

# Economic Geography

## Unit 4 - Primary Resource Activities

Unit 4 shifts the focus from physical geography to economic geography; more specifically to a study of how humans interact with land resources (i.e., farming and forestry) and ocean resources (i.e., oil recovery and fishing) to satisfy needs and wants. Students will also understand that culture and technology shape what is deemed to be a resource and that the use of resources varies from place to place but still reflects spatial patterns.

## Unit 4: Primary Resource Activities

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### Outcomes

***SCO 4.1: The student will be expected to demonstrate an understanding of what constitutes a resource, including the following delineations:***

- 4.1.1 Describe the three conditions that determine if a natural material is potentially a resource. (k)
- 4.1.2 Demonstrate, with examples, how the use of a resource can be influenced by cultural practices. (a)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- analyze a brief case study of a traditional culture and determine why a given natural material was not a resource according to the three conditions in 4.1.2.
- examine two photos (e.g., a scene showing bicycle traffic or animal transport in a developing country, and a scene showing heavy vehicular traffic in a developed country) and explain how developed societies compare with developing societies in terms of the consumption of resources.

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### Sample Assessment Strategies

*Students could, for example:*

- analyze a brief case study and explain why a change in the use of a given resource occurred (e.g., in southern Ontario, the growing of peanuts on land previously planted in tobacco - change in demand; the spread of residential lots on to farmland - profitability; the retrieval of offshore oil - technology) (see teacher note 1).

### Teacher Notes

- To introduce this SCO, refer to TR Worksheet 8.1.
- The United Nations Food and Agriculture Organization provides a very comprehensive website (<http://www.fao.org>). The agriculture section is an excellent teacher resource. The structure of the site and the extensive range of topics may prove to be daunting for some students. Nonetheless, the statistics, annual reports, and issues treated provide interesting background material. Refer to the State of Food and Agriculture 2000 report. Also click on FactFile.
- Refer to ST, Exercise 5, page 134. (1)

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### Outcomes

***SCO 4.2: The student will be expected to demonstrate the application of the systems model to farming, including the following delineations:***

- 4.2.1 Define the terms inputs, processes, and outputs. (k)
- 4.2.2 Identify the natural inputs in a farming operation. (k)
- 4.2.3 Identify the human inputs in a farming operation. (k)
- 4.2.4 Analyze the processes in a farming operation. (a)
- 4.2.5 Relate farming processes to inputs. (a)
- 4.2.6 Relate the outputs in a farming operation to processes and inputs. (a)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given a list of farm features and farming activities, complete the following chart:

Inputs		Processes	Outputs
Physical	Human		

- given a case study of a farming operation, briefly describe (inputs)
  - the workers and their source
  - the kinds of tools and equipment used
  - the infrastructure
  - the capital invested in the operation
  - the types of seeds or young livestock used
  - the nature of the land
  - the quality of the soil
  - climatic conditions
- given a case study of a farming operation, briefly examine (processes)
  - the division of labour
  - the spatial movement of people and animals
  - how the crops are planted
  - irrigation and soil maintenance practices
  - the annual cycle of farming activities
  - how farming activities spatially arranged
- given a case study of a farming operation, briefly describe (outputs)
  - the kinds of products they obtain the operation for market
  - how they market these products

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### Sample Assessment Strategies

*Students can, for example:*

- given a list or pictures of farm features and farming activities, classify each one as an input, farm process, or output.
- compare two charts showing the annual cycle of activities for farms in different climatic zones. Explain why they differ.
- given a case study of agriculture (e.g., shifting cultivators of Borneo), briefly comment upon
  - climatic conditions
  - how the forest is cleared
  - why the soil is infertile
  - the tools used
  - types of crops grown
  - ratio of labour-to-land
  - marketing of products
 (see teacher note 1)
- interview a senior about subsistence farming in rural Newfoundland and Labrador (e.g., the growing of potatoes, raising of sheep). They should use the systems model to prepare a brief summary of their findings (see teacher note 2).

### Teacher Notes

- The purpose of SCO 4.2 is for students to be able to apply the systems model to any farming operation.
- SCOs 4.2 and 4.4 may be taught together.
- The Farms Around the World website features visual and text information about a wide range of farming systems around the world. This material should be beneficial, particularly for World Geography 3200 students.  
*<http://ajwebs.com/elliott/>*
- It is not necessary for students to recall specific detail from farming case studies in the student text. The case studies should be used as opportunities for students to apply the concepts promoted by the SCOs and the related delineations.
- Refer to the ST, Case Study, “Shifting Cultivation in Borneo,” pages 149-151. (1)
- Have students in a small group cooperative learning structure (e.g., Think-Pair-Share) compare their results and arrange a presentation. (2)

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### Outcomes

**SCO 4.3:** *The student will be expected to demonstrate an application of the systems model to off-shore oil and gas recovery, including the following delineations:*

- 4.3.1 Identify physical factors that influence the decision to recover offshore oil and gas. (k)
- 4.3.2 Identify human factors that influence the decision to recover offshore oil and gas. (k)
- 4.3.3 Relate the kinds of technology used to recover off-shore oil and gas to environmental conditions. (a)
- 4.3.4 Describe elements (e.g., work roles, shift rotations) of an off-shore oil recovery operation. (k)
- 4.3.5 Examine the economic importance of the off-shore oil industry. (a)
- 4.3.6 Examine factors that affect the viability of the off-shore oil and gas industry. (a)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given a list of features and activities related to off-shore oil and gas recovery, complete the following chart:

Inputs		Processes	Outputs
Physical	Human		

- given a case study of an off-shore oil or gas recovery operation that utilizes a gravity-based platform,
  - describe the location of the reserve
  - explain how the type of drilling platform used relates to the nature of the marine environment
  - describe some of the risks faced by off-shore oil and gas workers
  - describe activities associated with the recovery of the oil or gas
  - describe the method used to transport the oil or gas to the onshore site
  - identify the market for the oil or gas
- given information related to working conditions experienced by an on-shore worker and those experienced by an off-shore (for the same trade), account for the difference in wages and work-shift arrangements.
- given a case study about working conditions aboard an off-shore drilling platform, students can identify the conditions that would most attract them to work in the offshore oil industry.

## Unit 4: Primary Resource Activities

### Sample Assessment Strategies

*Students could, for example:*

- given diagrams illustrating the four types of off-shore drilling rigs (i.e., submersible, jack-up, semi-submersible anchored, and semi-submersible dynamically positioned), correctly identify each one and explain how they relate to the nature of the marine environment (see teacher note 1).
- given a case study of an off-shore oil or gas recovery operation that utilizes a semi-submersible anchored platform,
  - describe the location of the reserve
  - explain how the type of drilling platform used relates to the nature of the marine environment
  - describe some of the risks faced by off-shore oil and gas workers
  - describe activities associated with the recovery of the oil or gas
  - describe the method used to transport the oil or gas to the onshore site
  - identify the market for the oil or gas (see teacher note 2)
- prepare a questionnaire that could be used to interview a worker in the off-shore oil industry.

### Teacher Notes

- SCOs 4.3 and 4.5 may be taught together.
- Refer to TR Worksheet 11.2 and to ST, Figure 11.4, page 187. (1)
- Refer to the ST, Hibernia case study, pages 187-191. (2)

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### Outcomes

***SCO 4.4: The student will be expected to demonstrate an understanding of selected patterns in the distribution of selected types of farming including the following delineation:***

- 4.4.1 Compare commercial farming and subsistence farming. (k)
- 4.4.2 Compare extensive farming and intensive farming. (k)
- 4.4.3 Define the terms shifting cultivation, agribusiness, and nomadic herding. (k)
- 4.4.4 Relate types of agriculture to climatic regions. (a)
- 4.4.5 **Analyze a farming operation in terms of criteria related to commercial, subsistence, extensive, or intensive agriculture. (a)**
- 4.4.6 **Relate types of crops to selected climatic conditions. (a)**
- 4.4.7 **Examine patterns in the global distribution of types of agriculture. (a)**

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given a case study of a farm, classify the operation as commercial or subsistence, extensive or intensive. The classification must be supported with information from the case study (see teacher note 1).
- analyze a world map showing types of farming activities and a world ecosystems map to complete the following exercises:
  - briefly describe and explain the distribution of shifting agriculture
  - briefly describe and explain the distribution of cattle ranching (see teacher note 2)
- select a produce item that is imported from another country. They should explain why it is not possible to grow it in their local area.

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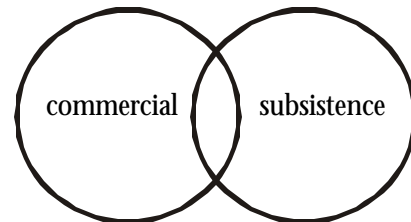
### Sample Assessment Strategies

*Students could, for example.*

- analyze a world map showing types of farming activities and a world ecosystems map to complete the following exercises:
  - describe the conditions that areas of nomadic herding have in common
  - describe the conditions that explain why some areas have little or no agricultural activities
- given a map and a description of climatic conditions (e.g., number of frost-free days, temperature and rainfall conditions), indicate where a given crop may be grown and explain their choice.
- conduct an Internet search for an email contact for a farmer. Develop a brief questionnaire about the farming operation for the farmer to complete.

### Teacher Notes

- For a simple collaborative strategy about types of agriculture, refer to TR, Triad Presentations, pages 98-99. (1)
- ST, Case Study: Rice Farming in Bangladesh, pages 147-149, and ST, Case Study: Shifting Farming in Borneo, pages 149-151 are examples of intensive and subsistence farming. (1)
- ST, Case Study: Plantation Farming in Hawaii, pages 152-153; ST, Case Study: Wheat Farming in Ukraine, pages 153-156; and ST, Case Study: An Agribusiness in the Philippines, pages 156-157 are examples of extensive and commercial farming. (1)
- Refer to ST, Figure 9.13, page 157.
- It should be noted that an intensive farming operation can also be commercial.
- Delineations 4.4.1 and 4.4.2 may be taught through the use of Venn diagrams. For example,



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### Outcomes

***SCO 4.5: The student will be expected to analyze patterns in the location of off-shore oil reserves, including the following delineations:***

- 4.5.1 Explain how oil and gas are formed. (k)
- 4.5.2 Describe the techniques used to locate oil and gas reserves. (k)
- 4.5.3 Analyze patterns to arrive at patterns in the distribution of proven off-shore oil and gas reserves. (a)

### Sample Learning/Teaching Strategies

*Teachers can have students*

- given a diagram, describe the formation of oil and gas (see teacher note 1).
- given a world map, identify the primary off-shore areas with proven oil and gas reserves.

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### Sample Assessment Strategies

*Students could, for example.*

- using a map showing the oil regions of the world, identify the areas that pose the greatest risk in the recovery of oil and gas. Select one area and explain why.

### Teacher Notes

- Refer to ST, Figure 11.1, page 183.
- Refer to the International Energy Association website (<http://www.iea.org>) and follow the links to the report, World Energy Outlook 2000.

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### Outcomes

***SCO 4.6: The student will be expected to analyze trends and related issues in the utilization of forest resources, including the following delineations:***

- 4.6.1 Compare the terms clear-cutting and selective cutting. (k)
- 4.6.2 Compare the advantages and disadvantages of each approach to the harvesting of timber. (k)
- 4.6.3 Examine major threats to forest resources. (a)
- 4.6.4 Examine strategies for a sustainable forestry. (a)
- 4.6.5 Evaluate a position taken on a given argument about timber harvesting. (i)
- 4.6.6 Infer a relationship between climate and the extent of forest cover. (a)
- 4.6.7 Analyze global patterns in the depletion of forest resources. (a)

### Sample Learning/Teaching Strategies

- analyze a case study of a tree harvesting operation in a needleleaf ecosystem or an operation in an equatorial rainforest ecosystem:
  - determine if clear-cutting or selective cutting is used
  - determine if the operation is labour-intensive or capital-intensive
  - identify the market for and uses made of the harvested timber
  - identify factors that are difficult for the owner of the operation to control
  - describe the forest management practices that the operation engages in
- conduct research and write a brief report on an alternative use of the forest resource (e.g., recreational use, medical research).
- compare a line graph showing trends in global forest depletion (1950-2025) and one showing trends in the demand for agricultural land (1950-2025). Describe the relationship in the trends shown.
- examine a case study of a past issue in the forest industry (e.g., Native group opposition to forestry in South Moresby, or in northern Ontario; opposition to the aerial spraying of insecticides):
  - identify the problem
  - describe the positions taken by each side
  - explain the reasons for the opposing positions
  - explain how the issue has been resolved (or why it has not been resolved)
- analyze a table of statistics showing, by continent, the percentage of land surface covered in forest. Describe the pattern shown.

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### Sample Assessment Strategies

- analyze a case study of a tree-farming operation and describe
  - the climatic conditions
  - the annual cycle of activities
  - the equipment used
  - measures taken to control insects and weeds
  - how the trees are harvested and marketed
- describe major natural and human-made threats to the forest resource.
- select a continent with a low percentage of its land area covered in forest. Examine a world climate map and identify one factor that contributes to this problem.
- examine a world map showing trends in deforestation:
  - identify areas where the rainforest is expected to vanish within 50 years
  - identify areas where the rainforest is expected to be seriously diminished
- assume the role of a government official assigned to promote sustainable forestry. Outline possible strategies to achieve this goal.
- identify an environmental issue in a newspaper article, letter to the editor, or any other source that centers around conflicting positions of industry and environmentalists on the use of the forest resource. Describe what the conflict is about and determine the values underlying both positions. Select a position and evaluate its validity.

### Teacher Notes

- For Delineation 4.6.5, have the World Geography 3200 students draw very simple conclusions about the value position of a timber harvester and compare them to those of an environmentalist. For World Geography 3202 students, teachers may wish to have them elaborate on why different stakeholders will have very different positions.
- Refer to the FAO forestry website <http://www.fao.org/forestry/index.jsp> - the section on desertification contains maps and graphs about trends in forest cover. The section on biodiversity contains the report, State of the World's Forests 2003.

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### Outcomes

***SCO 4.7: The student will be expected to explore issues related to the management of the fish resource, including the following delineations:***

- 4.7.1 Examine impacts on a marine ecosystem. (a)
- 4.7.2 Examine trends in fish catches over an extended period. (a)
- 4.7.3 Develop an argument for the development of the aquacultural sector of the fishery. (i)
- 4.7.4 Identify major sources of ocean pollution. (k)
- 4.7.5 Examine the impact of new catch technology on the ocean environment. (a)
- 4.7.6 Develop strategies for a sustainable fishery. (i)
- 4.7.7 Predict possible effects of a declining fish resource on the livelihood of fishers. (i)

### Sample Learning/Teaching Strategies

- given statistics about the estimated bio-mass levels of the world's major fishing grounds, draw a bar graph to represent the data. Briefly describe the pattern shown (see teacher note 1).
- describe why a new technology (e.g., the freezer factory trawler) was introduced. They should determine whether its introduction also had negative effects on the ocean environment.
- given a case study of an international boundaries dispute (e.g., Canada-U.S. Georges Bank, Canada-France St. Pierre and Miquelon bank), describe
  - what the dispute is (was) about
  - factors which make (made) the issue difficult to resolve
  - present status of the dispute
  - impact on those involved in the fishery
- assume the role of a television reporter who is to investigate the impact of a declining fish resource upon a fisher person. They could develop a list of issues they wish to explore and related questions they would ask.
- examine case study material about an aquacultural operation. Identify information that may be used to support the argument that aquaculture should be expanded.

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### Sample Assessment Strategies

- conduct research on a practice that is a threat to a fish resource (e.g., use of trawlers, drift netting). They should develop a brief report
  - identifying the countries involved
  - the species threatened
  - attempts by environmental organizations to change the practice
  - the prospects for satisfactorily resolving the issue (see teacher note 2)
- draw a cartoon to depict some aspect of either a cause or effect of the decline in the cod fishery off Canada's east coast.
- assume the role of a minister of fisheries for a province or state that is experiencing declining fish stocks. They could develop a list of strategies that they wish to present to government to help ensure a sustainable harvest.

### Teacher Notes

- Refer to the FAO website (<http://www.fao.org>). Follow the links to the fisheries section for the State of the World Fisheries and Aquaculture 2000 report.
- NOAA has an excellent website containing a fisheries section. <http://www.noaa.gov>
- Refer to ST, Figure 12.7, page 203. (1)
- Refer to ST, Exercises 11, and 12(b), page 208. (2)

