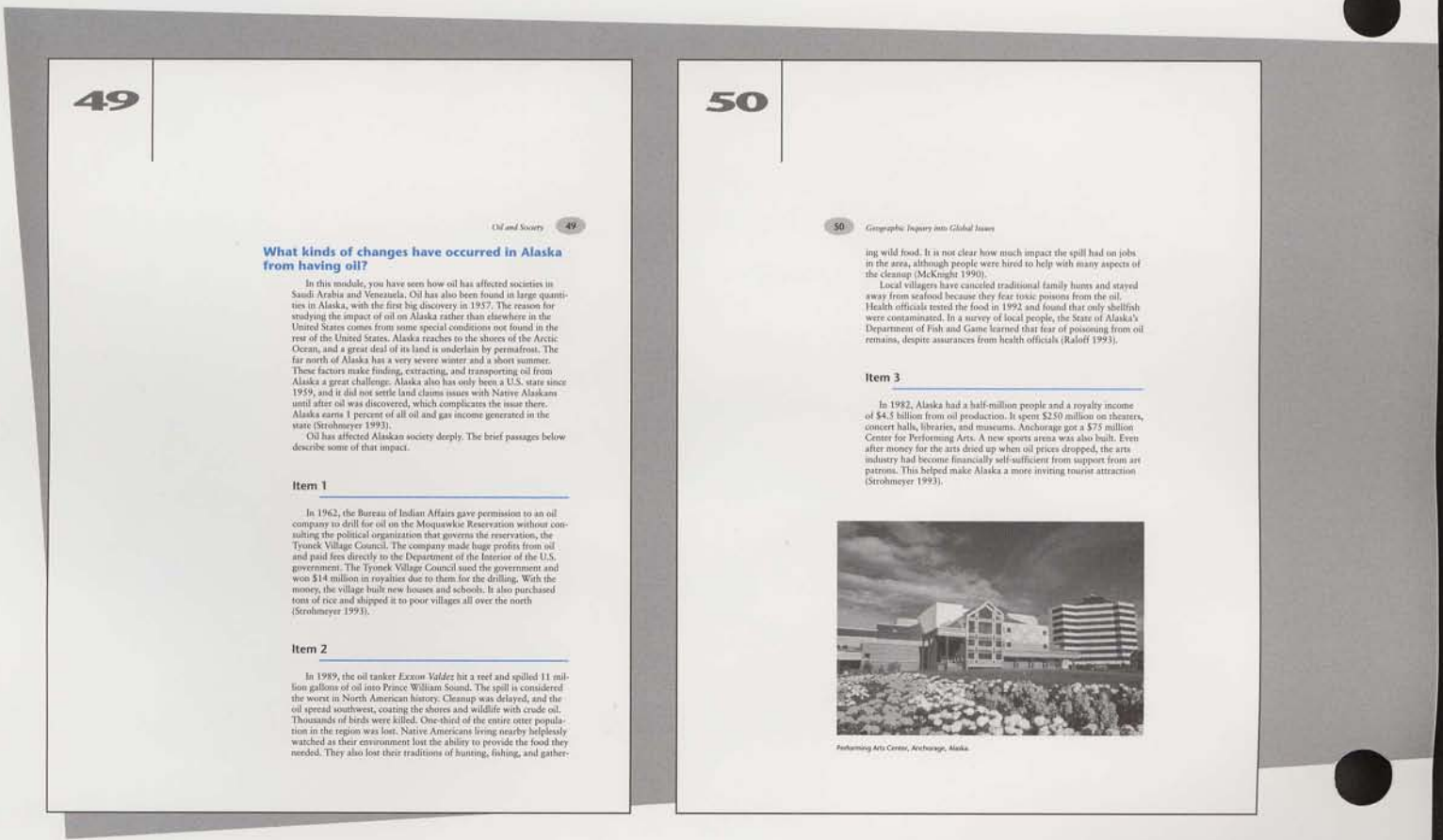
What kinds of changes have occurred in Alaska from having oil? (pages 49–51)

B. Have students read the material introducing this section. Divide the class into teams of four students and have them discuss the five extracts (Items 1–5) on pages 49–51. Ask students to work together in finding an appropriate title for each extract. Then have them add below the title several key terms from the extract. The following is an example you can share with students:

Title: 40,000 Fish Die in Oil Slick Off Alaskan Coast

Key Terms: environment, disaster, wildlife

When the groups have finished, let each group announce their titles and key terms. Have one member from each group go to the chalkboard and record the key terms, adding only new terms to the list as it grows from the contributions of each group. This exercise will let students get a sense of how news articles can be found later by people doing research. Students will probably develop a wide range of titles and key terms; the suggestions below are in no way meant to be all-inclusive.



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Oil and Society 49

What kinds of changes have occurred in Alaska from having oil?

In this module, you have seen how oil has affected societies in Saudi Arabia and Venezuela. Oil has also been found in large quantities in Alaska, with the first big discovery in 1957. The reason for studying the impact of oil on Alaska rather than elsewhere in the United States comes from some special conditions not found in the rest of the United States. Alaska reaches to the shores of the Arctic Ocean, and a great deal of its land is underlain by permafrost. The far north of Alaska has a very severe winter and a short summer. These factors make finding, extracting, and transporting oil from Alaska a great challenge. Alaska also has only been a U.S. state since 1959, and it did not settle land claims issues with Native Alaskans until after oil was discovered, which complicates the issue there. Alaska earns 1 percent of all oil and gas income generated in the state (Strohmeyer 1993).

Oil has affected Alaskan society deeply. The brief passages below describe some of that impact.

Item 1

In 1962, the Bureau of Indian Affairs gave permission to an oil company to drill for oil on the Moquawkie Reservation without consulting the political organization that governs the reservation, the Tyonek Village Council. The company made huge profits from oil and paid fees directly to the Department of the Interior of the U.S. government. The Tyonek Village Council sued the government and won $14 million in royalties due to them for the drilling. With the money, the village built new houses and schools. It also purchased tons of rice and shipped it to poor villages all over the north (Strohmeyer 1993).

Item 2

In 1989, the oil tanker *Exxon Valdez* hit a reef and spilled 11 million gallons of oil into Prince William Sound. The spill is considered the worst in North American history. Cleanup was delayed, and the oil spread southwest, coating the shores and wildlife with crude oil. Thousands of birds were killed. One-third of the entire otter population in the region was lost. Native Americans living nearby helplessly watched as their environment lost the ability to provide the food they needed. They also lost their traditions of hunting, fishing, and gathering wild food. It is not clear how much impact the spill had on jobs in the area, although people were hired to help with many aspects of the cleanup (McKnight 1990).

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50 *Geographic Inquiry into Global Issues*

Local villagers have canceled traditional family hunts and stayed away from seafood because they fear toxic poisons from the oil. Health officials tested the food in 1992 and found that only shellfish were contaminated. In a survey of local people, the State of Alaska's Department of Fish and Game learned that fear of poisoning from oil remains, despite assurances from health officials (Raloff 1993).

Item 3

In 1982, Alaska had a half-million people and a royalty income of $4.5 billion from oil production. It spent $250 million on theaters, concert halls, libraries, and museums. Anchorage got a $75 million Center for Performing Arts. A new sports arena was also built. Even after money for the arts dried up when oil prices dropped, the arts industry had become financially self-sufficient from support from are patrons. This helped make Alaska a more inviting tourist attraction (Strohmeyer 1993).

Performing Arts Center, Anchorage, Alaska.

SUGGESTED TITLES AND KEY TERMS FOR ITEMS 1–5

Item 1: U.S. Government Oversteps Bounds, Pays Native Group
Key Terms: oil, native groups, Alaska, land claims

Item 2: Oil Disaster Strikes Alaska
Key Terms: environment, disaster, wildlife, social impact, Alaska

Item 3: Alaska's Oil Boom Helps Modernize the State
Key Terms: Alaska, oil money, economic change

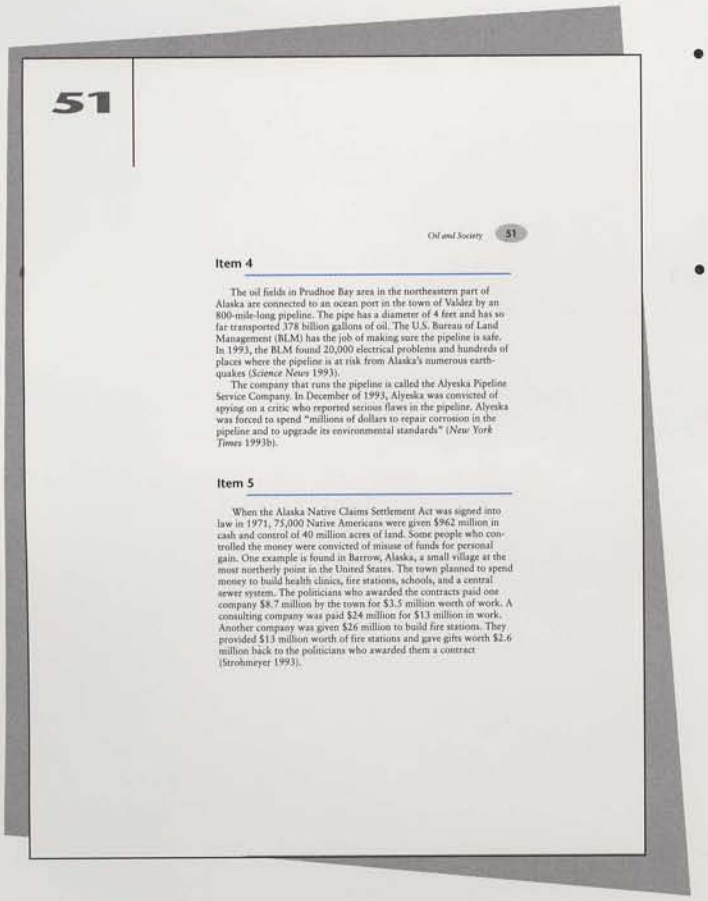
Item 4: Alaskan Oil Pipeline Concerns Aired
Key Terms: oil, Alaska, risk, cover-up

Item 5: Alaska's Oil Money Attracts Greed
Key Terms: corruption, oil money, Alaska, greed

C. Distribute **Mini-Atlas map 4** and have the groups list conditions in Alaska that make it difficult for people to organize and prevent some of the most pressing problems associated with oil. Their lists may include some of the following:

- Limited transportation network;
- Greatly separated communities;
- Physical barriers like oceans, mountains, glaciers, and rivers; and
- The far northern location often has severe weather.

You can ask the class to speculate on other barriers. [Some students may guess that there are cultural differences between the native groups. The oil industry has also brought in many outsiders who have different goals than people who live in Alaska.]


51

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Item 4

The oil fields in Prudhoe Bay area in the northeastern part of Alaska are connected to an ocean port in the town of Valdez by an 800-mile-long pipeline. The pipe has a diameter of 4 feet and has so far transported 378 billion gallons of oil. The U.S. Bureau of Land Management (BLM) has the job of making sure the pipeline is safe. In 1993, the BLM found 20,000 electrical problems and hundreds of places where the pipeline is at risk from Alaska's numerous earthquakes (*Science News* 1993).

The company that runs the pipeline is called the Alyeska Pipeline Service Company. In December of 1993, Alyeska was convicted of spying on a critic who reported serious flaws in the pipeline. Alyeska was forced to spend "millions of dollars to repair corrosion in the pipeline and to upgrade its environmental standards" (*New York Times* 1993b).

Item 5

When the Alaska Native Claims Settlement Act was signed into law in 1971, 75,000 Native Americans were given $962 million in cash and control of 40 million acres of land. Some people who controlled the money were convicted of misuse of funds for personal gain. One example is found in Barrow, Alaska, a small village at the most northerly point in the United States. The town planned to spend money to build health clinics, fire stations, schools, and a central sewer system. The politicians who awarded the contracts paid one company $8.7 million by the town for $3.5 million worth of work. A consulting company was paid $24 million for $13 million in work. Another company was given $26 million to build fire stations. They provided $13 million worth of fire stations and gave gifts worth $2.6 million back to the politicians who awarded them a contract (Strohmeyer 1993).

For Further Inquiry

- Have students conduct a library search using the key terms they found in Procedure B to find out what is currently happening in Alaska.
- Students can create a newsletter that shows the impact of oil on Alaskan society. If time permits, students can write letters to the mayors of a selection of towns in Alaska and ask for their descriptions and opinions about the impact of oil.
- Students with drawing talent can create cartoons arguing the pros and cons of oil exploration in Alaska, or make a poster with a balance-scale theme that weighs the issue. Posters can also show a collage of Alaskan images.

Extension Activities and Resources

1. **Related GIGI Modules**
   - The module *Development* also deals with the issue of cultural impact of rapid economic development, but it uses the Amazon region as its major case study. Some of the environmental impacts related to global dependence on oil are covered in *Global Climate Change*. The concept of renewable and nonrenewable resources is presented in *Sustainable Agriculture* and plate tectonics is discussed more fully in *Natural Hazards*.
   - Several other modules relate to the role of the world economy in linking countries together. These modules include *Interdependence, Global Economy, Development, Regional Integration,* and *Political Change*.
   - Another module set in the North Africa/Southwest Asia region is *Hunger,* which focuses on Sudan's problems resulting from the civil war between its Muslim north and Christian south.

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 offers these videos about the issues and regions explored in this module: "Middle East: Family Matters"; "The Story of Oil"; "South America: Brazil and the Northern Countries"; "Alaska: The 49th State."

     For more information, or to place an order, call toll-free, 1-800-554-9862.
   - Other related videos include: "Restless Rocks—Plate Tectonics" (*Spaceship Earth* series, PBS); "The Prize: The Tinderbox, The New Order of Oil" (Public Media, Chicago, IL); and "The Arming of Saudi Arabia," (*Frontline* series, PBS).

4. **Additional Activities**

- Divide students into two groups, assigning each the respective roles of oil exporters and oil importers. Tell students they are convening a critical world oil trade conference. Make cards that tell importers how much oil they have to try to acquire and how much total money they have. Make cards for exporters that tell how much oil they can ship, but make sure the total amount of exported oil for all countries is less than the total amount of oil needed by importers. This condition will put some tension in the trading and may result in some crooked trades or increased prices. A variety of problems (e.g., oil producers demand cutbacks in supply and the price of oil goes up, some producers sell large amounts of oil and oil prices drop sharply, etc.) may be introduced for the groups to deal with.

- As students learn about oil and the impact of oil on society, have them investigate changes that took place in their state or region where energy supplies were found. They can interview energy experts locally, or review local newspaper files for evidence of changes brought about by having energy money enter into an economy.

- Using a world energy atlas, have students predict the changing importance of places as oil supplies are depleted. Reports from the World Resources Institute include the number of years left for oil in world regions. The British Petroleum *Statistical Review of World Energy* also reports how much time remains for oil supplies in each country. Students could draw a time series of world maps for each decade, identifying leading exporters and the most import-dependent countries.

- There are a number of resources that students may investigate in order to learn more about foreign cultures. Students can try to establish pen pals with students in Saudi Arabia or Venezuela. Student exchange programs, such as the American Field Service (AFS) and volunteer organizations, such as Oxfam America, offer opportunities for students to participate in grassroots-oriented development projects.

- Students may inquire if other forms of energy have similar affects on societies. Coal, natural gas, and hydroelectric power each have unique issues, each worthy of investigation.

5. **North Africa/Southwest Asian Resources**
   - Establish a cultural exchange program via U.S. Peace Corps Volunteers in Africa. For information write to the following address:

     World Wise Schools
     1990 K Street NW
     Washington, DC 20526

     or call 1-800-424-8580, ext. 2283. World Wise will send videos and reading material to schools at the teacher's request.

   - The class can get a free subscription published by the Saudi national oil company. The magazine *Aramco World* aims to improve cross-cultural understanding. Write to the following:

     Editor
     Aramco World
     Post Office Box 2106
     Houston TX 77252-2106

Activity 1 •••

Names _____

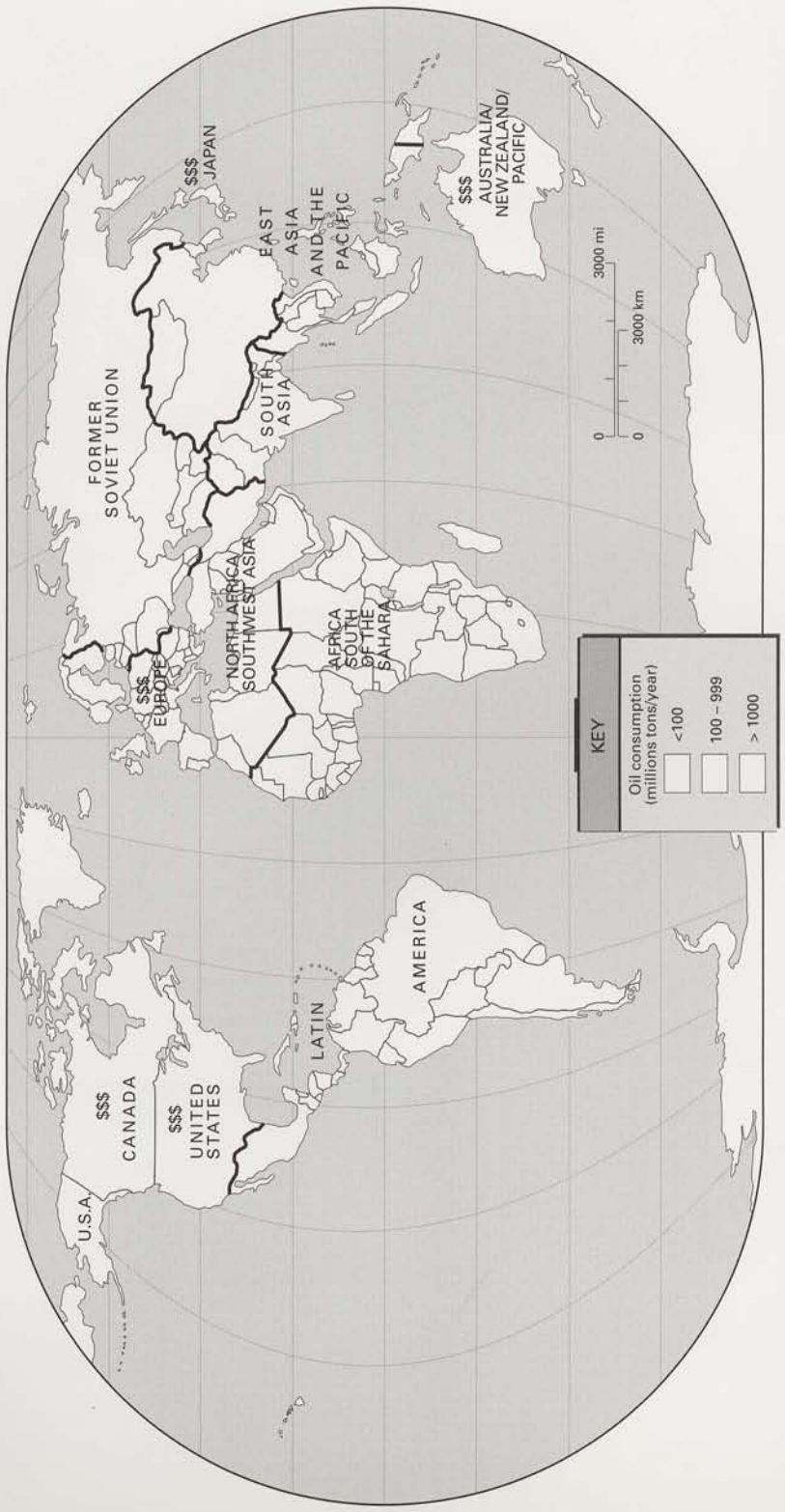
GIGI

Oil and Society

Lesson 1

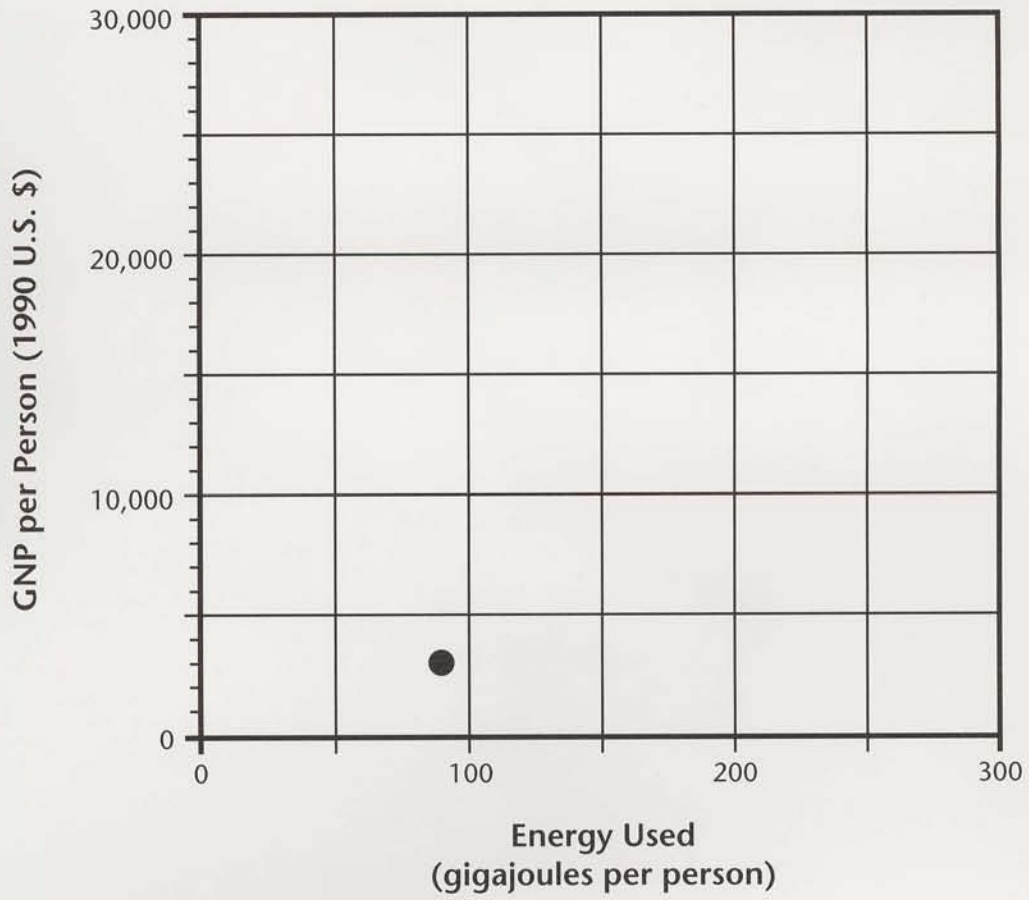
Oil Consumption in Selected World Regions

ACTIVITY 1



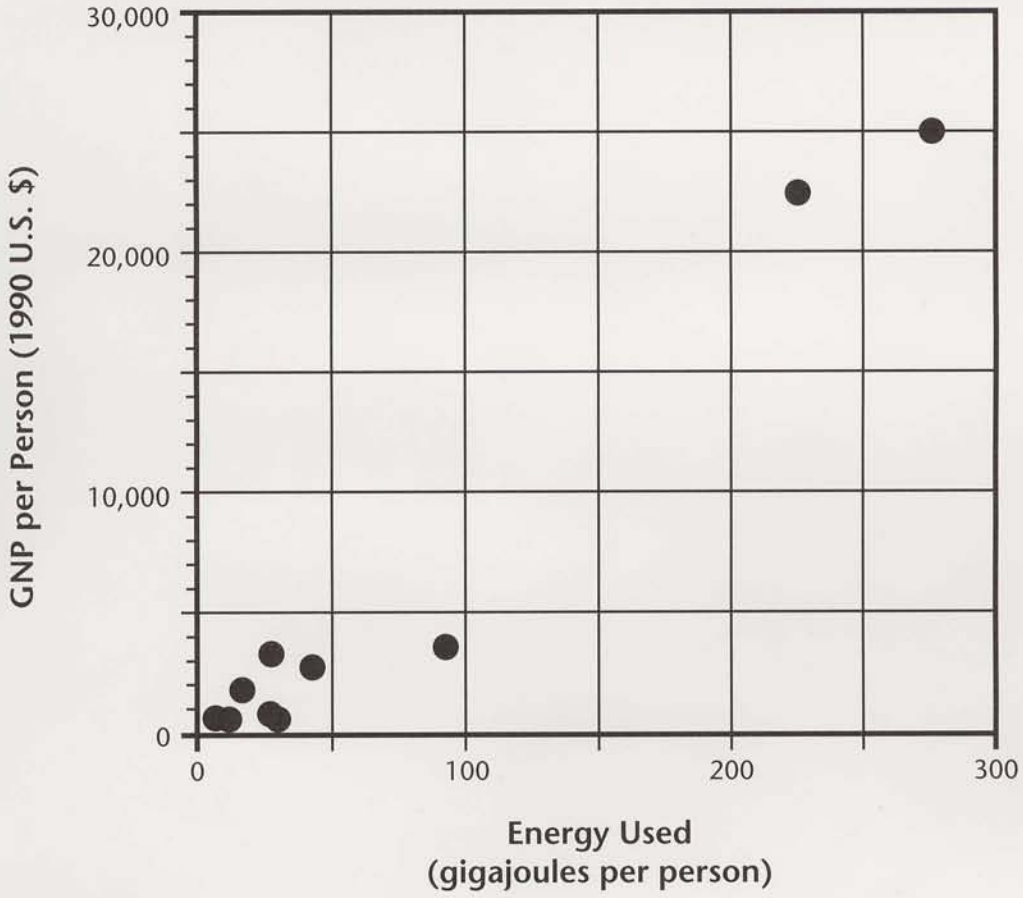
A Comparison of Energy Use and Earnings, 1987

Directions: For each country in Table 2 on page 7 of the Student DataBook, make a point on the scatter diagram until all the countries are plotted. Venezuela has been placed for you. People in Venezuela use 88 gigajoules of energy and earn $2,900 per year.



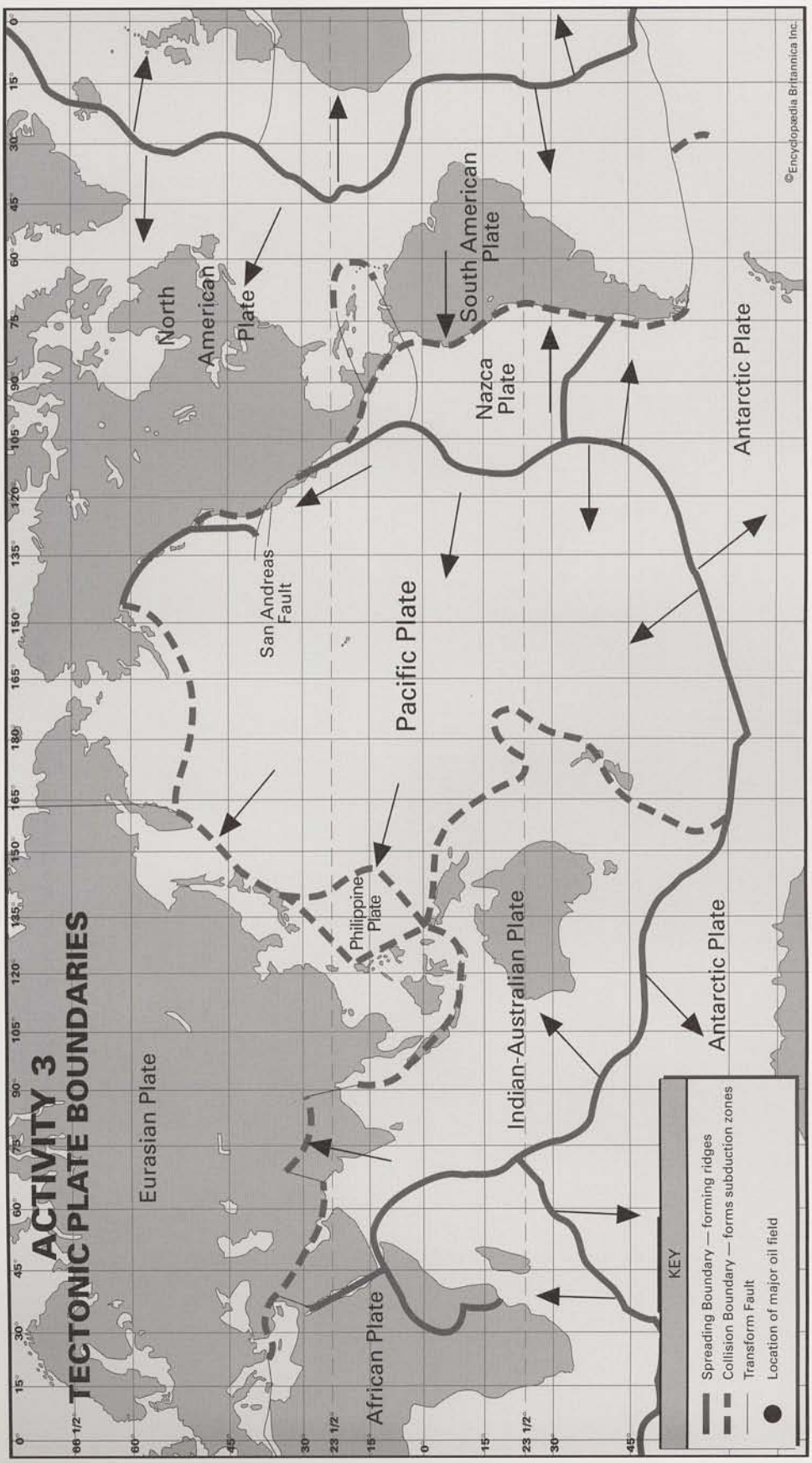
Source: Table 2

A Comparison of Energy Use and Earnings, 1987



Source: Table 2

Locations of Some Major World Oil Fields



Directions: Plot the locations of major oil fields from the following chart onto the map on page 1 of this Activity. Then answer the questions below.

Latitude	Longitude
24° N	50° E
23° N	55° E
30° N	50° E
35° N	45° E
38° N	92° E
55° N	55° E
60° N	72° E
Equator	100° E
7° S	108° E
Equator	80° W
20° N	92° W
17° N	94° W
10° N	70° W
10° N	63° W
32° N	104° W

Source: Goode's World Atlas 1990.

1. Based on the table above and Mini-Atlas map 1 of plate boundaries and movements, how would you describe in general where major oil fields are found?

2. How would you explain why there are exceptions to your answer to Question 1?

3. How would you use the plate boundary map to predict where oil would be found?

Comparison of Oil Prices to the Domestic Economy of Saudi Arabia, 1970–1987

Directions: Use the data in Table 6 on page 23 to plot the value of the Saudi Arabian domestic economy on the line graph. Be sure to plot your information from the scale on the right side of the line graph, since the left side is already plotted. After your line graph is complete, you will be able to compare oil prices to the value of the Saudi economy.

Sources: Figure 7 and Table 6.

Vector Map

ACTIVITY 5

Source: Table 8

Vector Map

KEY FOR ACTIVITY 5

Source: Table 8

Name _____

Events in Saudi Arabia's Oil Industry

General Activities	Product Handling
• Owning	• Refining
• Influencing others	• Shipping
• Investing	• Retailing
• Miscellaneous	

Names _____

GIGI
Oil and Society
Lesson 5

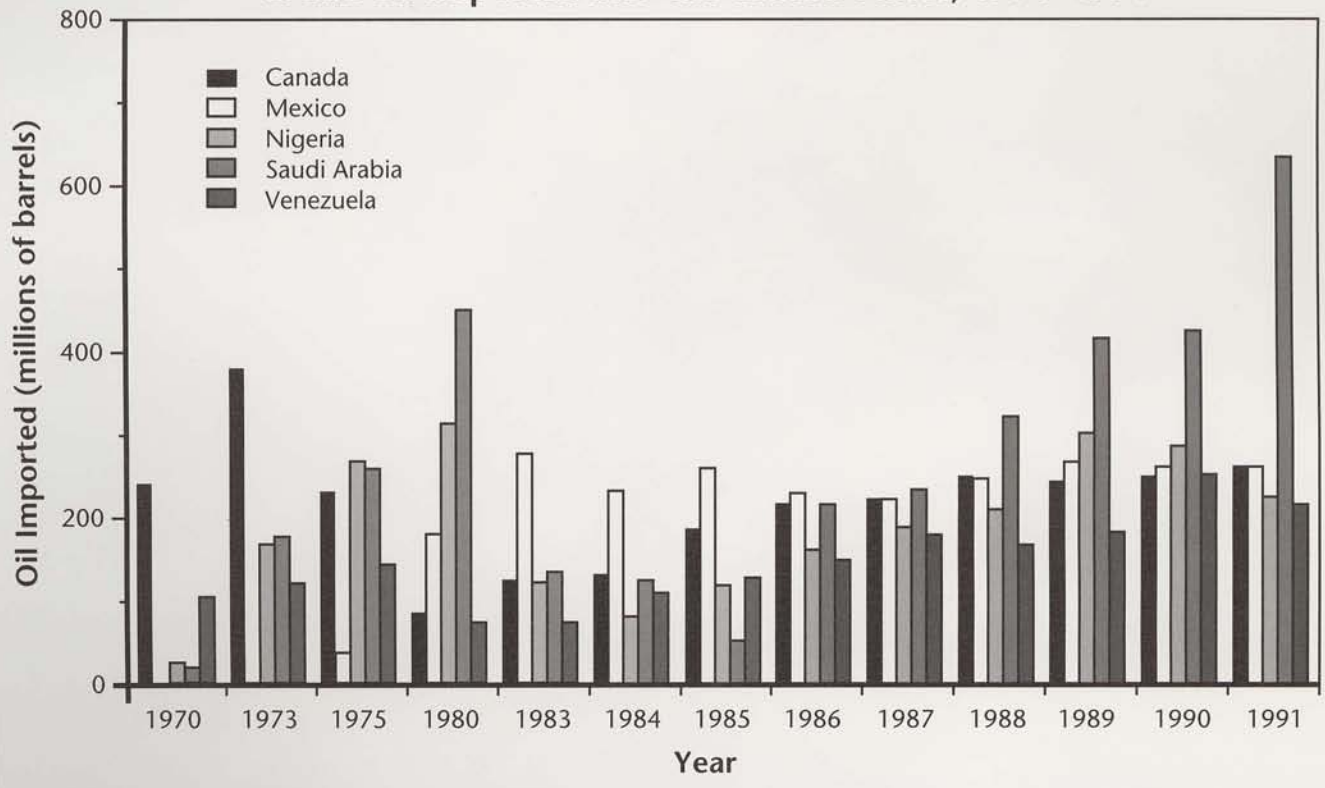
Table and Bar Graph Showing Identical Data

Directions: Compare Figure 9 on page 40 in the Student DataBook to the table and the bar graph below. Each of these three forms presents the same information in a different way. Answer the questions that follow.

Crude Oil Imported into the United States, 1970–1991 (millions of barrels)

Country	1970	1973	1975	1980	1983	1984	1985	1986	1987	1988	1989	1990	1991
Canada	245	365	219	73	100	124	171	208	222	249	230	235	271
Mexico	0	0	26	185	280	241	261	227	220	246	261	251	277
Nigeria	17	164	272	307	110	76	102	160	193	222	292	286	249
Saudi Arabia	15	169	256	456	117	113	48	226	234	333	407	436	622
Venezuela	98	126	144	57	60	92	112	152	178	160	181	243	244

Crude Oil Imported into the United States, 1970–1991



Source: U.S. Bureau of the Census, Statistical Abstract of the United States, (113th Edition), 1993, page 582, Table 947.

Questions for Activity 7

1. Which of the three forms is the easiest for seeing change over time?

2. Which form provides exact data for the amounts of oil coming from each country?

3. What is the greatest advantage of the vertical bar graph?

Questions for Activity 7

1. Which of the three forms is the easiest for seeing change over time?
   [Figure 9 (line graph) is the best form to display change over time.]

2. Which form provides exact data for the amounts of oil coming from each country?
   [All three forms show the exact amounts but the table is easiest to get the numbers.]

3. What is the greatest advantage of the vertical bar graph?
   [For any one year, relative ranks of the five oil suppliers can readily be seen.]

Role-Play Activity

Directions: If possible, get together as a trio and practice these lines once or twice. Be creative and dress up and be dramatic. Your job is to show that Venezuela has benefited from oil, but gains have not come without costs.

Carlos Andrés Pérez: Former president of Venezuela (1989–1993)
Ramón José Velásquez: Venezuelan historian and interim president
Maria Isabelle Ortega: A citizen of Caracas

Ortega: Hello, my name is Maria Isabelle Ortega. I am from Caracas, Venezuela.

Pérez: I am Carlos Andrés Pérez, twice a great president of Venezuela.

Velásquez: And I am Ramón José Velásquez, a historian of Venezuela. Señor Pérez, our great country has been a democracy since 1958, and you, sir, should not be here to represent us because you are corrupt!

Ortega: Perhaps, but he did help bring electricity and running water to many people.

Pérez: Yes, and I helped Venezuela come into great power in our region of Latin America.

Velásquez: You took our great oil industry and wasted or misspent nearly $1 billion. Under your control, we have suffered under an inflation rate of 80 percent per year.

Pérez: But Venezuela is a powerful member of OPEC and is using oil wealth to improve our cities, and our incomes are among the highest in Latin America.

Ortega: (speaking to Pérez) You cut spending on our people and caused a terrible riot in 1989 that lasted four days and took the life of my son, and one human rights activist I spoke to believes you caused the deaths of 4,000 people.

Velásquez: What will our country do when the oil runs out? How will we keep our democracy?

Pérez: Our country will thrive and prosper as before, when I was president.

Ortega: (speaking to Pérez) The rich will thrive, and you, sir, were thrown out of office for being a liar and a cheat. The people of Venezuela celebrated when you left office. You are gone now, but our problems are still with us!

Sources: Silverstein 1993; *Venezuela Area Handbook* 1993.

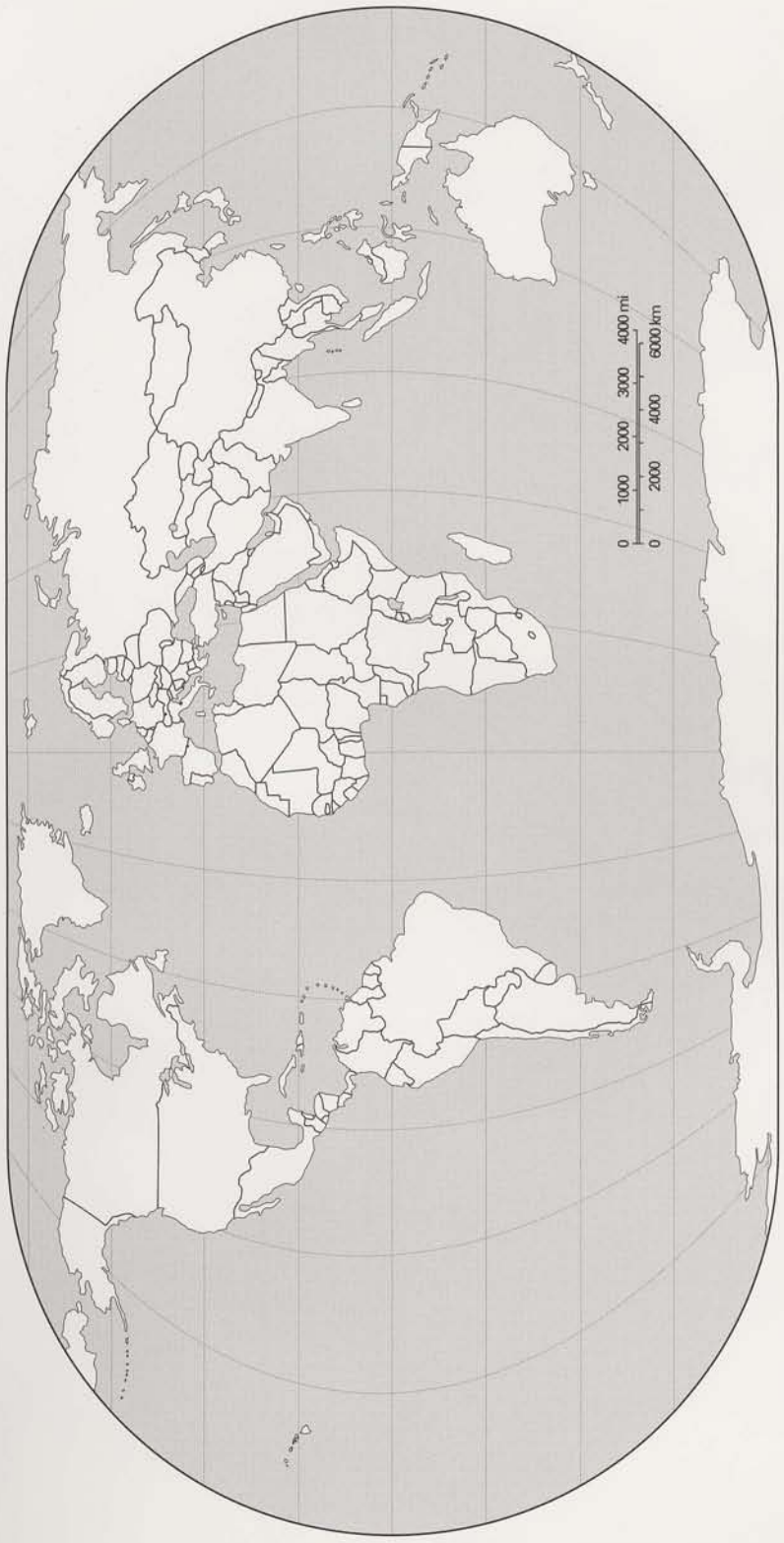
Activity 9 •••

Names _____

GIGI
Oil and Society
Lesson 6

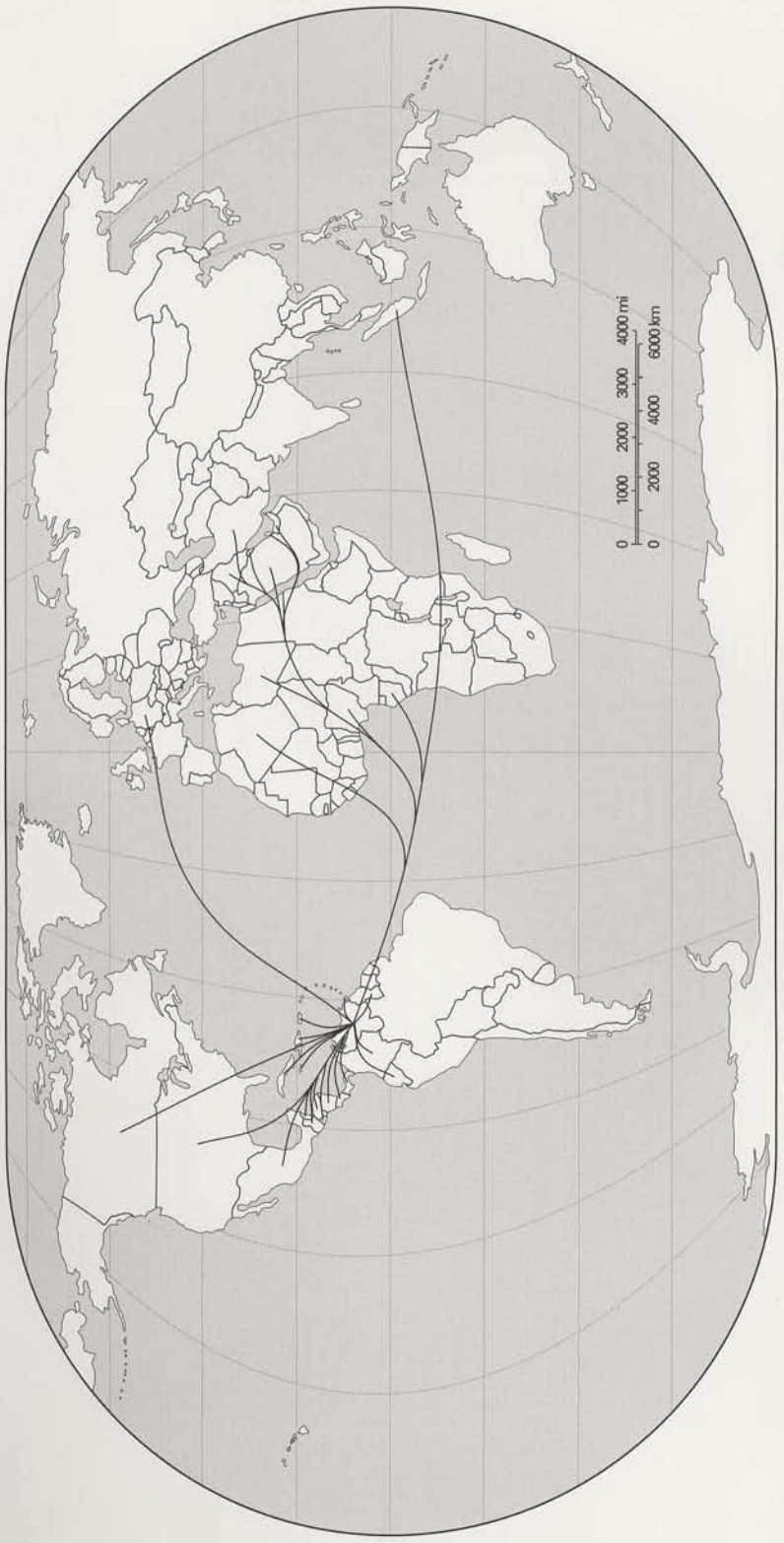
Venezuela Connections

ACTIVITY 9



Venezuela Connections

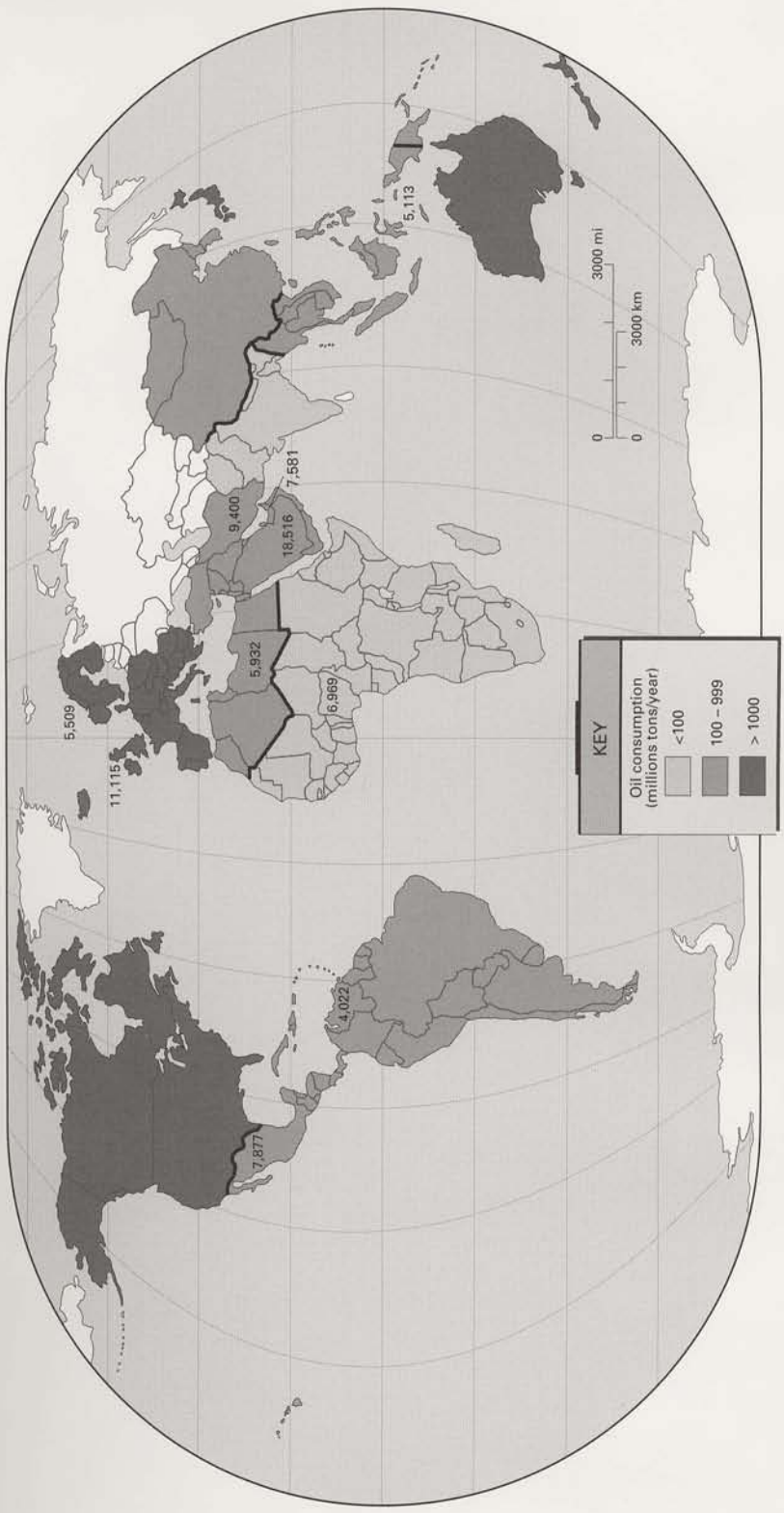
KEY FOR ACTIVITY 9



Overhead 1 ••• key for Activity 1

Oil Consumption in Selected World Regions

OVERHEAD 1



Oil Exporters and Importers

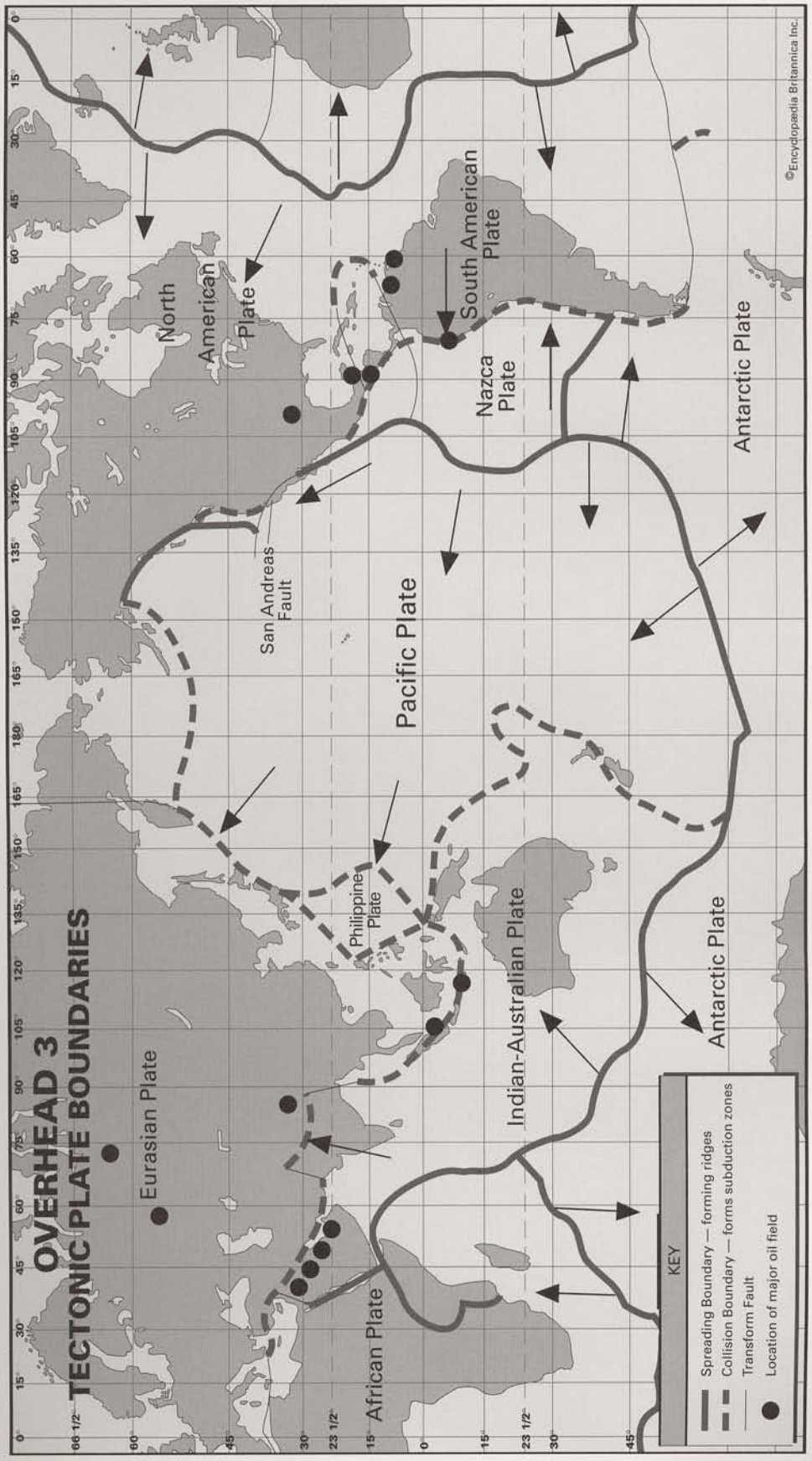
The amount of oil used by each country was subtracted from the amount it produced to get the net amount.

Net Exporters	Millions of Barrels per Day
Saudi Arabia	4.5
Former Soviet Union	3.7
Venezuela	1.8
United Arab Emirates	1.7
Kuwait	1.6
Iran	1.5
Mexico	1.4
Nigeria	1.0
Norway	0.9
United Kingdom	0.8
Canada	0.4

Net Importers	Millions of Barrels per Day
United States	7.0
Japan	5.1
Germany	2.9
Italy	1.9
France	1.9
Spain	1.0
Netherlands	0.6
Brazil	0.6
Taiwan	0.4
Belgium	0.4

Source: Kesler 1994.

Locations of Some Major World Oil Fields



1. Based on the table and Mini-Atlas map 1 of plate boundaries and movements, how would you describe in general where major oil fields are found?

   [In general, major oil fields are found where plates converge. For example, in the Caribbean and the Arabian peninsula. Students may offer that oil is found near plate boundaries. That would be a fair hypothesis, given the information they have.]

2. How would you explain why there are exceptions to your answer to Question 1?

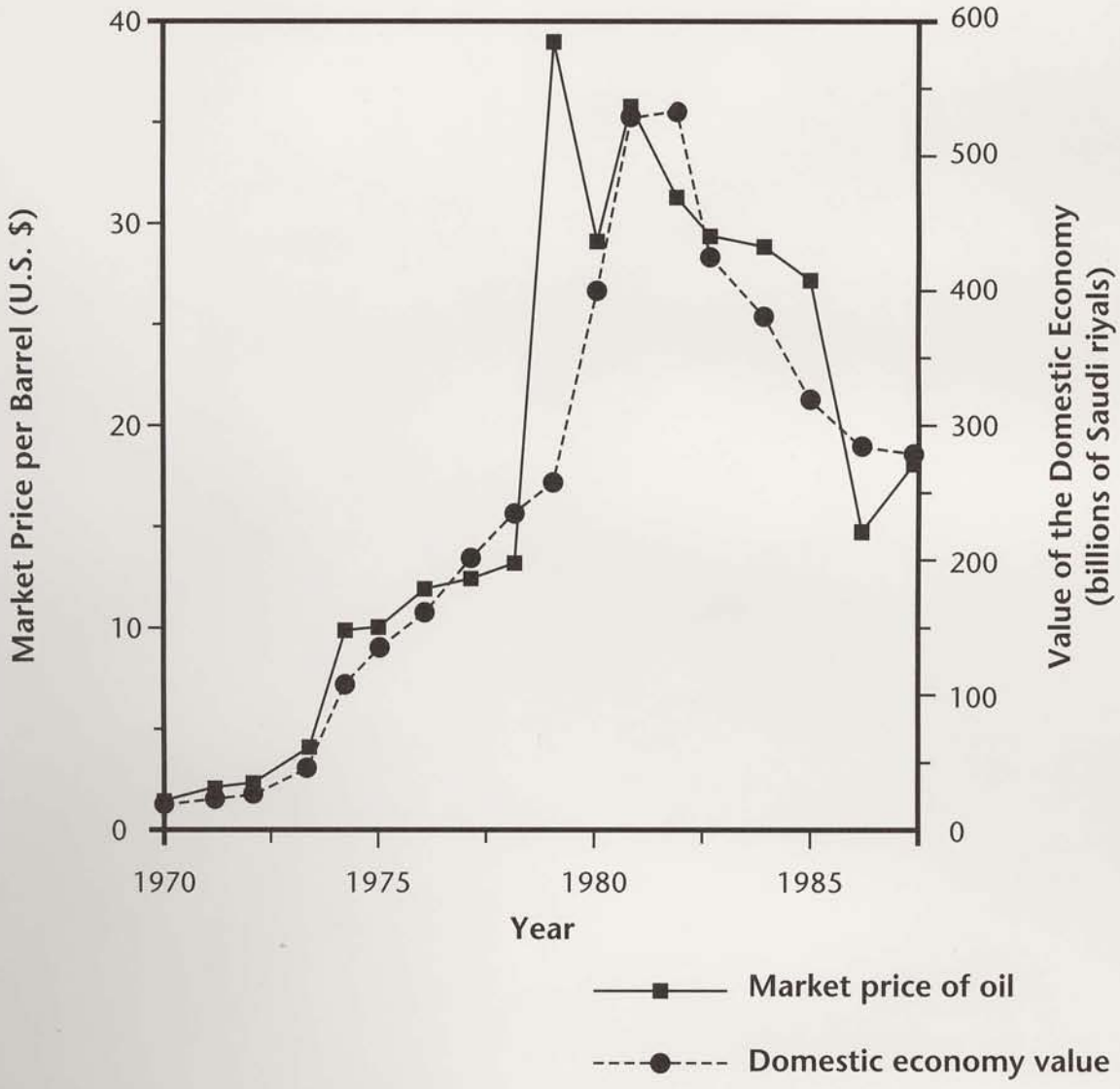
   [Oil is found in many landforms, not just in folded sedimentary regions where plates converge.]

3. How would you use the plate boundary map to predict where oil would be found?

   [A reasonable place to start looking would be where plates are converging and the land contains sedimentary rock.]

Overhead 4 ••• key for Activity 4

Comparison of Oil Prices to the Domestic Economy of Saudi Arabia, 1970–1987



Sources: Figure 7 and Table 6.

Events in Saudi Arabia's Oil Industry

Owning

- Saudi Kingdom begins to purchase ownership in ARAMCO.
- Saudis take over ARAMCO and rename it Saudi Aramco.

Influencing others

- Saudis order cuts in oil production to reduce oil supply to the United States, to show support for Egypt's war with Israel.
- Jordan and Syria receive $1 billion each year from Saudi Arabia to help them with their opposition to Israel.

Investing

- Saudi Arabia buys 35 percent share of South Korea's third-largest oil refinery.

Miscellaneous

- Oil price rises from $3 per barrel to $34.
- United States and other oil-importing countries face severe energy crisis and economic hardship.

Refining

- Saudi Arabia buys 50 percent of 3 U.S. oil refineries.

Shipping

- Saudi Aramco uses 8 of their own oil supertankers, and orders 15 more to be built for shipping oil.

Retailing

- Saudi Arabia buys retail outlets for Texaco gasoline in the United States.

BRITANNICA GLOBAL GEOGRAPHY SYSTEM

GIGI

Geographic Inquiry into Global Issues

Oil and Society

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Regional Case Study
North Africa/Southwest Asia

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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!

Oil and Society

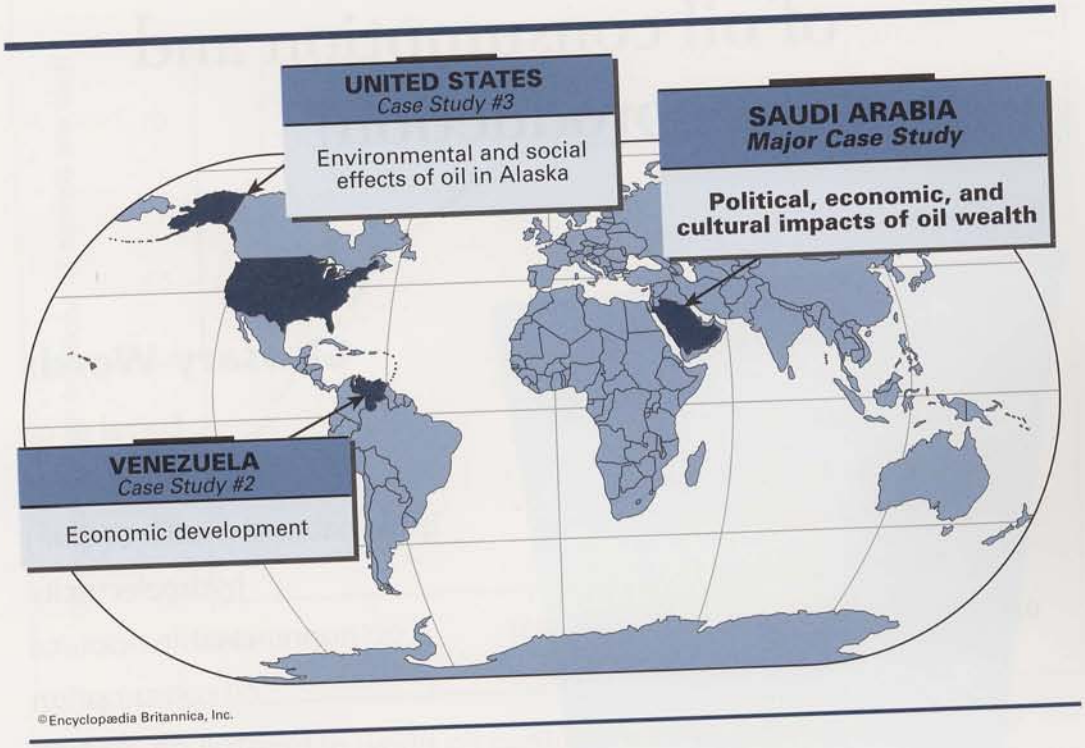
How have oil riches changed nations?

- Who has oil and who doesn't?
- How has wealth affected oil-rich countries?
- What happens to the culture and environment of countries that export oil?
- How well do countries use oil wealth to maintain their societies?

In this module you will examine problems faced by countries that have more oil than they consume. You will discover why some countries have oil while others do not, and how much of an impact oil wealth has on a society. The module's major case study is on Saudi Arabia—the country with the largest oil reserves in the world. Saudi Arabia has not always been wealthy. But since oil riches have

improved its economy, this strict Islamic society has been attempting to preserve its culture as well as its long-term welfare in the Arab world.

In addition, you will explore in a brief comparison case study how oil wealth has affected Venezuela. You will also examine how Alaska has dealt with native land claims and ecological controversy as a result of having oil.



Questions You Will Consider in This Module

- Who uses oil, and who produces more than they need?
- Why is oil found unevenly across Earth's surface?
- How has oil exportation translated into great national wealth?
- What societal changes are possible with great oil wealth?
- How do oil-rich countries face challenges to their culture and environment?
- Why might political power be tied to oil?
- How is political power used by oil-rich countries?

What are the world patterns of oil consumption and production?

Objectives

In this lesson, you will

- Identify the world's major oil-producing areas.
- Identify the areas that consume the most oil.
- Link oil consumption with national wealth.

Glossary Words

barrel of oil
gigajoule
gross national product (GNP)
hydroelectricity
nonrenewable resource
oil consumption
oil production

Where is the world supply of oil consumed?

Oil is a natural resource that is found beneath Earth's surface. Oil companies search for oil and then drill wells to extract it from the ground. After the oil is refined, it can be used for many purposes. Most commonly, oil is used to make gasoline for cars and for lubricating machine parts. Oil is also used for jet fuel, home-heating fuel, and even power-plant fuel. Oil is also an ingredient in other products including nylon and polyester fabrics, plastics, vinyl, clear lacquer finishes, paints, synthetic rubber, petroleum jelly, and so on.

The world uses a large amount of oil, and this trend does not seem to be slowing down. Oil is a nonrenewable resource, which means that Earth holds limited amounts. When this natural resource is used up, it cannot be replaced. Figure 1 below shows how many millions of barrels of oil will be consumed each day, projected to the year 2010.

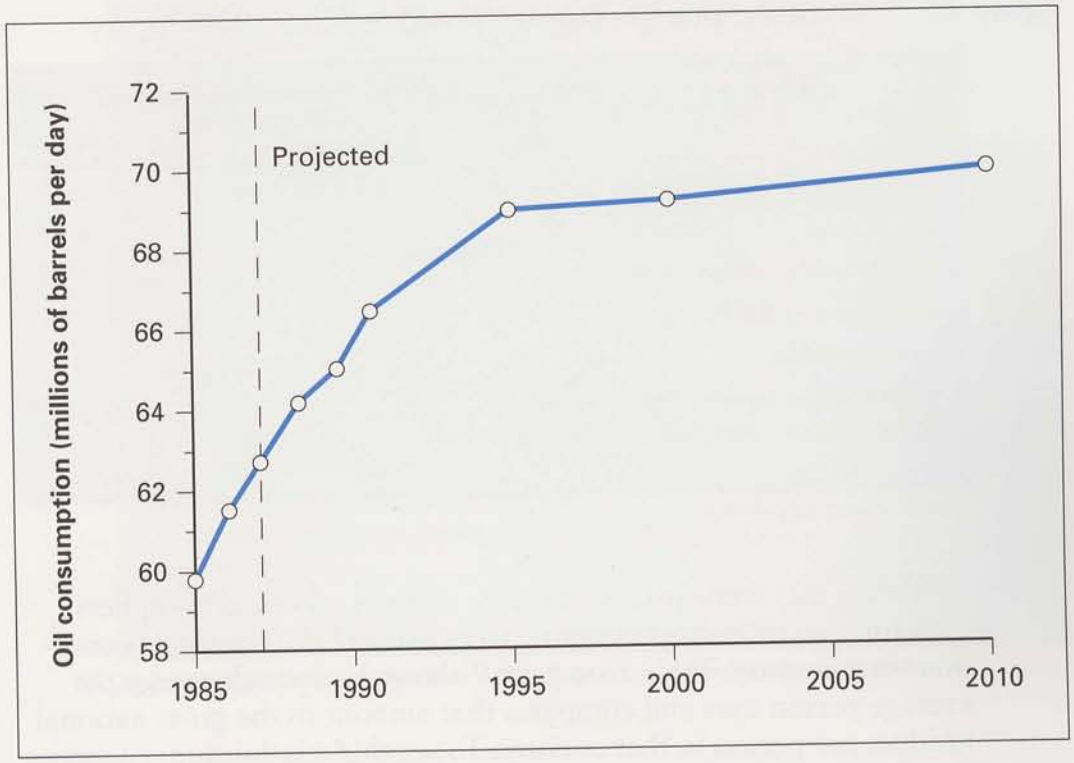


Figure 1 Trend in world oil consumption, projected until the year 2010.

Source: International Energy Outlook 1990.

1. According to Figure 1, what is expected to happen to the rate of world oil consumption after 1995? Why do you think the rate is projected to change?
2. Do you think that all countries in the world use the same amount of oil? Why or why not?

Energy is generated from oil, coal, natural gas, hydroelectric power, and nuclear reactors, among other sources (Marshall 1991). Oil accounts for 40 percent of all the energy generated in the world (Brown et al. 1993). However, some regions are more dependent on oil than others. Table 1 below compares oil consumption among selected world regions.

Table 1 Oil consumption in selected world regions, 1989

Region	Oil consumed in one year (millions of tons)
Africa—South of the Sahara	31
South Asia	69
Southwest Asia/North Africa	159
East Asia and the Pacific	219
Latin America	240
High-income regions (North America, Japan, Europe, Australia, and New Zealand)	1,733

Source: World Bank 1992.

To see why some places use more oil than others, geographers look for a relationship between energy use and the economic conditions in a country. Table 2 on page 7 shows how much energy the average person uses and compares that amount to the gross national product per person in that country. To see this relationship, countries have been selected from each of the regions in Table 1.

The economic conditions of a country are directly related to the amount of energy consumed.

Table 2 Comparison of energy use and income, 1987

Region/Country	Energy use per person (gigajoules)	Gross national product per person (1992 U.S.$)
Africa—South of the Sahara		
Kenya	3	330
Ghana	4	450
South Asia		
India	8	310
Pakistan	7	410
Southwest Asia/North Africa		
Egypt	20	630
Iran	38	2,190
East Asia and the Pacific		
Thailand	14	1,840
China	22	380
Latin America		
Brazil	22	2,770
Venezuela	88	2,900
High-income regions (North America, Japan, Europe, Australia, and New Zealand)		
Netherlands	213	20,590
United States	280	23,120

Sources: World Resources Institute 1991; Population Reference Bureau 1994.

3. Compare energy use to GNP per person for each country. How would you describe the relationship between these two factors?

Where are oil surpluses produced?

Since oil became important as a world energy source, countries that have a surplus of oil search for new deposits while using their reserves. These countries then export their surplus oil to other countries. The major oil exporting countries are listed in Table 3 on page 8.

Table 3 Major oil exporters, 1991

Country	Amount of oil exported (millions of barrels per year)
Saudi Arabia	18,516
United Kingdom	11,115
Iran	9,400
Mexico	7,877
United Arab Emirates	7,581
Nigeria	6,969
Libya	5,932
Norway	5,509
Indonesia	5,113
Venezuela	4,022

Source: Marshall 1991.

Every country in the world does not have oil reserves. Southwest Asia, particularly the Arabian Peninsula, has the world's largest oil fields. Figure 2 on page 9 shows where the world's known supplies of oil are located.

The world's largest oil fields are on the Arabian peninsula.

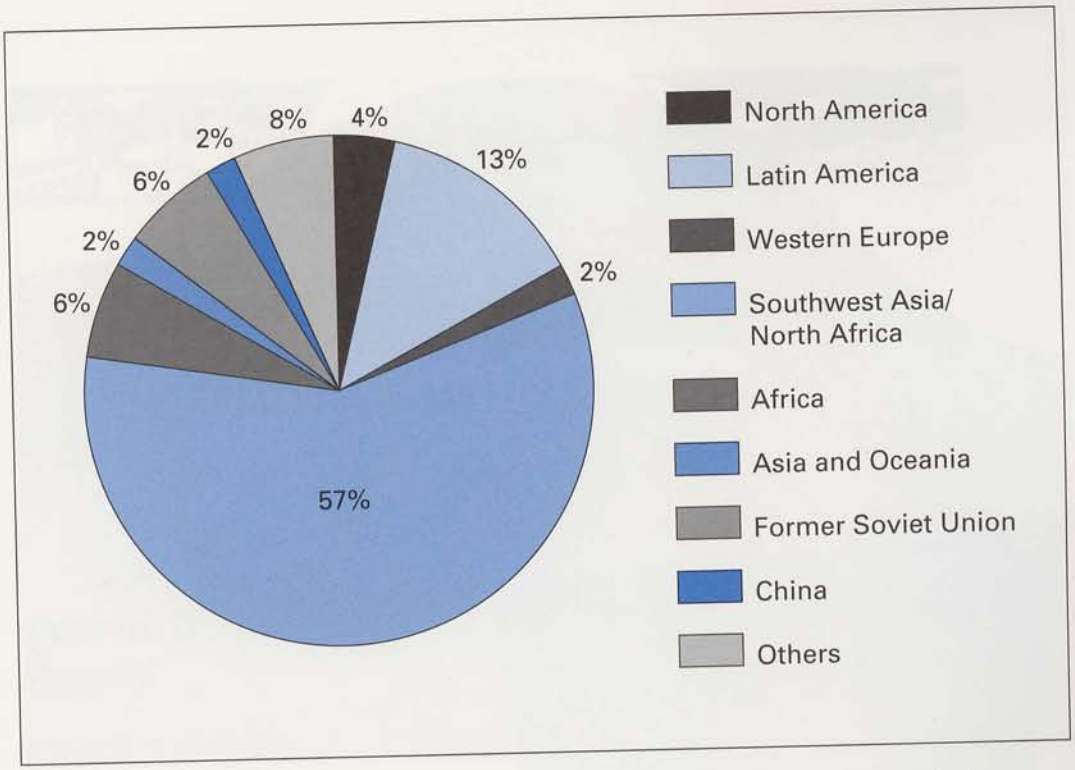


Figure 2 Regional distribution of the world's known oil supply in 1988.

Source: World Resources Institute 1991.

4. Using Figure 2, how would you describe the distribution of oil among the world's regions?
5. Using Table 3 and Figure 2, what relationship do you see between oil supply and oil export?
6. What potential problems do countries without oil reserves face?
7. What advantages do countries with great oil reserves have over other countries?

Why does Saudi Arabia have so much oil?

Objectives

In this lesson, you will

- Describe the geology of Saudi Arabia and its relation to oil deposits.
- Describe the history of oil exploration and exploitation in Saudi Arabia.

Glossary Words

absolute monarchy
ARAMCO
plate tectonics
sedimentary rock
tectonic plates

How is oil formed?

Oil is a product of decomposed marine life mixed with hydrogen gas. Oil collects in sedimentary rock, especially in ancient ocean floors. Over a very long period of time, the layers of rock are pressed together, forming a weak rock that allows the oil to move through it and collect in pools. Figure 3 on page 11 is a diagram that shows how some of the world's largest oil deposits are trapped in Earth's folded layers.

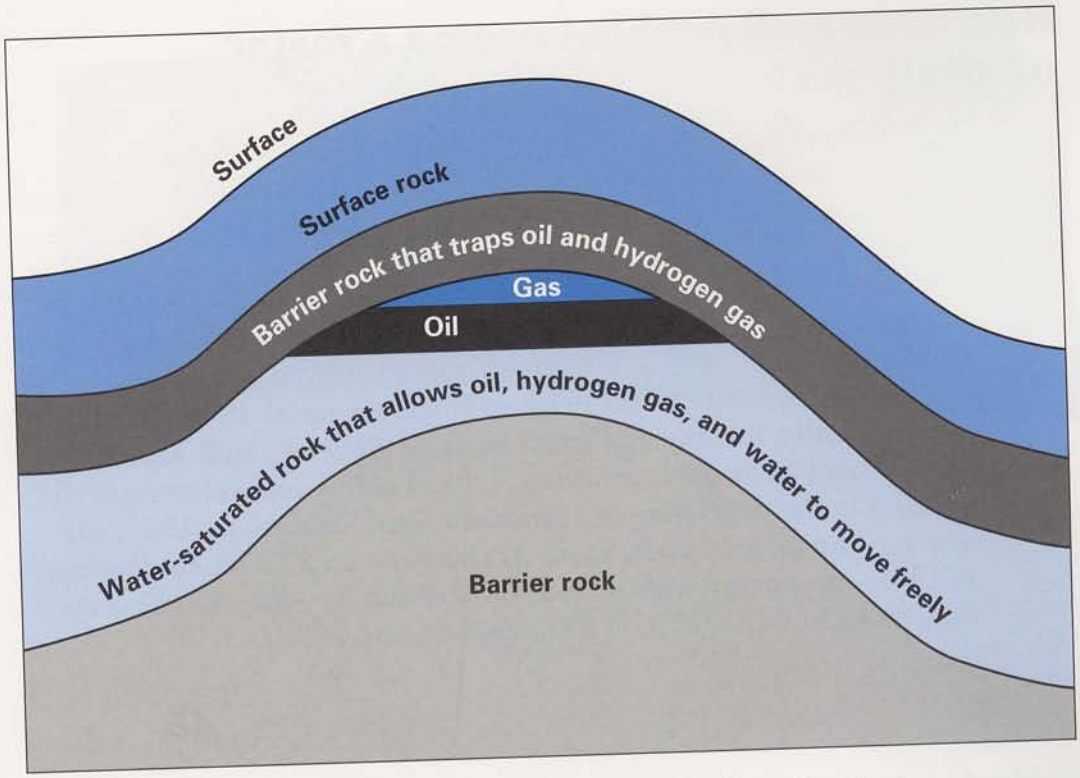


Figure 3 Oil is trapped by layers of rock that form barriers.

One of the ways in which oil deposits are trapped in pools is explained by plate tectonics. Geologists have learned that Earth's surface is not fixed. Instead, it is made up of about 12 moving pieces, called *tectonic plates*. Anytime these plates move, they bump into other plates, causing them to bend and break. This process is called plate tectonics and it is responsible for earthquakes, volcanoes, the formation of mountains, and of great valleys called rifts. When plates containing oil collide into other plates, they slowly rise and fold, trapping the oil in pockets (Strahler and Strahler 1987).

> The theory of plate tectonics helps account for the fact that [Southwest Asia] is the world's greatest supplier of oil. In this case, the Arabian crustal plate pushed into the Iranian plate, rumpling the continental shelf sediments between the two. This produced ideal reservoir structures for petroleum accumulation (Muller and Oberlander 1984, page 333).

How did Saudi Arabia become a major oil producer?

Oil was not an important part of the world economy until the twentieth century. As oil began to play a larger role, Saudi Arabia emerged as the country with the most abundant resource. Since the country was poor, it had to permit outside oil companies to produce and ship the oil to markets. Even by 1971, the average annual income in Saudi Arabia was only $708 per person, which at that time was similar to other developing countries. Chile, for example, had an annual income of $795 per person (*World Almanac* 1974).

Eventually, the money earned from oil allowed Saudi Arabia to take control of its own resources. Table 4 below reports some of the changes in the development of modern Saudi Arabia. By 1991, the average annual income in Saudi Arabia grew to $7,070. By contrast, in Chile—a country without major oil resources—the income grew only to $2,160 (Population Reference Bureau 1993).

Table 4 Key events leading to the oil-based economy in Saudi Arabia

19th century	Ottoman Turks control the Arabian plateau. Saud tribe leader Abd al-Aziz ibn Saud is raised in exile in Kuwait.
1902	Ibn Saud seizes Riyadh in a surprise attack; rallies people to follow Sunni Islamic law.
World War I, (1914–1918)	Saudis join British to fight Turks; acquire arms and money from the British.
1924	Saudis control all of Arabia.
1927	United Kingdom recognizes the Saudi state.
1932	Saudi Arabia formally establishes an absolute monarchy guided by fundamentalist Islamic law.
1938	Oil is discovered in eastern Saudi Arabia. Four U.S. oil companies control ARAMCO, the Saudi petroleum industry, and pay royalties to the Saudi kingdom.

Source: Clark 1993.

1. How would you describe the type of government and law that emerged in Saudi Arabia by 1938?
2. What two events allowed the Saud family to eventually control the Arabian Plateau and make money from its oil?

How have oil resources been used?

Objectives

In this lesson, you will

- Recognize how to detect bias in publications.
- Demonstrate how oil wealth has been used to improve the standard of living in Saudi Arabia.
- Identify the impact of spending oil resources on education and labor training.

Glossary Words

bias
birth rate
development
emirate
fertility rate
hajj
mortality rate
Quran
riyal

In what region is Saudi Arabia located?

The kingdom of Saudi Arabia is located on the Arabian Peninsula, between Africa and the southwest part of Asia. Saudi Arabia's neighbors include major oil-producing countries such as Iran, Kuwait, Oman, Iraq, the United Arab Emirates (UAE), and

Qatar. Yemen is also a neighboring country on the Peninsula, but it has little oil and depends on Saudi Arabia for economic support. This region has known much political conflict, especially between Israel and its Arab neighbors.

The Western world refers to this region as the Middle East because its longitude is part way between 0° (where Great Britain is located) and the edge of the Eastern Hemisphere at the International Dateline. There is a bias in the label *Middle East* in that it derives from its relative distance from Great Britain. It is more accurate to refer to this area as North Africa and Southwest Asia, because the countries in this region are located on both continents.

To understand how bias shows up in maps and other publications, look at Figure 4 below and Figure 5 on page 16. Figure 4 is a map of the Saudi region, published in a Saudi Arabian government source. Figure 5 is a map of the same area from a U.S. publication.

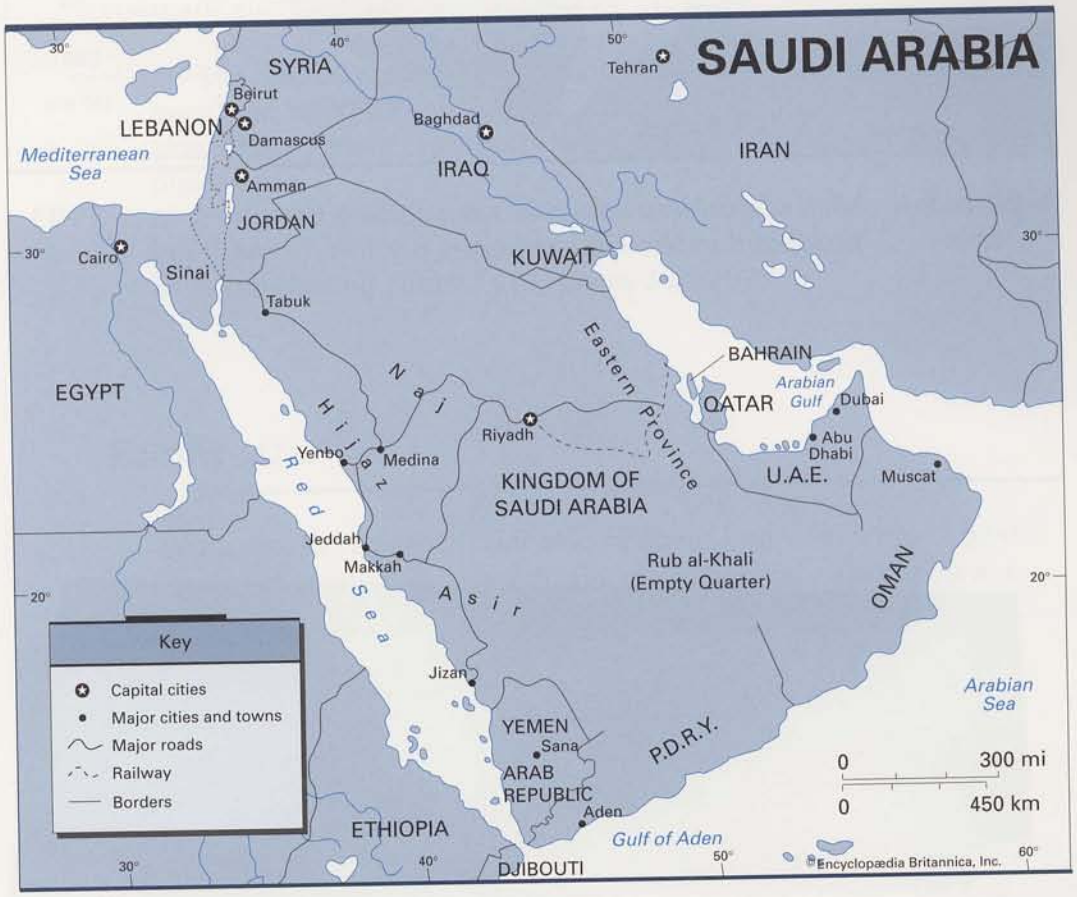


Figure 4 Map of Saudi Arabia and surrounding countries, as of 1986, produced in Saudi Arabia.

Figure 5 Map of Saudi Arabia and surrounding countries, as of 1993, produced in the United States.

1. What differences can you find in the two maps in Figures 4 and 5?
2. Why do you think maps of a particular region are not all exactly the same?

How has Saudi Arabia changed its quality of life?

Education

Saudi Arabia has made dramatic improvements in education. Part of the reason is because it has built more schools. Saudi Arabia presently has a literacy rate of 62 percent, while in oil-poor Yemen, only 38 people out of 100 can read (Metz 1993). Saudi Arabia has a goal to increase native-born female education in order to help provide a solution to a shortage of labor. Also, most students seeking higher-level education attend universities and trade schools in Saudi Arabia. Some students go to Europe and the United States, although this practice is most common for boys (Omran and Roudi 1993).

One example of how educational training is provided in Saudi Arabia comes from the policy set by Saudi Aramco, the national oil company (formerly the U.S. controlled ARAMCO).

> The Saudi company . . . sponsors training not only for engineers and other technologists, . . . but also for specialists in medicine, management, and every other discipline that Saudi Aramco draws on. . . .
>
> But Saudi Aramco has committed itself to more than just funding these educational programs. It has also established . . . out-of-kingdom training (Grutz 1993, pages 3 and 9).

Family size

Economic development has also brought improvements in health care to Saudi Arabia. As a result, the mortality rate, also known as the death rate, has declined.

> [Saudi Arabia] had high fertility and mortality [rates] until the 1950s. In the early 1950s, the birth rate . . . was 49 births per 1,000 [people], the death rate was 23 deaths per 1,000 [people]. During the next few decades, the development of oil fields brought an influx of hundreds of thousands of foreigners and financed rapid improvements in [living] conditions. Both factors were associated with declines in birth and death rates. The average birth rate . . . dropped to 36 by 1990, while the death rate plummeted to 6 per 1,000 (Omran and Roudi 1993, page 8).

> [The region's] culture, religion, and politics tend to encourage large families, and—although trends vary among countries—high fertility is common throughout the region. On average, . . . women give birth to five children by age 45. . . . Strong kinship bonds and large families are highly valued in Islam, the dominant religious and cultural force in the region.
>
> Differences in fertility are emerging between urban and rural women, and among more- and less-educated women. . . . In Jordan, for example, women with no formal education [averaged 6.9 children], while those with a secondary or higher education had . . . 4.1 children per woman.
>
> The small oil-rich countries of the Gulf welcome high rates of [population growth] among their native populations, not only to fuel . . . development but also to boost the proportion of natives in their countries.
>
> The governments of other countries, such as Saudi Arabia, UAE, and Qatar, do not have explicit policies to raise their fertility. However, many of their social policies and benefits—such as free health care, education, and guaranteed government jobs—may be viewed as [encouragements] (Omran and Roudi 1993, pages 11–13, 32–33).

Religion

Saudi Arabia is the center of the Islamic faith. One city, Makkah (Mecca), is the location of the holiest place in Islam, called the Grand Mosque (Metz 1993). According to the Quran, every Muslim has an obligation to make a journey to Makkah, called the *hajj*, and perform the rituals that were started in the seventh century by the prophet Muhammad. In 1987 alone, some 2 million people made this journey. Until recently, the journey took a great deal of effort. Pilgrims had to survive crossing oceans and deserts to reach Makkah. Now, people arrive by jet, bus, and car (*U.S. News and World Report* 1993).

The Saudi government spent $15 billion in 1988 to improve transportation for the pilgrims making the trip. The government also sponsored Muslims from around the world who otherwise would not have been able to afford the journey (Metz 1993).

> The Mecca that beckons pilgrims today is far different from the mysterious, forbidden city of old. Modern first-class hotels have replaced the historic, ornate palaces that once lined the streets outside Mecca's Sacred Mosque. To secure the safety and comfort of the huge throngs, the Saudi government, which has administered the hajj since the 1930s, has poured tens of billions of dollars into renovating and modernizing the city's transporta-

tion, water, and electrical systems. New roads and huge parking lots have been built to ease the glut of traffic as pilgrims trek back and forth—many by bus, truck, or automobile—across the 15 miles between Mecca and the Plain of Arafat to perform the hajj rituals (*U.S. News and World Report* 1993).

Not everyone performs the rituals in the same way. Wealthy people can perform their rituals in air-conditioned hotels that show the Grand Mosque on television. In one ceremony, pilgrims kill a goat to symbolize their willingness to sacrifice their precious goods. Today, an automated slaughterhouse sells pilgrims a piece of meat and shows the slaughter on television. In another change in tradition, pilgrims run in an air-conditioned building instead of running back and forth between two hills in the desert in a symbolic search for water (*U.S. News and World Report* 1993).

How has Saudi Arabia invested money to support economic development?

Changes in world oil prices have meant that Saudi Arabia has not always had great sums of money to promote economic development. Look at Table 5 on page 20. In this table, the number of factories,

Economic development: new construction in Riyadh, Saudi Arabia.

registered businesses (a business that is licensed by the Saudi government), and hotel rooms represent investments toward the development of the economy in Saudi Arabia. Although the amount of money available for development has not remained constant, the amount of money spent has improved the condition of the Saudi economy greatly.

Table 5 Results of Saudi investments in selected parts of the domestic economy, 1981–1987

Year	Government money available for investment (Saudi riyals x 1,000)	Total factories	Total registered businesses	Total hotel rooms
1981	348,119	1,629	139,221	19,992
1982	368,006	1,741	169,596	21,263
1983	246,182	1,845	219,349	20,568
1984	206,419	1,929	243,542	21,196
1985	171,509	1,983	267,192	21,510
1986	131,736	2,017	281,726	22,129
1987	76,498	2,061	297,316	22,298

Source: Al-Farsy 1990.

3. Which of the three categories in Table 5 has grown the most, when comparing the 1981 level to the 1987 level? Which category has grown more proportionally, factories or hotel rooms?
4. How does the trend in number of factories, businesses, and hotel rooms in each of the years in Table 5 compare to the money available?

Saudi Arabia has also encouraged the development of different types of industries, so that it is not as dependent on oil. Whenever a country wants to develop its economy, it usually examines its natural resources, its labor force, and the markets for its goods and services. If a country succeeds in developing a strong and diverse economy, then it reduces its dependence on a single resource for income. Figure 6 below shows the changing importance of oil to the Saudi domestic economy.

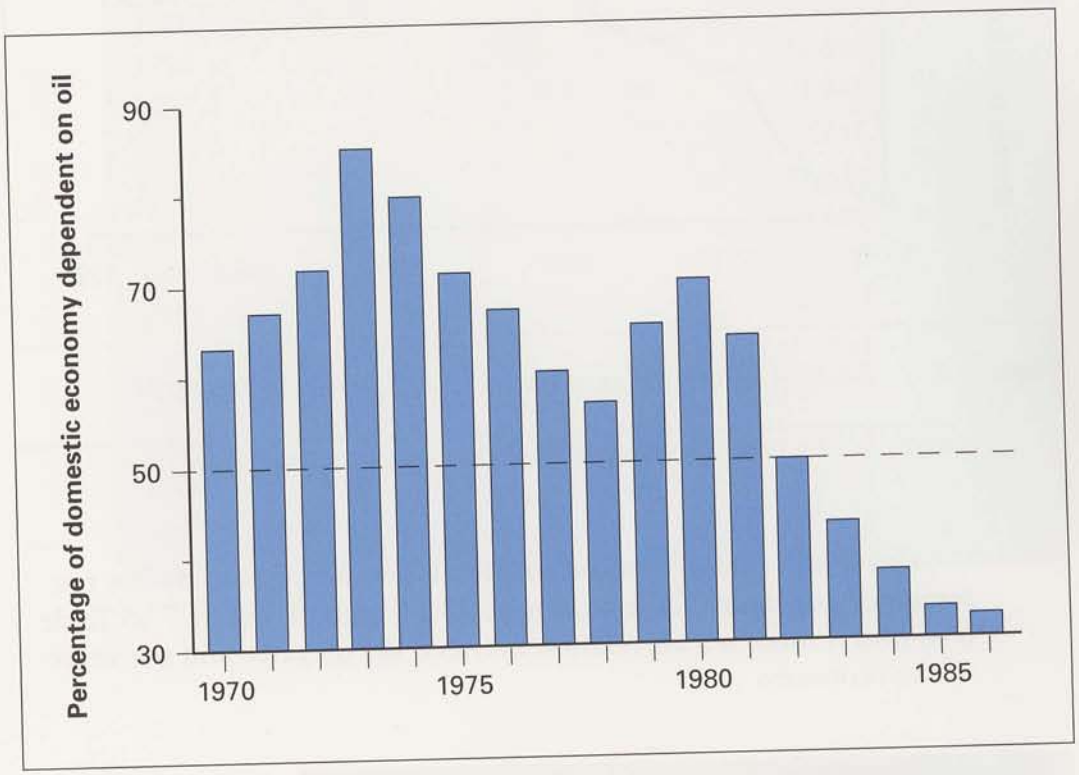


Figure 6 The change of importance of oil in Saudi Arabia's domestic economy.

Source: Al-Farsy 1990.

Saudi Arabia has not always been able to pour the same amounts of money into the economy each year. Even though the amount of money from oil has been declining (as shown in Figure 6), oil remains an important source of revenue for Saudi Arabia. Figure 7 on page 22 shows the great range in prices for a barrel of oil on the world market.

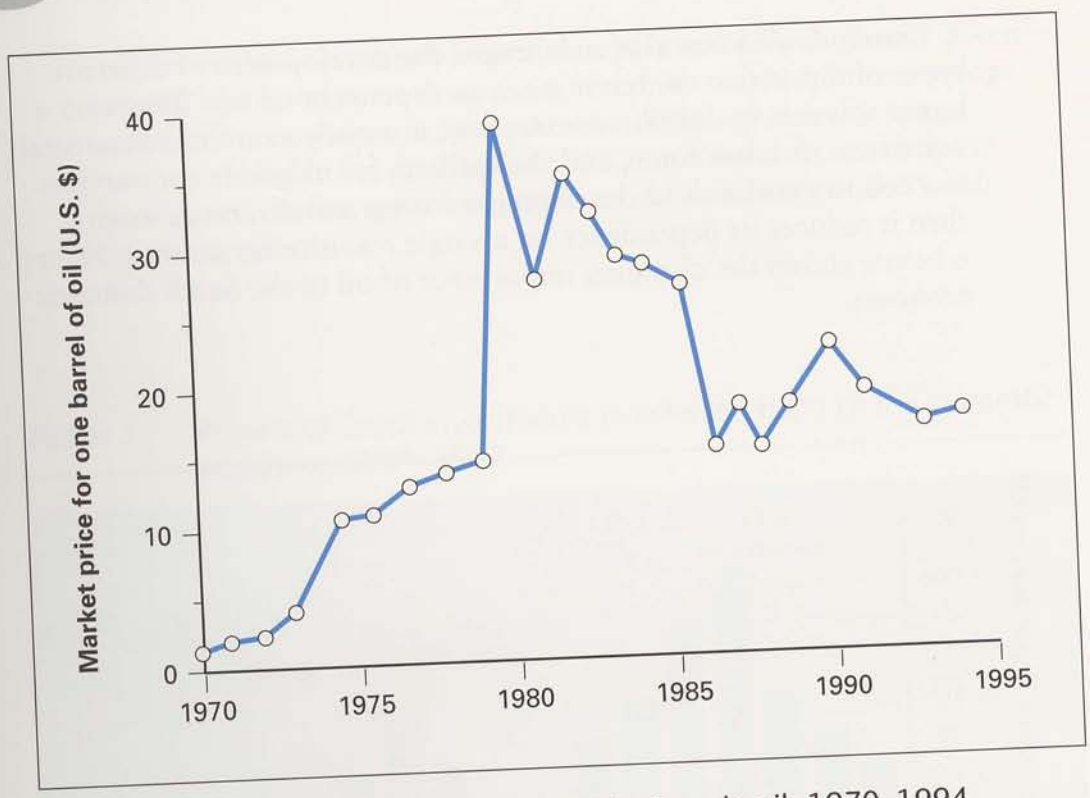


Figure 7 Market prices for one barrel of crude oil, 1970–1994.

Sources: Al-Farsy 1990; U.S. Bureau of the Census 1993; *Wall Street Journal* 1994.

The total value of the Saudi Arabian domestic economy has not remained constant (Table 6 on page 23). Compare Figure 7 to Table 6 to find if there is a correlation between the oil price and the value of the economy.

Economic diversity will help protect the Saudi Arabian economy from fluctuations in the oil market.

Table 6 Changes in the value of Saudi Arabia's domestic economy, 1970–1987

Year	Value (in Saudi riyals)
1970	17,153
1971	22,581
1972	27,857
1973	40,087
1974	98,840
1975	139,224
1976	163,893
1977	203,942
1978	223,818
1979	247,624
1980	383,589
1981	517,996
1982	522,177
1983	411,801
1984	368,399
1985	322,919
1986	274,719
1987	264,074

Source: Al-Farsy 1990.

5. How does Figure 6 show that the Saudi government succeeded in reducing its dependence on oil?
6. What is the relationship between world oil prices (Figure 7 on page 22) and changes in the domestic economy in Saudi Arabia?
7. What kinds of policies do you think Saudi Arabia should employ to keep its economy growing?

What are the impacts of oil riches?

Objectives

In this lesson, you will

- Learn how oil wealth has changed daily life in Saudi Arabia.
- Appreciate the Saudi Arabian resistance to Westernization.
- Learn that oil wealth has diversified the population through labor migration.

Glossary Words

abaya

absolute monarchy

gitwa

Gulf Cooperation Council

Islam

mutawa

How has oil wealth changed Saudi society?

During the first third of this century most of Saudi Arabia was occupied by poor farmers who lived much the same way as their ancestors had hundreds of years before. These people made a modest living by world standards and made very few changes to the land. Shortly after Saudi Arabia's oil industry began in 1933, the country became very rich. Money from oil enabled the people to improve their standard of living and acquire many products, not only from the West but also from around the world. Along with the economic and technological connections to the West came cultural influences as well. Traditional Saudi culture has been confronted with Western

customs, values, and beliefs. The Saudis have generally accepted Western technology, but have struggled hard to maintain their own cultural traditions. The effort has not always met with success, because with Western technology comes Western ideas.

> Merely owning a VCR means that a family is moving away from established Saudi [culture] and opening itself to a wider range of influences (Al-Oofy and McDaniel 1992, page 222).

With Western technology have come challenges to the traditional role of women in Saudi Arabia. The following are stories showing several perspectives of life for women in Saudi Arabia. A common thread connects all of these stories—in each case, Saudi traditions have either been challenged or defended. The first story comes from a Saudi woman who requested that her identity remain a secret. The next story is from the perspective of a woman from the United States who was stationed in Saudi Arabia during Operation Desert Shield in 1990. The third is provided by a male Saudi author.

Reinventing the Wheel

Fourteen women slide behind the wheels of as many cars. The men step away. Thirty-two other women join the 14 as passengers. None speak; they all move swiftly as one black mass—wearing the traditional *gitwa* (head covering) and *abaya* (robe); all but five have their faces covered as well, with only their eyes showing. . . .

Turn west at the corner onto Mursalat Road. Two of the cars pull over by the Sheraton Hotel. People on the roads, a variety of expressions, shock, horror, admiration. Some thumbs-up signals in encouragement, some smiles and fists held up in the air in solidarity, a few horns beeping in support. . . .

The police move in. They ask the women what they think they are doing. "Driving" is the simple reply. "Why?" "In time of war mobilization and national emergency we need to, for the safety of our families." The police seem strangely awed, filled with respect. More *mutawa* [people who volunteer to enforce strict Islamic law] appear, screaming and cursing, demanding that the women be taken to their own (religious) prisons. The police refuse, saying this is a [non-religious] matter. . . .

A government representative appears. The male relatives are urged to sign a document declaring that the women will never again drive or even speak of this matter, under threat of punishment or imprisonment. Only then will the women be released. . . .

The women and their families have [since] been ceaselessly harassed, threatened, cursed—by telephone, mail, and in person. . . . After some days, Prince Naif, minister of the interior, confirmed that 47 women drove cars in the demonstration, that they must not have been brought up properly "in the Islamic way," and thus must have been ignorant (*Ms.* 1991, pages 14–15).

America Abroad: Mosque vs. Palace

The U.S. Navy lieutenant was off duty and out of uniform. For a shopping trip in downtown Riyadh, she had put on an *abaya*, a head-to-toe, long-sleeved robe that Saudi women usually wear in public. That wasn't good enough for the *mutawa*, the vigilantes who enforce Muslim religious laws against impiety and immodesty. A member of the group accosted her as she was entering a shop, prodded her painfully with a long stick and berated her for neglecting to veil her face (Talbott 1991, page 43).

Women's Rights in Saudi Arabia

The stereotype of Muslim women as uneducated, down-trodden creatures with no rights and no opportunities is a caricature born of ignorance or malevolence.

The Holy Quran gave women economic and social rights long before such rights were obtained by Western women. From the beginning of Islam, women have been legally entitled to inherit and bequeath property, holding their wealth in their own names even after marriage, without obligation to contribute that wealth to their husband or family. . . .

It is nevertheless true that, under Islam, a woman is enjoined to behave modestly in public and that, as in the West until recently, [she] is generally expected to give a full commitment to making a family home—a home within which, incidentally, she enjoys a preeminent role. . . .

This said, it would be a mistake to think that the role of women in Saudi Arabian society is confined to home-making. The development of the Kingdom of Saudi Arabia has brought with it increasing opportunities for women in both education and employment. . . . By 1980, there were six universities for women. . . . In terms of employment, women now play an active role in teaching, medicine, social work, and broadcasting (Al-Farsy 1990, pages 246–247).

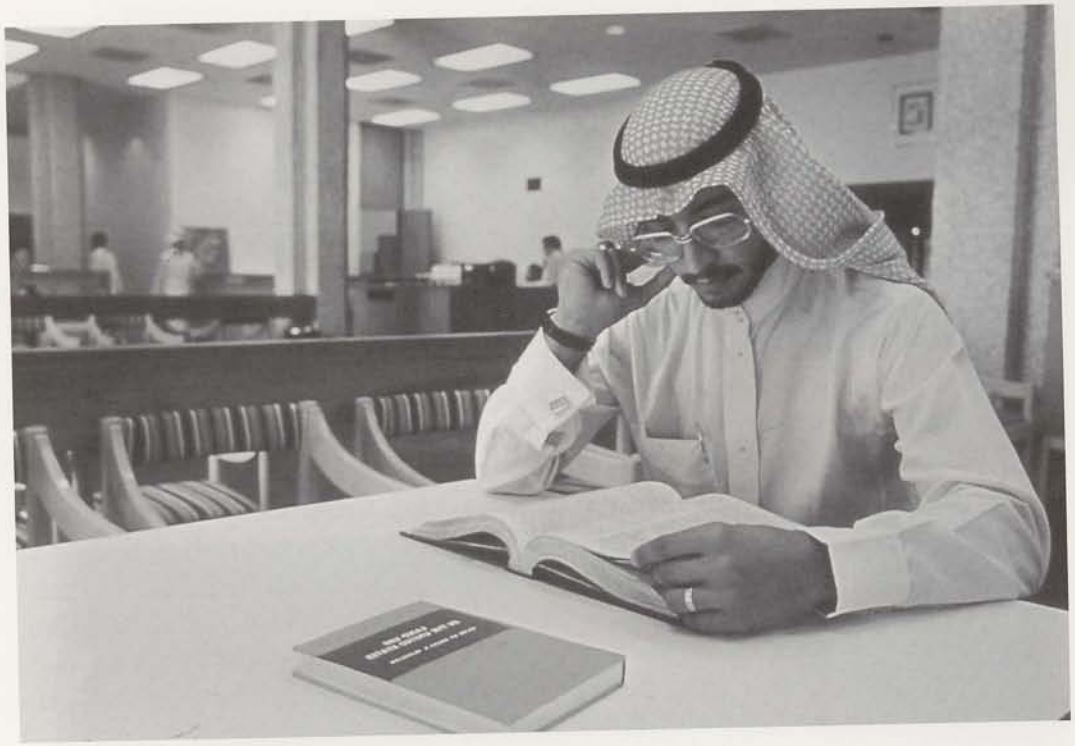
How have other changes threatened Saudi traditions?

Not all changes are welcomed, especially if the change threatens the Islamic way of life. It is not clear if Saudi Arabia's attempt to modernize will succeed without a large impact on this way of life.

> Islamic modernizers and fundamentalists alike view Islam as a divinely ordained alternative to capitalism and communism. Where they differ is that many leaders and professional persons throughout the Islamic world are Western educated; they seek to superimpose Western principles and values on Islamic society. The struggle of fundamentalists to reestablish Islamic law as the law of the land, prohibit banks from charging interest, emphasize propriety of dress and decorum for women, and reform the curriculum in universities for greater Islamic emphasis sets the two groups at odds, although their long-term goals are essentially the same (Spencer 1988, page 13).

Family life in Saudi Arabia faces perhaps its greatest challenge as young people are exposed to other ways of life, especially those of the Western world.

> One of the challenges to [the traditional Saudi family] is Western secular education, which separates parents from their children who have been educated [abroad] to acquire university degrees and enter the world of modern technology. . . . [This created] a further parent-child gap when the student returned with a veneer of Western sophistication and perhaps even a taste for alcohol and rock music (Spencer 1988, page 15).



Many Saudi Arabian students are exposed to Western culture when they study abroad.

1. What kinds of disagreements would you expect between the people who want Saudi Arabia to modernize and the people who resist change?
2. How can Saudi Arabia lessen the cultural impact from sending students to the West for their education?

In addition to changes that have taken place as a result of modernization, Saudi Arabia has had to contend with the influx of many cultures brought inside its borders by migrant workers. The next part of this lesson examines Saudi Arabia's method of dealing with large numbers of foreign workers living in the country.

How has foreign labor affected Saudi Arabian culture?

The Saudi oil industry has demanded more labor than it has within its borders. This dilemma has resulted in a migration of labor from other countries. The presence of these foreign workers has been another influence for change in Saudi Arabia.

So many people are needed to work in the Gulf region that an organization was set up to help find workers. The Gulf Cooperation Council—Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates—guaranteed government jobs to all native males in those countries (Omran and Roudi 1993). But the oil industry needed more workers than just the Gulf States can provide.

Egypt supplies about 60 percent of the foreign Arab labor to the Gulf States. Jordan, Yemen, and Sudan are also major Arab labor-exporting countries. Saudi Arabia attracts more than any other—about 55 percent of the foreign workers in the Gulf. But Arabs are not the only people migrating to find work in the oil-rich nations. South Asians compete with Arab migrants for an increasing number of jobs in the Gulf States. Most are from Bangladesh, India, Pakistan, and Sri Lanka. Other major sources of labor are Indonesia, Korea, the Philippines, and Thailand. Asians also comprise the great majority of women expatriate workers. These women are often employed as domestics.

Saudi Arabia has tried to shift from being dependent on foreign labor by investing heavily in educational training for Arab men and

women and by maintaining their job market. In the Saudi government's official development plans, reducing foreign labor is considered a way to help preserve the Islamic way of life (Al-Farsy 1990).

Table 7 below shows which country migrant workers came from and the major religions of each country. Most oil companies operating in Saudi Arabia built segregated communities for their non-Arab workers. The oil companies' chief concern in doing this was to preserve the Arab cultural traditions among Arab workers, particularly those traditions that derive from Muslim beliefs. Note the number of workers that migrated from non-Islamic countries in 1978. Other cultural differences include language, ritual practices, clothing, and diet.

Table 7 Foreign labor and religions in Saudi Arabia, 1978

Country	Number of workers sent to Saudi Arabia	Main religion
Egypt	92,956	Muslim
India	32,842	Hindu
Jordan	14,036	Muslim
Lebanon	18,396	Muslim/Christian
Pakistan	59,400	Muslim
Philippines	16,672	Christian/Muslim
South Korea	41,035	Buddhist/Christian
Syria	20,878	Muslim
Thailand	13,159	Buddhist
United Kingdom	12,139	Christian
United States	14,701	Christian
Yemen	70,080	Muslim

Sources: Al-Farsy 1990; *Goode's World Atlas* 1990.

3. After reading the text and looking at Table 7, why do you think oil companies in Saudi Arabia would want to segregate their foreign workers from Saudi citizens?

What is the future of the Saudi kingdom?

> Economic growth as a result of an oil boom, now in its twentieth year, has changed the overall structure of Saudi society. It has transformed the highly illiterate traditional society to a wealthy, urbanized, and educated one, and further incorporated the masses into the political society. The better educated, highly informed, and well-traveled Saudis have been frustrated by what they have seen as the incompetence of the government in dealing with mounting problems (Namay 1993, pages 48–49).

Saudi Arabia has been an absolute monarchy since it was formed in 1932. But Saudi Arabia attracted world attention in 1992 when King Fahd announced his intentions to set up a representative government, complete with a written "Basic System of Rules" and regional assemblies (Namay 1993).

King Fahd did this because groups of citizens called for a change in government policies. These groups represented diverse political views, including those who wanted the country to return to strict Islamic law, and those who wanted more distance from Islamic law.

Beginning about 1990, news analysts predicted that if the Saudi King Fahd did not begin to make changes soon, he might lose control of the country (*World Press Review* 1993). A series of events that occurred in the early 1990s pressured the Saudi monarchy to make changes. King Fahd called these changes the Basic System of Rules. By proposing his new policies, the king hoped to deflect the criticism coming from these opposing positions. The following events led up to King Fahd writing the Basic System of Rules:

- A small group of students were awarded higher education degrees in religious studies. These students use fax machines and computer communications to spread their demands for the government to return to strict Islamic law (*World Press Review* 1993).
- The Gulf War of 1990–1991 brought 700,000 Western troops to Saudi Arabia, almost all of whom were not Muslim (*New York Times* 1993c). Some Saudis protested that the Saudi government was "un-Islamic" for bringing in so many outsiders (Hiro 1992).
- A petition was signed by 100 of the country's leading scholars, judges, and academics, demanding sweeping changes. They wanted the Saudi government to "abolish all institutions that limit the people's freedom" and to make all decisions open to debate (Hiro 1992, page 86).

Here are three features of King Fahd's Basic System of Rules planned for Saudi Arabia:

- An electoral college will choose the person who will succeed the king when he dies. The king can dismiss the successor and "name someone else at any time."
- There is no definition of the office of the king, although some powers have been identified: The king commands the military, he reserves the right to appoint the successor to the throne, he heads the executive and legislative functions of the government, and reserves the right to dismiss the entire Council of Ministers and replace them, and he reserves the right to alter the entire new system of rules.
- The government will be divided into judicial, executive, and legislative branches to create a more efficient government. The officers heading these branches are appointed, not elected. The king remains the final authority for each branch (Namay 1993).

4. How well do you think the king's plan addressed the petition signed by 100 of the country's leading scholars, judges, and academics? Explain your answer.
5. How well do you think Saudi Arabia will be able to address the demands both for modernization and for the maintenance of strict Islamic law? Explain.
6. What are the advantages and problems of having all of a country's major decisions made by one person?

How has Saudi Arabia used its influence?

Objectives

In this lesson, you will

- Identify the different ways that Saudi Arabia has used its oil money.
- Explain how Saudi Arabia has become regionally and internationally influential.
- Examine how the Saud family gained control of what is now modern Saudi Arabia.

Glossary Words

ARAMCO

gross national product (GNP)

hajj

nonrenewable resource

OPEC

vertical integration

In Lesson 4, you studied some of the effects oil resources have had on Saudi Arabia. You will now consider how Saudi Arabia has used its oil wealth to extend its influence in other parts of the world. This influence is seen in both Saudi's central role in the Islamic faith, and in the world oil market.

How has Saudi Arabia used its oil money?

One way Saudi Arabia has used its oil money is to provide financial support to millions of Muslims from around the world who want to make the hajj to Makkah. It also uses oil wealth to maintain

Islam's holy centers, which are located in Saudi Arabia. These activities on behalf of Islam place Saudi Arabia in a pivotal role in the Muslim world. The importance of Saudi Arabia's international role in Islam cannot be understated:

> To understand the history of the [Saudi Arabian] Kingdom and its political, economic, and social development, it is necessary to realize that Islam, which permeates every aspect of a Muslim's life, also permeates every aspect of the Saudi Arabian state (Al-Farsy 1990, page 24).

The hajj requires making a journey to the holy city of Makkah. It is one of five obligations for every Muslim. The hajj is completed by Muslims from all around the world. Saudi Arabia accommodates at least 1 million foreign Muslim pilgrims each year during the six-day hajj. Saudi Arabia provides a great deal of services to the pilgrims, including free medical care (Al-Farsy 1990). Table 8 below shows the countries that Muslims came from to make the hajj during one year. The table reports the top five countries from each major world region.

Table 8 Foreign pilgrims making the hajj, 1987

Region	Number of pilgrims
Africa and Asia (Arab countries)	
Algeria	29,675
Egypt	97,216
Iraq	29,522
Morocco	29,334
Yemen	68,641
Asia (non-Arab countries)	
India	40,854
Indonesia	57,519
Iran	157,395
Pakistan	93,013
Turkey	96,711
Africa (non-Arab countries)	
Chad	1,310
Mali	2,167
Nigeria	20,737
Senegal	3,139
South Africa	2,329

continued

Europe	
Former Yugoslavia	914
France	807
Greece	164
Holland	214
United Kingdom	4,059
North and South America	
Canada	477
Guyana	23
Suriname	53
Trinidad	129
United States	1,250
Oceania	
Australia	347
Fiji	30
New Zealand	7

Source: Al-Farsy 1990.

1. How do you account for the wide differences in the number of people from each region?

The Quran is the sacred scripture of Islam.

Vertical integration

Another way that Saudi Arabia uses oil wealth is to increase its control over more facets of the oil industry in order to be less dependent on foreign companies. Being less dependent means that Saudi Arabia has greater freedom to direct its own affairs. This freedom gives Saudi Arabia a degree of influence in the world oil market. To achieve this, Saudi Arabia has worked to control every part of the oil industry. Taking control in this way is called *vertical integration*. In Saudi Arabia's vertically integrated oil industry, the country controls the search for oil. It also ships the oil and refines it into gasoline and other products. Finally, it sells these products to companies that supply local gas pumps. Table 9 below shows the trend toward vertical integration of the Saudi oil industry.

Table 9 Recent events in Saudi Arabia's oil development

Year	Event
1970s	The Saudi kingdom begins to purchase ownership in ARAMCO, the first oil company in Saudi Arabia. The name stands for Arab American Oil Company.
1973	The Saudis order cuts in oil production to reduce oil supply to the United States, to show support for Egypt's war with Israel.
	Oil price rises from $3 per barrel to $34.
	The United States and other oil-importing countries endure severe energy crisis and economic hardship.
1980s	The Saudis take over ARAMCO and rename it Saudi Aramco.
	Jordan and Syria receive $1 billion each year from Saudi Arabia to help them with their political opposition to Israel. Money is also given to the Palestine Liberation Organization, Jordan, and Syria to influence them to stop anti-Saudi activities in Saudi Arabia.
1988	Saudi Arabia buys 50 percent of three U.S. oil refineries.
	Saudi Arabia buys retail outlets for Texaco gasoline in the United States.
1991	Saudi Arabia buys 35 percent share of South Korea's third-largest oil refinery.
1992	Saudi Aramco uses eight of their own oil supertankers to export products and orders fifteen more to be built.

Source: Clark 1993.

2. What evidence is shown in Table 9 that oil gives Saudi Arabia international power?
3. How has Saudi Arabia taken steps to control every aspect of its oil industry?
4. What factors made it possible for Saudi Arabia to take complete control of its own oil industry?

Is Saudi Arabia vulnerable or in control of the world oil market?

Saudi Arabia is the largest supplier of oil in the world. But this does not necessarily give it control over the world oil market. It can be argued that Saudi Arabia has little control and is vulnerable to oil price fluctuations, or that it has controlling influence over oil prices. Both sides of this issue of control over world oil prices are examined in the following Point/Counterpoint discussion.

POINT
SAUDI ARABIA IS VULNERABLE TO WORLD OIL PRICES

After two decades of economic growth driven by vast income from oil exports, Saudi Arabia has announced that it is slashing its budget by 20 percent this year because of the decline in world oil prices. . . .

The kingdom's monthly revenue has plunged by $10 billion from levels a year ago.

While all oil producers have suffered, Saudi Arabia was hit hardest because it had the lion's share of the world market, producing eight million barrels a day. The kingdom still depends on revenue from its crude oil and refined products for most of its income (Ibrahim 1994, page A3).

> With the discovery and exploitation of North Sea oil, Britain became a major exporter in the 1980s. Despite this economic fact, the British government has persistently refused even to discuss the possibility of cooperating with the Organization of Petroleum Exporting Countries [OPEC] in stabilizing the oil price by adjusting the volume of oil production. While other countries (for example, Norway and the [former] Soviet Union) have perceived the wisdom of at least trying to moderate wild market fluctuations which damage the economies of producers and consumers by turn, Britain has persisted in a "free market" philosophy, happily reaping the benefits of others' restraint in the early 1980s by selling as much oil as it could pump . . . (Al-Farsy 1990, page 282).

In order to control oil prices, Saudi Arabia has tried to control the amount of oil reaching the market. Generally, oil prices rise when oil is scarce. When production is increased, oil is no longer scarce, so prices tend to fall. Recall that oil is a nonrenewable resource, so when it runs dry, the oil industry will cease to exist. In an effort to control oil prices, Saudi Arabia has played a major role in OPEC.

Offshore oil rigs in the North Sea.

COUNTERPOINT
SAUDI ARABIA CONTROLS WORLD OIL PRICES

The Organization of Petroleum Exporting Countries (OPEC) is the name adopted by the major world oil exporters. This group includes Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Libya, Indonesia, United Arab Emirates (UAE), Algeria, Nigeria, Ecuador, and Gabon. The organization, which was created in 1960, attempts to set world oil prices by controlling oil production. Saudi Arabia is the leading world oil exporter of the members with more than twice the amount of oil reserves than Iraq, which falls second. As a leading player in OPEC, Saudi Arabia has, at times, attempted to influence the price of oil. The usual OPEC strategy has been to try to set OPEC members' production quotas so that prices will rise or remain steady. When production is trimmed, the price of oil usually goes up. But the higher price tempts some exporters to sell more oil, so these agreements have historically not lasted long.

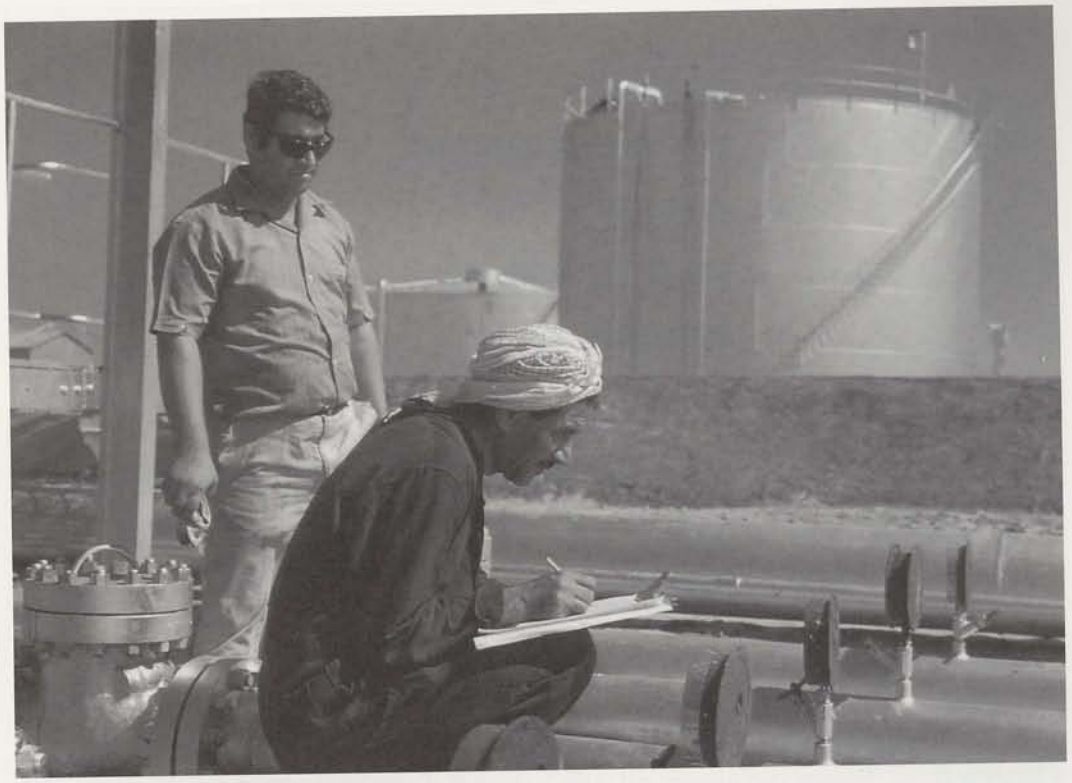
In the early 1980s, Saudi Arabia and the UAE sold oil for $2 less per barrel than Iran. Together, they used this strategy to control the market for oil. Eventually, Kuwait joined in this cooperation on oil pricing. This price control did not last long, because non-OPEC members—the oil producers in Mexico, the North Sea, and Alaska—sold oil for less money than OPEC. Also, some OPEC members secretly sold oil to earn profits for their countries. Nigeria, Libya, and Iran were all accused of cheating on the OPEC agreement (Story 1988).

In the mid-1980s, Saudi Arabia decided to try another strategy. This time, it let the market determine oil prices. It had enough money to survive low oil prices (prices dropped as low as $14 per barrel in 1986), but other OPEC members were not as well prepared. After a year, OPEC members were willing to let Saudi Arabia assume more decision-making power by agreeing to limit the amount of oil placed on the market. This strategy worked briefly, but in 1990, Kuwait and the UAE began to produce oil in record amounts, driving the price of oil down on the market (Metz 1993).

In September 1993, Saudi Arabia proposed to OPEC that members voluntarily cut production. It opened communications with the world's second-largest oil exporter, Iran, to achieve the goals of cutting production and increasing the price of oil. Saudi Arabia and the other OPEC members attempted to promote an oil price of $21 per barrel (Ibrahim 1993), but by April, 1994, the price of oil hovered around $16 per barrel (*Wall Street Journal* 1994).

Since Iran and Saudi Arabia supported opposite sides during the 1991 Gulf War, their cooperation in cutting oil production was extraordinary. At other times, Saudi Arabia has made other political decisions that have affected the price of oil. In 1973, Saudi Arabia reduced the supply of oil to the United States and the Netherlands because it believed those countries supported Israel's war against Arab countries. The result was a sharp increase in the price of oil (Story 1988).

5. Why do you think Saudi Arabia has had difficulty controlling the world oil market?
6. What strategies seem to work to Saudi Arabia's advantage?



OPEC attempts to set world oil prices by controlling production.

What is the future of the oil industry?

The importance of oil may change if scientists and industries develop alternative sources of energy, but for now, oil dominates the world energy issue. Figure 8 below shows when oil resources will run out in several major world regions. This prediction, however, may not be very reliable, because the data are based on current world production. That is, oil would run out if it continues to be produced at current levels. In all probability, however, oil production will decrease as the resource becomes more scarce. So, the actual dates when oil will run out are likely to be later than those shown in Figure 8.

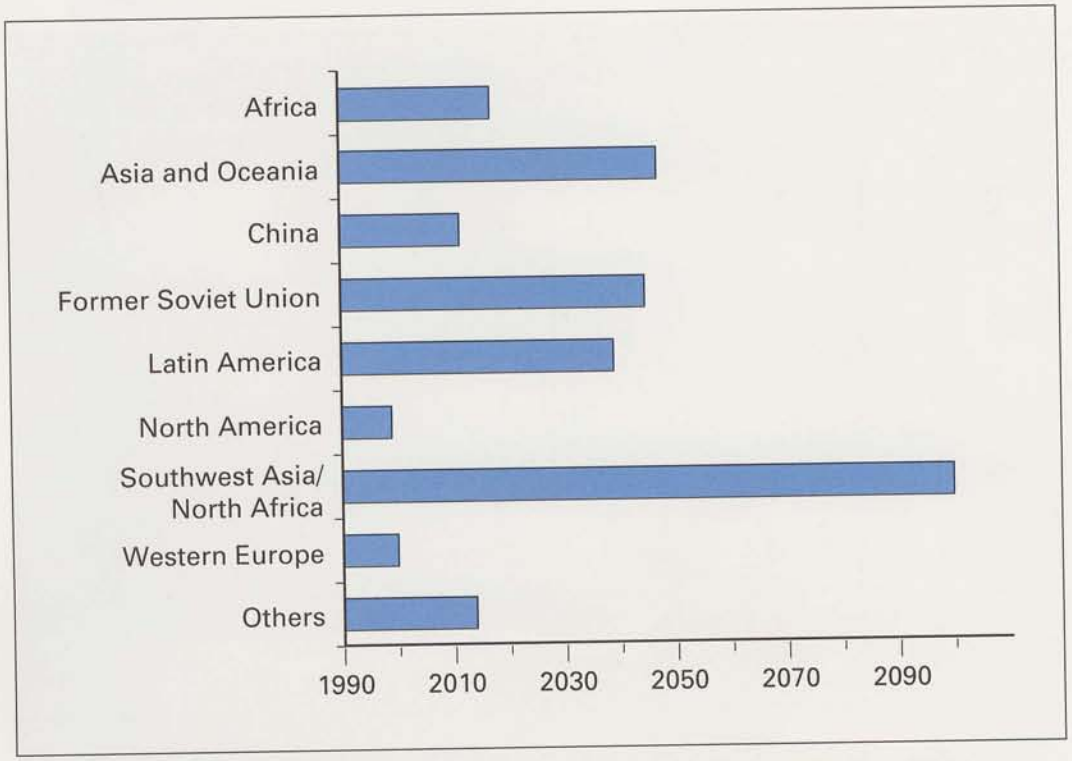


Figure 8 Projected years oil will run out if present rates continue.

Source: World Resources Institute 1991.

7. Do you think the world will be as dependent on oil by 2050 as it is in 1995? Why or why not? (You may want to review Figure 1 on page 5 again.)
8. If you were in charge of listing three goals to guide energy policy for the United States, what would you include and why?

In the United States, oil has been imported from a large number of countries. Saudi Arabia's importance as an oil supplier to the United States has changed in recent years (Figure 9 below).

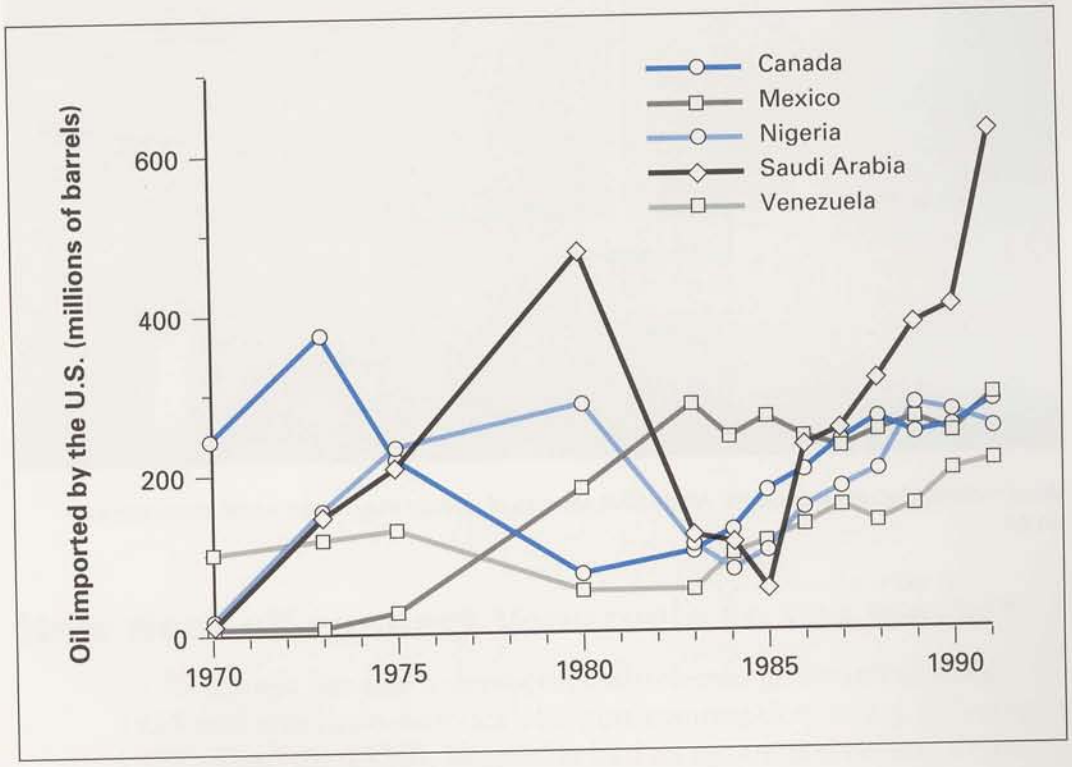


Figure 9 The five largest suppliers of oil to the United States, 1970–1991.

Source: U.S. Bureau of the Census 1993.

9. After studying Figures 8 and 9, how would you describe the future relationship between the United States and Saudi Arabia? Explain your answer.

Wind turbine electric generators: Alternative sources of energy may lessen world dependence on oil.

How has Venezuelan society been changed by oil?

Objectives

In this lesson, you will

- Describe Venezuela's role as an oil producer.
- Consider whether Venezuela can meet the challenge of fluctuating oil prices.

Glossary Words

agrarian economy
crude oil
hydroelectricity
industrial economy
petrochemicals
refinery

How does oil connect Venezuela to the world?

Venezuela has had a democratically elected government since 1958 and it is Latin America's longest-running democracy (Silverstein 1993). Until the 1920s, Venezuela had an agrarian economy dominated by products such as coffee and cocoa. But like other oil-exporting countries, Venezuela changed to an industrial economy when oil rose to importance in the twentieth century. From 1929 to 1970, Venezuela was the world's largest exporter of oil. High oil prices in the 1970s helped to fund the transition described in the following quote.

> The quadrupling of crude oil prices in 1973 spawned an oil euphoria and a spree of public and private consumption unprecedented in Venezuelan history. The government spent more money from 1974 to 1979 than in its entire independent history dating back to 1830. . . . In addition to establishing new enterprises in such areas as mining, petrochemicals, and hydroelectricity, the government purchased previously private ones. In 1975 the government nationalized the steel industry; nationalization of the oil industry followed in 1976. Many private citizens also reaped great wealth from the oil bonanza, and weekend shopping trips to Miami typified upper-middle-class life in this period (*Venezuela: A Country Study* 1993, page 83).

By 1989, oil money provided 15 percent of the entire Venezuelan economy. By the end of 1992, Venezuela was the fourth-largest oil exporter, selling 2.4 million barrels of oil each day (Charters 1992).

As a result of its large oil industry, Venezuela became connected to other countries in Latin America and in the rest of the world. The following are examples of Venezuela's world connections (*Venezuela: A Country Study* 1993; Marshall 1991; Charters 1992; *New York Times* 1993a).

- Venezuela joined other oil exporters to form OPEC.
- In 1990, Venezuela sold 2.7 billion barrels of oil to the United States. It also sold oil at a 20 percent discount to Caribbean countries to promote the sale of Venezuelan goods in those countries.
- Venezuela is currently involved in oil exploration in cooperation with Guyana, Trinidad and Tobago, and Guatemala.
- Citgo Petroleum Corporation has a refinery based in Tulsa, Oklahoma, owned by Venezuela's national oil company.
- Venezuela, Mexico, and Colombia agreed to drop trade barriers and promote strong economic ties beginning in 1994. The agreement opens a $373 billion market between the members.
- Crude oil from the Orinoco region is used to make a synthetic fuel that Venezuela exports to Canada.
- In 1992, Venezuela invited oil companies from the United States and Germany to help exploit heavy crude from the Orinoco River region. That move put pressure on Brazil and Mexico to also permit outsiders to operate inside their countries.
- Venezuela forgave a $143 million oil debt from Nicaragua and sent 1,000 peacekeeping troops to help the United Nations support democracy in Nicaragua.

1. Why do you think Venezuela's international connections are concentrated in one area?

How have world oil prices affected Venezuela's people and government?

From the 1960s to 1980, the Venezuelan government created programs to improve the standard of living. Large sums of money were spent on education, health, electricity, and safe drinking water (*Venezuela: A Country Study* 1993). By 1980, the average income per person had risen to $4,200 per year, the highest income in Latin America (Silverstein 1993).

But the amount of money from oil has not always been constant. In 1994, the price of oil was only one-third of the price in 1980, and the average annual income per person had dropped to $2,900 (Population Reference Bureau 1994). Serious problems related to health and welfare worsened as oil money decreased. For example,

Uneven distribution of wealth in Caracas, Venezuela.

spending on social programs such as education and health care was cut by 11 percent in 1993, after several years of large cuts. In 1991, 40 percent of the people in Venezuela lived in poverty, compared to 15 percent in 1987 (Silverstein 1993).

Oil-money shortages in the mid- to late-1980s led to a serious poverty crisis, where people felt helpless to affect government policies for the poor. Money was no longer available to feed the poor and improve living conditions (*Venezuela: A Country Study* 1993). In 1987, a riot broke out to protest the lack of control over politics or the police (Silverstein 1993). Whether Venezuela can fix the fluctuations of income from oil and the uneven distribution of wealth within the country remains to be seen.

2. What are the differences when comparing the impact of fluctuating oil prices on Saudi Arabia to Venezuela? Why did the income of Venezuelans drop from 1980 to 1994?
3. What happened in Venezuela when the country had less money to use?

How has oil changed Alaska?

Objectives

In this lesson, you will

- Describe the environmental effects of the oil industry.
- Identify topics and issues related to Alaska's oil industry.

Glossary Words

Bureau of Indian Affairs

permafrost

Why do oil companies want to drill for oil in a wildlife refuge?

In 1968, a large oil and gas field was discovered near Prudhoe Bay on Alaska's northern coast. The Prudhoe Bay field was estimated to be twice as large as any other oil field in North America. The 800-mile-long Trans-Alaska Pipeline to Valdez was completed in 1977, to ship the oil and gas from the Arctic coast to warm-water ports in southern Alaska (Figure 10 on page 48). Recently, oil companies have sought to expand oil exploration in other areas along the Arctic coast.

Figure 10 Alaska, showing major cities and the Trans-Alaska Pipeline.

Oil companies want to explore the Arctic National Wildlife Refuge (ANWR) on the northeast coast of Alaska, not far from Prudhoe Bay. The companies say there is a 46 percent chance of finding as much as $250 billion worth of oil there. The companies maintain that developing access to this oil would use only 1 percent of the area of the ANWR.

Not everyone agrees that the oil companies should be allowed to pursue this plan. People who disagree point out that $250 billion worth of oil will be used up by the United States in only 200 days, and that there is a 95 percent chance that there is no more oil available there. The Native Americans who live in the area fear that caribou hunting will be permanently destroyed for them by this action of the oil companies.

Although the United States Congress described ANWR as "the most important wilderness sanctuary for arctic wildlife in the world" when it established the refuge in 1960, the United States Department of Energy now says "The nation can obtain the extensive benefits associated with oil development without harming the environment" (DOE 1991). Who do you think is right?

What kinds of changes have occurred in Alaska from having oil?

In this module, you have seen how oil has affected societies in Saudi Arabia and Venezuela. Oil has also been found in large quantities in Alaska, with the first big discovery in 1957. The reason for studying the impact of oil on Alaska rather than elsewhere in the United States comes from some special conditions not found in the rest of the United States. Alaska reaches to the shores of the Arctic Ocean, and a great deal of its land is underlain by permafrost. The far north of Alaska has a very severe winter and a short summer. These factors make finding, extracting, and transporting oil from Alaska a great challenge. Alaska also has only been a U.S. state since 1959, and it did not settle land claims issues with Native Alaskans until after oil was discovered, which complicates the issue there. Alaska earns 1 percent of all oil and gas income generated in the state (Strohmeyer 1993).

Oil has affected Alaskan society deeply. The brief passages below describe some of that impact.

Item 1

In 1962, the Bureau of Indian Affairs gave permission to an oil company to drill for oil on the Moquawkie Reservation without consulting the political organization that governs the reservation, the Tyonek Village Council. The company made huge profits from oil and paid fees directly to the Department of the Interior of the U.S. government. The Tyonek Village Council sued the government and won $14 million in royalties due to them for the drilling. With the money, the village built new houses and schools. It also purchased tons of rice and shipped it to poor villages all over the north (Strohmeyer 1993).

Item 2

In 1989, the oil tanker *Exxon Valdez* hit a reef and spilled 11 million gallons of oil into Prince William Sound. The spill is considered the worst in North American history. Cleanup was delayed, and the oil spread southwest, coating the shores and wildlife with crude oil. Thousands of birds were killed. One-third of the entire otter population in the region was lost. Native Americans living nearby helplessly watched as their environment lost the ability to provide the food they needed. They also lost their traditions of hunting, fishing, and gather-

ing wild food. It is not clear how much impact the spill had on jobs in the area, although people were hired to help with many aspects of the cleanup (McKnight 1990).

Local villagers have canceled traditional family hunts and stayed away from seafood because they fear toxic poisons from the oil. Health officials tested the food in 1992 and found that only shellfish were contaminated. In a survey of local people, the State of Alaska's Department of Fish and Game learned that fear of poisoning from oil remains, despite assurances from health officials (Raloff 1993).

Item 3

In 1982, Alaska had a half-million people and a royalty income of $4.5 billion from oil production. It spent $250 million on theaters, concert halls, libraries, and museums. Anchorage got a $75 million Center for Performing Arts. A new sports arena was also built. Even after money for the arts dried up when oil prices dropped, the arts industry had become financially self-sufficient from support from art patrons. This helped make Alaska a more inviting tourist attraction (Strohmeyer 1993).

Performing Arts Center, Anchorage, Alaska.

Item 4

The oil fields in Prudhoe Bay area in the northeastern part of Alaska are connected to an ocean port in the town of Valdez by an 800-mile-long pipeline. The pipe has a diameter of 4 feet and has so far transported 378 billion gallons of oil. The U.S. Bureau of Land Management (BLM) has the job of making sure the pipeline is safe. In 1993, the BLM found 20,000 electrical problems and hundreds of places where the pipeline is at risk from Alaska's numerous earthquakes (*Science News* 1993).

The company that runs the pipeline is called the Alyeska Pipeline Service Company. In December of 1993, Alyeska was convicted of spying on a critic who reported serious flaws in the pipeline. Alyeska was forced to spend "millions of dollars to repair corrosion in the pipeline and to upgrade its environmental standards" (*New York Times* 1993b).

Item 5

When the Alaska Native Claims Settlement Act was signed into law in 1971, 75,000 Native Americans were given $962 million in cash and control of 40 million acres of land. Some people who controlled the money were convicted of misuse of funds for personal gain. One example is found in Barrow, Alaska, a small village at the most northerly point in the United States. The town planned to spend money to build health clinics, fire stations, schools, and a central sewer system. The politicians who awarded the contracts paid one company $8.7 million by the town for $3.5 million worth of work. A consulting company was paid $24 million for $13 million in work. Another company was given $26 million to build fire stations. They provided $13 million worth of fire stations and gave gifts worth $2.6 million back to the politicians who awarded them a contract (Strohmeyer 1993).

Glossary

Abaya A head-to-toe robe worn by Muslim women in public to demonstrate modesty.

Absolute monarchy A form of government in which a monarch, such as a king or queen, has power to make all decisions of state.

Agrarian economy An economic system based on agriculture.

ARAMCO This was the name of the first oil company in Saudi Arabia before the country took over the oil industry. It stood for Arab-American Oil Company.

Barrel of oil One barrel of oil is 42 gallons. About 17.3 barrels of oil weighs one ton.

Bias A tendency to make an unfair judgement based on preference or prejudice.

Birth rate The number of births that occur in one year per 1,000 people.

Bureau of Indian Affairs A U.S. government agency, under the administration of the U.S. Department of the Interior, in charge of all Native American matters.

Crude oil A natural, thick, flammable liquid that contains chemical compounds called hydrocarbons. Light crude is used to make fuels like gasoline; heavy crude is used for lubricants.

Development The improvement of a country's or a region's standard of living through economic growth.

Emirate The territory ruled by an *emir*, an Arabian prince or military commander.

Fertility rate A measure of the number of births in a society. It is the average number of children a woman will have during childbearing years (ages 15–49).

Gigajoule A gigajoule is a billion joules. A joule is a small unit of energy that pushes a current of 1 amp through a 1 ohm resistor for a time of 1 second.

Gitwa A head covering that includes a veil that completely masks a woman's face. Islamic law requires that a *gitwa* be worn in public.

Gross national product (GNP) The total monetary value of all goods and services that a country produces in a given year.

Gulf Cooperation Council Group of countries, which includes Bahrain, Kuwait, Qatar, Saudi Arabia, Oman, and the United Arab Emirates, seeking economic, social, and cultural ties for their mutual benefit.

Hajj The journey required by all Muslims to come to the city of Makkah and perform religious rituals according to the Quran.

Hydroelectricity This is energy produced when flowing water is used to turn the turbines of a power generator.

Industrial economy An economic system based on the manufacture of goods in factories.

Islam The religious faith of Muslims that emerged in present-day Saudi Arabia in the sixth century A.D. Muslims believe that Allah is the only God and Muhammad is his prophet. These beliefs are recorded in the Quran.

Mortality rate The number of deaths that occur in one year per 1,000 people in a country. It is used with the birth rate to measure population growth or decline.

Mutawa People who volunteer to enforce strict Islamic law, especially the one requiring that women completely cover themselves in public and that businesses close during proscribed times for prayer.

Nonrenewable resource Resources that cannot be replaced by natural processes. Oil, natural gas, coal, gold, diamonds, and iron ore are all examples of this type of resource.

Oil consumption Oil consumption refers to the use of oil, usually by burning it for energy, but also for lubrication of machine parts, or for making oil products such as chemical sprays, nylon, polyester, and plastics.

Oil production The removal of oil from the ground (or underwater), and putting that oil into containers for shipment to refineries and consumers.

OPEC (Organization of Petroleum Exporting Countries) An organization of countries that are major exporters of oil. Members include Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Libya, Indonesia, United Arab Emirates, Algeria, Nigeria, Ecuador, and Gabon.

Permafrost Ground in cold areas and some high mountain areas that has been frozen for at least two consecutive years. In the far northern lands of Canada, the United States, and Russia, permafrost is common.

Petrochemicals These are compounds from crude oil with a wide range of uses, including glues, plastics, and lighter gases.

Plate tectonics The theory describing the movements of Earth's crustal plates. At plate boundaries, two plates may either move apart, collide, or simply grind past one another. These motions can cause earthquakes, volcanoes, geologic faulting and folding, and mountain building.

Quran Muslims believe that the word of God was recorded in this book. Five basic pillars spelled out in the Quran guide the religious duties of all Muslims: To give testimony to the belief in Allah as God, to pray five times a day, to fast during the month of Ramadan in the Islamic calendar, to give to the poor, and to make the hajj to Makkah (see **hajj, Islam**).

Refinery A factory that converts crude oil into products such as gasoline, jet fuel, lubricating oils, and other petrochemicals.

Riyal The official currency of Saudi Arabia. In 1993, the exchange rate was 3.75 Saudi riyals for one U.S. dollar.

Sedimentary rock A solid material that is formed when layers of sediments (e.g., sand, silt) are compressed and cemented by natural minerals. Sedimentary rock is the only rock type that holds oil.

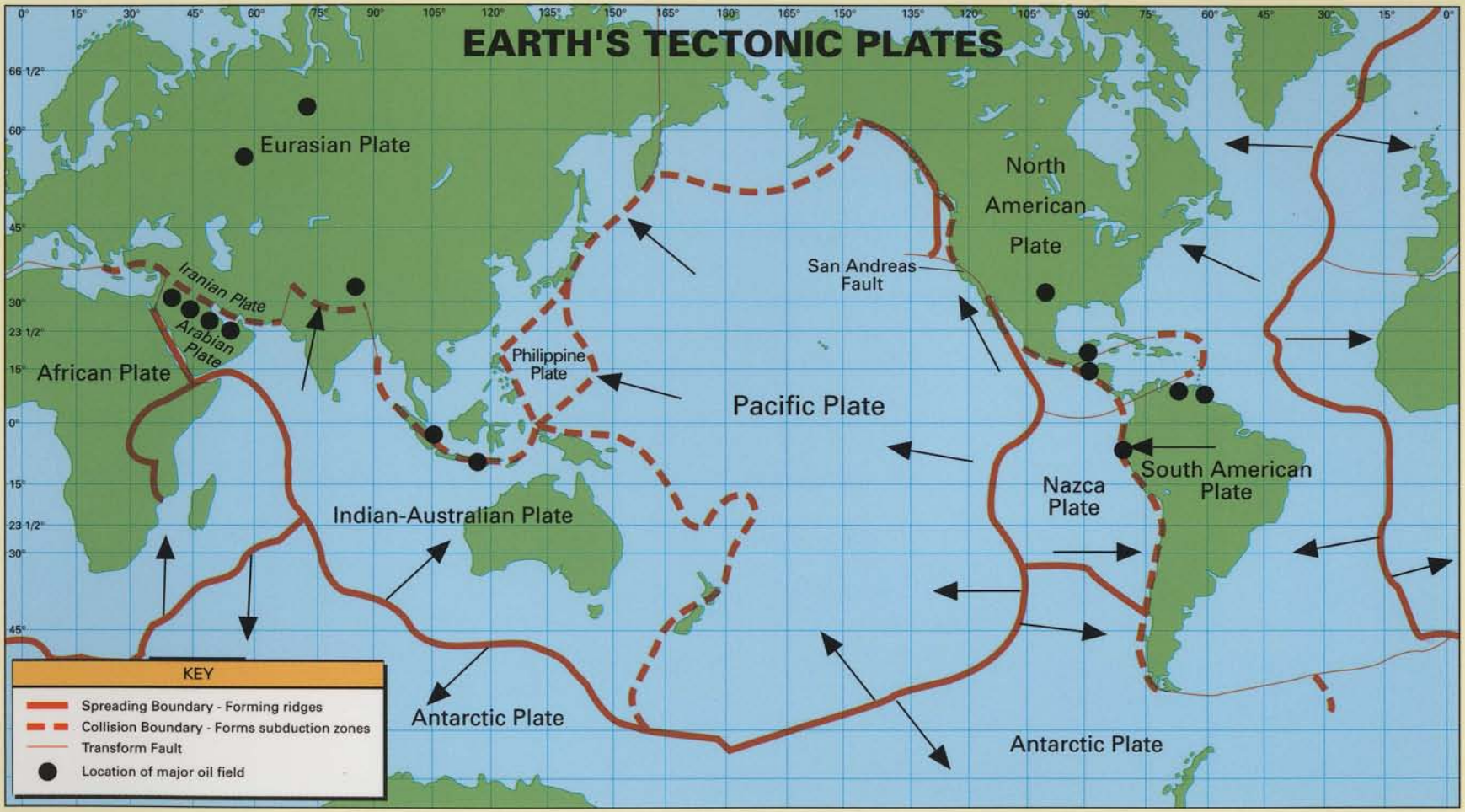
Tectonic plates Earth's crust and upper mantle are made up of more than a dozen huge, rigid slabs that move with respect to each other. See **plate tectonics.**

Vertical integration Controlling all parts of an industry, from raw materials, to transportation, and finally to consumption.

Geographic Inquiry into Global Issues

OIL AND SOCIETY

Map 1

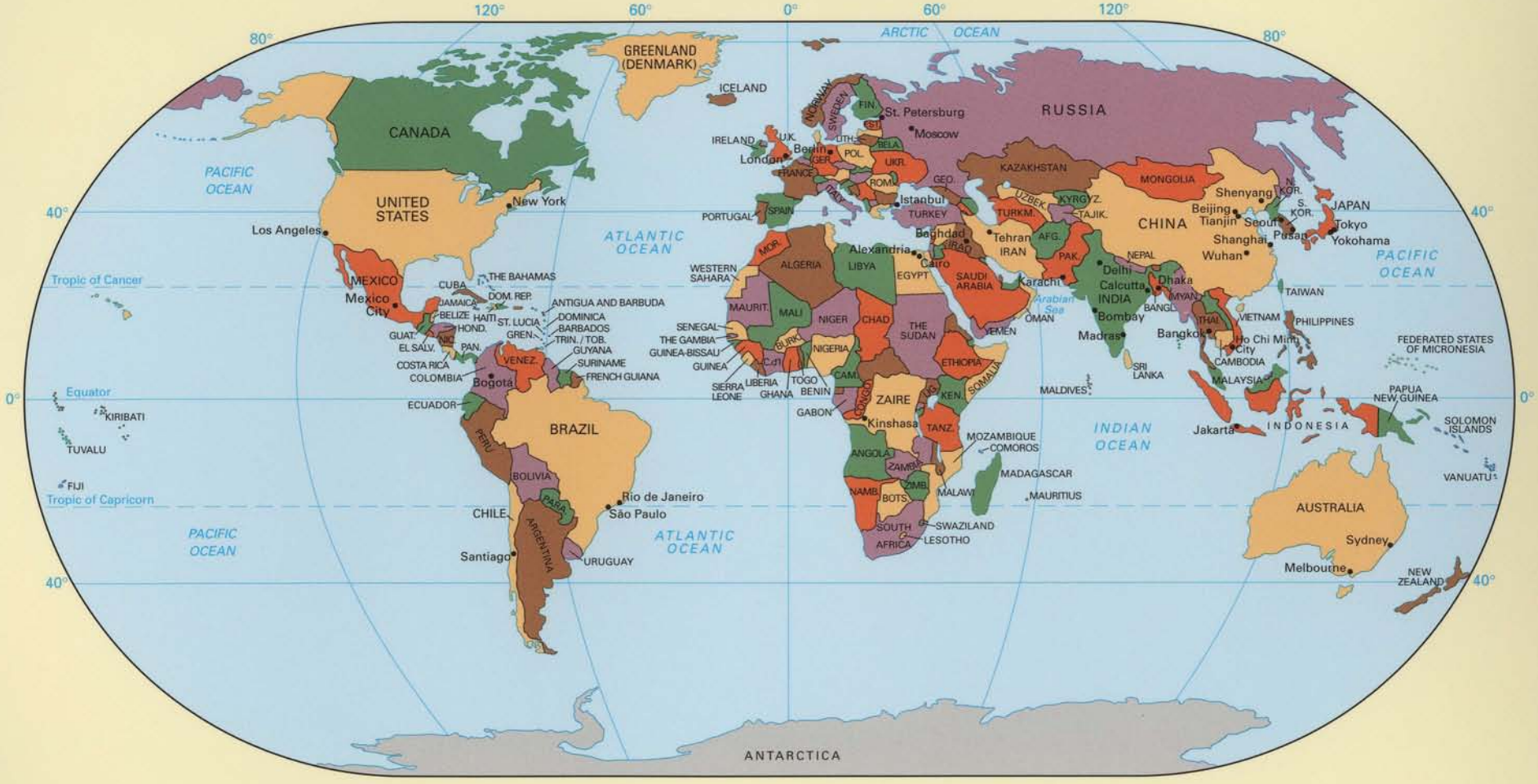


Geographic Inquiry into Global Issues

OIL AND SOCIETY

Map 2

MAJOR COUNTRIES OF THE WORLD



Geographic Inquiry into Global Issues

OIL AND SOCIETY

Map 3

Geographic Inquiry into Global Issues

OIL AND SOCIETY

Map 4