

## 1. Details of Module and its structure

Module Detail	
Subject Name	Geography
Course Name	Geography 03 (Class XII, Semester - 1)
Module Name/Title	Human Activity - Primary Activities – Part 1
Module Id	legy_10501
Pre-requisites	Basic Knowledge about Primary Economic activities
Objectives	<p>After going through this lesson, the learners will be able to understand the following:</p> <ul style="list-style-type: none"><li>• Introduction of Economic Activities</li><li>• Historical Perspective of Primary Activities</li><li>• Types Of Economic Activities</li><li>• Primary activities</li><li>• Hunting and gathering</li><li>• Pastoralism</li><li>• Nomadic Herding</li><li>• Commercial Livestock Rearing</li><li>• Mining</li><li>• Methods of Mining</li><li>• Importance of Mineral</li></ul>
Keywords	Red Collar Workers, Hunting and Gathering, Pastoralism, Mining

## 2. Development Team

Role	Name	Affiliation
National MOOC Coordinator (NMC)	Prof. Amarendra P. Behera	CIET, NCERT, New Delhi
Program Coordinator	Dr. Mohd. Mamur Ali	CIET, NCERT, New Delhi
Course Coordinator (CC) / PI	Dr. Tannu Malik	DESS, NCERT, New Delhi
Course Co-Coordinator / Co-PI	Dr. Archana	CIET, NCERT, New Delhi
Subject Matter Expert (SME)	Mr. A.K.Pandey	RPVV, Raj Niwas Marg, New Delhi
Review Team	Prof. M. H. Qureshi (Retd.) Dr. P. K. Malik	JNU, New Delhi Government College Sidhrawali, Gurugram

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Human beings are engaged in various kinds of economic activities that pertain to the production, exchange or distribution and consumption of goods and services. With the evolution of human society, the nature of economic activities has changed and has become more and more complex. Human activities which generate income are known as economic activities. Economic activities are broadly grouped into primary, secondary, tertiary and quaternary activities. Primary activities are directly dependent on environment as these refer to utilisation of earth's resources such as land, water, vegetation, building materials and minerals. It, thus includes, hunting and gathering, pastoral activities, fishing, forestry, agriculture, and mining and quarrying.



Fig. No 01 Bushmen in Deception Valley, Botswana demonstrating how to start a fire by rubbing sticks together.

Source: <https://upload.wikimedia.org/wikipedia/commons/8/81/BushmenSan.jpg>

People engaged in primary activities are called red collar workers due to the outdoor nature of their work.

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## Historical Perspective

Humans, ever since their appearance on the earth, have depended on the physical environment for their survival and development. Even today, we depend on the nature for many of our material and aesthetic needs. Without sunshine, soil, minerals and rocks, water, vegetation and animals our very existence will be impossible. The early humans led a simple, though arduous life. Their needs were limited. They moved from place to place in search of food and water. They hunted animals and gathered fruits, nuts, roots, stems and leaves of edible plants to satisfy their hunger. The subsistence of people based on hunting of animals and gathering of wild plant foods and fishing without domestication of plants and animals is known as *foraging*. Use of fire for cooking and heating, domestication of animals, cultivation of crops and living in the permanent villages triggered off *agricultural revolution*. All these developments did not occur simultaneously, nor did they occur in isolation. They were interrelated, each acting as a cause as well as the effect of the rest. When did the agricultural revolution take place? It is difficult to answer this question, though it may be stated categorically that it took place at different times in various regions of the world. According to the available archaeological evidences, agricultural revolution was experienced in the river valleys, where ancient civilisations flourished. Agricultural revolution changed the lives of people enormously as they had more time for other functions. Artisanal activities in support of agriculture as well as to meet other basic needs and aesthetic tastes grew. Trade in agricultural and artisan products led to the opening of transport routes. Villages increased in size to form small and then large towns. Some 5,000 years ago, the Nile Delta in Egypt, the river valleys of the Euphrates and the Tigris in Mesopotamia and the Indus in India witnessed the blossoming of well-developed cities and towns. But the base of all these cities was agriculture and related activities.

After the elapse of several millenniums, a revolutionary change in human civilisation took place in Europe during the eighteenth century. At that time, Europe was agriculturally less developed due to unfavourable climatic conditions. The *industrial revolution*, which started with the invention of steam engine, however, changed the course of development. While the agricultural revolution was triggered off by a better and more organised way of using the biological products of nature, the industrial revolution relied on the use of energy stored in nature in the form of coal, and later petroleum. It helped people avoid the drudgery

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of manual labour and produce non-agricultural commodities on a mass scale. It also had its impact on education, health, transport and trade.

Industrial revolution had its adverse effects too. The European countries used its power to improve the life of their people. They had limited natural resources and hence, limited scope for development. They ventured out of their own countries to colonise people in other continents. The overseas colonies not only gave them ample natural resources but also vast market to sell their industrial goods. It is reflected through the transport routes that developed in these colonies during that period. Development of port cities and their linkages with the hinterland in several colonies explain this design. Consequently, the situation reversed. Europe which was underdeveloped became developed, and other continents specially Asia which were more developed became less developed.

By the middle of the twentieth century, signs of fatigue became clearly visible in the industrial apparatus of the world. The two world wars and several localised conflicts aroused the human conscience against unbridled industrialisation in producing arms and ammunitions. Environmental crises forced the people to think of an alternative sustainable development model. Growing poverty in the three continents of Asia, Africa and South America in the midst of increasing income in the industrial world, shook the faith of people in industrialisation as the panacea for all ills.

Before the thinking on a human model of development could take a concrete shape, the industrial world faced a challenge from within. The role of information increased and by 1980s, the production and transmission of knowledge became a major preoccupation in the west. A third major change in human civilisation, popularly known as *information revolution*, became a reality by the turn of the twentieth century. The Industrial Era still lingers on; but the signs of its early demise are clear and obvious.

Information revolution has potentials of sweeping the whole world developed as well as developing for obvious reasons that human potentials are not as unevenly distributed as the natural resources. Moreover, the use of information technology in various sectors of our life and living world has opened up new and greater opportunities for development and if handled judiciously, without enlarging the gulf between the rich and the poor.

### **Types of Economic Activities**

With this background, we may now identify different kinds of economic activities such as hunting and gathering, pastoralism, mining, fishing, agriculture, manufacturing (industries),

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and various types of services— trade, transport education, health care and administration. These are broadly grouped as primary, secondary, tertiary and quaternary activities.

**Primary activities** pertain to extraction of raw materials from the earth's surface. These include hunting and gathering, pastoralism, fishing, forestry, mining and agriculture.

**Secondary activities** include industries that transform raw materials into finished goods having higher value. For example, manufacturing cotton textiles from cotton, and iron and steel from iron ore come under secondary activities.

**Tertiary activities** include all kinds of services provided to people such as education, health, trade and transport.

**Quaternary activities** represent a special type of service, which is related to high intellectual activities e.g. research and development, high order of professional and administrative service, information generation, processing and transmission.

**Quinary activities** are services that focus on the creation, re-arrangement and interpretation of new and existing ideas, data interpretation and the use and evaluation of new technologies.

While labelling human activities as primary, secondary, tertiary, and quaternary, let us not think that they are independent of each other. Their boundaries are often overlapping. With advancements in science and technology, the nature of production in all fields has changed so greatly that all these sectors have become interdependent.

### **Primary activities**

Primary activities in economically developed nations account for less than 5 per cent of employment but in many developing countries of the world, they still employ a major segment of labour forces. In any case, primary activities are almost the only source of food supply and raw materials for industries. Among these activities are included some of the most primitive activities like hunting and gathering, which sustained human beings for more than 95 per cent of their existence on the earth. Also included are the modern agricultural systems.

### **Hunting and gathering**

Until 12,000 years ago, all humans lived as hunters and gatherers. They occupied nearly all the liveable space on the planet. At present, not more than 1 in 100,000 persons (less than 0.0001 per cent) live mainly this way; probably none does so entirely without any contact with the modern world.

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Historically, this form of economy involved frequent migration in search of food. People lived in small groups, having virtually no private property. Simple implements like spears, bows and arrows were used for hunting. Locally available materials were used for their clothing and shelter.

The foragers were very successful in occupying a wide variety of habitats having different climates and biological resources. Fish and mammals from the sea provided subsistence to the people inhabiting the harsh landscapes of the polar coast. On the other extreme, the hunting - gathering people successfully colonised the tropical rainforests. By and large, the foragers simply live off the land without changing the natural ecosystem in a major way.

The hunting-gathering people have exhibited a great resistance. As recently as A.D. 1500, they occupied about one-third of the globe, including whole of Australia, most of North America and large tracts of South America, Africa and North-east Asia. Since, then their numbers have declined. The twentieth century has witnessed profound changes in their ways of living. Their land and resources shrank as industrialisation and urbanisation progressed.

The earliest human beings depended on their immediate environment for their sustenance. They subsisted on: (a) animals which they hunted; and (b) the edible plants which they gathered from forests in the vicinity.

Primitive societies depended on wild animals. People located in very cold and extremely hot climates survived on hunting. The people in the coastal areas still catch fish though fishing has experienced modernisation due to technological progress. Many species now have become extinct or endangered due to illegal hunting (poaching). The early hunters used primitive tools made of stones, twigs or arrows so the number of animals killed was limited. Gathering and hunting are the oldest economic activity known. These are carried out at different levels with different orientations.

Gathering is practised in regions with harsh climatic conditions. It often involves primitive societies, who extract, both plants and animals to satisfy their needs for food, shelter and clothing. This type of activity requires a small amount of capital investment and operates at very low level of technology. The yield per person is very low and little or no surplus is produced.





Fig No.2: Women Gathering Oranges in Mizoram

Gathering is practised in: (i) high latitude zones which include northern Canada, northern Eurasia and southern Chile; (ii) Low latitude zones such as the Amazon Basin, tropical Africa, Northern fringe of Australia and the interior parts of Southeast Asia (Fig. 5.2).

In modern times some gathering is market oriented and has become commercial. Gatherers collect valuable plants such as leaves, barks of trees and medicinal plants and after simple processing sell the products in the market. They use various parts of the plants, for example, the bark is used for quinine, tannin extract and cork— leaves supply materials for beverages, drugs, cosmetics, fibres, thatch and fabrics; nuts for food and oils and tree trunk yield rubber, balata, gums and resins.

The name of the part of the chewing gum after the flavour is gone? It is called Chicle — it is made from the milky juice of zapota tree

Gathering has little chance of becoming important at the global level. Products of such activity cannot compete in the world market. Moreover, synthetic products often of better quality and at lower prices, have replaced many items supplied by the gatherers in tropical forests.

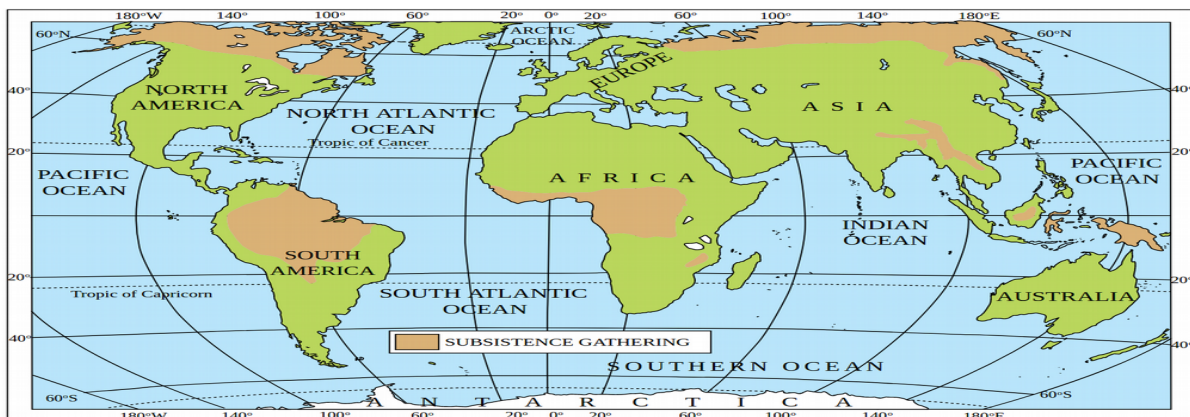


Fig. No. 3: Areas of Subsistence Gathering

### Pastoralism

The domestication of animals was one of the early steps in the development of civilisation. At some stage in history, with the realisation that hunting is an unsustainable activity, human

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beings might have thought of domestication of animals. People living in different climatic conditions selected and domesticated animals found in those regions e.g. cattle and horses in the grasslands, sheep and reindeer in the tundra regions, camel in the tropical deserts, and llama and yak in the high altitudes of the Andes and the Himalaya respectively. Depending on the geographical factors, and technological development, animal rearing today is practised either at the subsistence or at the commercial level

### **Nomadic Herding**



Fig. No.;4 The Nomads's Simple life

Source: [https://c1.staticflickr.com/1/110/266139764\\_7a74f997b3\\_b.jpg](https://c1.staticflickr.com/1/110/266139764_7a74f997b3_b.jpg)

Nomadic herding or pastoral nomadism is a primitive subsistence activity, in which the herders rely on animals for food, clothing, shelter, tools and transport. They move from one place to another along with their livestock, depending on the amount and quality of pastures and water. Each nomadic community occupies a well-identified territory as a matter of tradition. A wide variety of animals is kept in different regions. In tropical Africa, cattle are the most important livestock, while in Sahara and Asiatic deserts, sheep, goats and camel are reared. In the mountainous areas of Tibet and Andes, yak and llamas and in the Arctic and sub-Arctic areas, reindeer are the most important animals.



Fig. No.5: Tibetan Nomads at Nam Tso



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Source;[https://upload.wikimedia.org/wikipedia/commons/c/cf/Tibet\\_06\\_-\\_022\\_-\\_Tibetan\\_Nomads\\_at\\_Nam\\_Tso\\_%28147426701%29.jpg](https://upload.wikimedia.org/wikipedia/commons/c/cf/Tibet_06_-_022_-_Tibetan_Nomads_at_Nam_Tso_%28147426701%29.jpg)

Pastoral nomadism is associated with three important regions. The core region extends from the Atlantic shores of North Africa eastwards across the Arabian peninsula into Mongolia and Central China. The second region extends over the tundra region of Eurasia. In the southern hemisphere there are small areas in South-west Africa and on the island of Madagascar.

Movement in search of pastures is undertaken either over vast horizontal distances or vertically from one elevation to another in the mountainous regions. The process of migration from plain areas to pastures on mountains during summers and again from mountain pastures to plain areas during winters is known as transhumance. In mountain regions, such as Himalayas, Gujjars, Bakarwals, Gaddis and Bhotiyas migrate from plains to the mountains in summers and to the plains from the high altitude pastures in winters. Similarly, in the tundra regions, the nomadic herders move from south to north in summers and from north to south in winters.

The number of pastoral nomads has been decreasing and the areas operated by them shrinking. This is due to (a) imposition of political boundaries; (b) new settlement plans by different countries.

### **Commercial Livestock Rearing**

Unlike nomadic herding, commercial livestock rearing is more organised and capital intensive. Commercial livestock ranching is essentially associated with western cultures and is practised on permanent ranches. These ranches cover large areas and are divided into a number of parcels, which are fenced to regulate the grazing. When the grass of one parcel is grazed, animals are moved to another parcel. The number of animals in a pasture is kept according to the carrying capacity of the pasture. Instead of depending upon natural grasslands, fodder crops and grasses are cultivated over extensive areas, and special breeds of animals are reared to give maximum yields of milk or meat.



Fig. No; 6; A rotary milking parlor at a modern dairy facility, located in Germany

Source: <https://upload.wikimedia.org/wikipedia/commons/3/3f/Melkkarussell.jpg>

This is a specialised activity in which only one type of animal is reared. Important animals include sheep, cattle, goats and horses. Products such as meat, wool, hides and skin are processed and packed scientifically and exported to different world markets.

Rearing of animals in ranching is organised on a scientific basis. The main emphasis is on breeding, genetic improvement, disease control and health care of the animals. The large-scale livestock rearing (ranching) on a commercial basis is typical in developed countries.



Fig. No; 7 Testing Australian sheep for exhaled methane production

Source: [https://upload.wikimedia.org/wikipedia/commons/8/88/CSIRO\\_ScienceImage\\_1898\\_Testing\\_Sheep\\_for\\_Methane\\_Production.jpg](https://upload.wikimedia.org/wikipedia/commons/8/88/CSIRO_ScienceImage_1898_Testing_Sheep_for_Methane_Production.jpg)

New Zealand, Australia, Argentina, Uruguay and United States of America are important countries where commercial livestock rearing is practised.

## **Mining**

The mining and quarrying of rocks and minerals is an age old economic activity, though its nature and form has changed in many ways. Use of minerals by the early humans was probably restricted to picking up a rock and using it as a tool for crushing seeds or hunting animals. Gradually, humans switched over from tool-using to tool-making. The progressive

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and increasingly sophisticated use of mineral resources is marked with different stages of human civilisation. From flint spear head to clay pots, to copper dagger, to bronze vessels, to iron chains, and so on, humans have moved on discovering and using new minerals. On the basis of the mineral-use, eight ages of the human civilisation are usually identified

Mining probably began about 1, 00,000 B.C. In simple terms, it means removing the rock materials from the earth's surface for processing, so that they are made more beneficial. It can be as simple as shoveling sand or as complex as drilling tunnels, blasting rock and lifting ore from thousands of metres deep beneath the ground. The discovery of minerals in the history of human development is reflected in many stages in terms of copper age, Bronze Age and Iron Age. The use of minerals in ancient times was largely confined to the making of tools, utensils and weapons. The actual development of mining began with the industrial revolution and its importance is continuously increasing.



Fig. No; 8 coal Mining

Source: [https://upload.wikimedia.org/wikipedia/commons/b/b3/Strip\\_coal\\_mining.jpg](https://upload.wikimedia.org/wikipedia/commons/b/b3/Strip_coal_mining.jpg)

Nature of mining activity has undergone many changes over the years. In the early days of the feudal period, mining was a work of prisoners and slaves. Greeks and Romans in the ancient time operated their mines with captive armies or indigenous peoples under their control. By the Middle Ages, mining was considered a noble profession. Mining guilds in England and Germany were powerful organisations as they controlled the production of metals needed for arms and coinage. In modern times, mining is no longer a major employer. Mechanisation has increased efficiency and productivity and hence only a small percentage of work force is required in this kind of activity now compared to earlier times.

Globally, the mineral use has increased over time. Since, the industrial revolutions, associated technological developments and growing population, have increased the use of minerals at very high rates. During last century, mineral use increased 13 times or more.

Factors Affecting Mining Activity The profitability of mining operations thus, depends on two main factors:

- Physical factors include the size, grade and the mode of occurrence of the deposits.
- Economic factors such as the demand for the mineral, technology available and used, capital to develop infrastructure and the labour and transport costs.

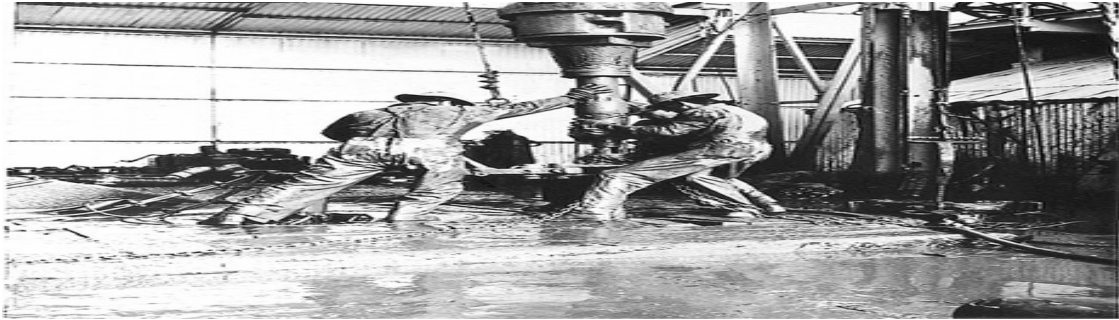


Fig. No. 9: Oil drilling operation in the Gulf of Mexico

### Methods of Mining

Depending on the mode of occurrence and the nature of the ore, mining is of two types: surface and underground mining. The surface mining also known as open-cast mining is the easiest and the cheapest way of mining minerals that occur close to the surface. Overhead costs such as safety precautions and equipment is relatively low in this method. The output is both large and rapid.

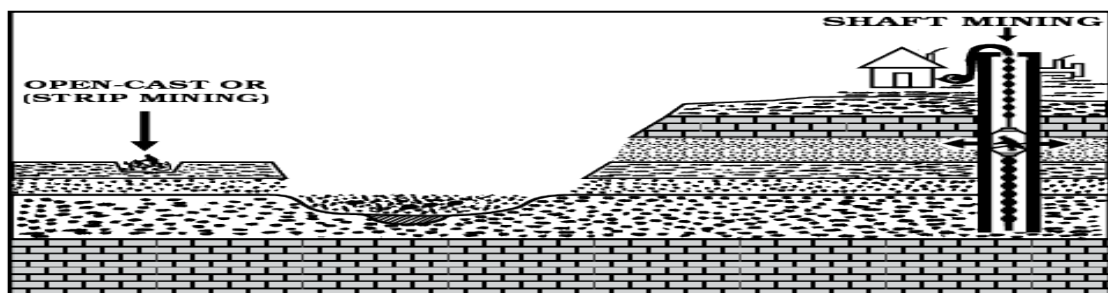


Fig. No;10 Methods of Mining

When the ore lies deep below the surface, **underground mining method** (shaft method) has to be used. In this method, vertical shafts have to be sunk, from where underground galleries radiate to reach the minerals. Minerals are extracted and transported to the surface through these passages. It requires specially designed lifts, drills, haulage vehicles, ventilation system for safety and efficient movement of people and material. This method is risky. Poisonous gases, fires, floods and caving in lead to fatal accidents.





Fig. No; 11 Offshore mobile oil drilling platform in Gulf of Mexico

Source: <https://upload.wikimedia.org/wikipedia/commons/2/23/GrandIsleBlock48OilDrillingPlatform.jpg>

Have you ever read about mine fires and flooding of coal mines in India?

The developed economies are retreating from mining, processing and refining stages of production due to high labour costs, while the developing countries with large labour force and striving for higher standard of living are becoming more important. Several countries of Africa and few of South America and Asia have over fifty per cent of the earning from minerals alone.

### **Importance of Mineral**

Minerals consist of one or more elements and have specific chemical composition. They are one of the most valuable resources of the earth because of their various uses. They are exhaustible or non-renewable. Besides, they are distributed very unevenly. They are generally found in the form of ores, which contain several impurities. Minerals are separated from the ores involving a number of distinct processes.

Minerals occur in different types of formations e.g. igneous intrusions, sedimentary ore deposits, alluvial deposits and oceanic deposits. Many important mineral deposits are contained within igneous intrusions and are found at different depths as they solidified at different temperatures. As such some of them are often found in association with the other such as silver with lead and zinc because they solidify at a similar temperature. Other minerals may be found at different levels e.g. tin is found at a greater depth than copper.

Minerals are broadly divided into two groups: metallic and non-metallic. *Metallic minerals* are those which yield metals such as iron, copper, silver and gold. They are indispensable to the contemporary society. All other minerals such as salts, sulphur, coal and petroleum belong to the non-metallic group. Majority of the minerals are inorganic in nature. Coal and petroleum or mineral oil owe their origin to the fossils of plants and animals (buried



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vegetation and animals) and hence are organic in nature. Since they are used as fuel, they are also known as fossil fuels or mineral fuels.

***Minerals are distributed unevenly. Commercially viable mineral deposits are found only in selected places. However, because of the extensive use, many of the world's richest mineral deposits have either been depleted or are on the verge of depletion. Minerals found in insufficient concentration are not worth extraction because of high production cost. Economically important minerals include iron, manganese, lead, aluminium (bauxite), copper, nickel, tin and zinc.***