Summary No.3

Natural Goods- Classification of natural goods

Natural resources are often classified based on their ability to make a direct or indirect contribution to the satisfaction of human needs. In this case, they are classified as consumer goods or investment goods. Numerous natural resources make a direct contribution to the satisfaction of human needs and, therefore, can be interpreted as consumer goods. Their contribution to the satisfaction of human needs can be considered within Maslow's framework of various levels of needs. There are many natural commodities that directly satisfy humans' needs at the basic level. However, it is much harder to find any example of natural resources which directly contribute to the satisfaction of needs at the top levels Maslow's framework such as human belongingness and love needs, or esteem needs. Other natural resources contribute indirectly to the satisfaction of human needs enabling the production of consumer goods. They are used as factors of production and constitute investment goods. Fossil fuels, wood, metals and water are productive factors in the production of energy, furniture, in the metalworking industry and in agriculture. Two problems may arise from the productive use of natural resources. First, the stocks of the natural resources used as productive factors become depleted and may decline over time. This may severely restrict human economic activity. Second, the stocks of other natural resources not involved in production at all are used up as well; for example: greenhouse gas emissions into the atmosphere caused by burning fossil fuels.

Another classification is based on the criteria of excludability of use or rivalry in use. In this case, many natural goods can be classified as private goods, which are characterized by excludability and rivalry. Natural gas may

serve as an example. If the price is not paid, the pipeline can be locked. Furthermore, if a given amount of natural gas is used in the oven of family A, family B can't use this amount to produce heating, so we have rivalry. Other natural goods can be classified as natural club goods, which are characterized by excludability and non-rivalry. a beach accessible only via a certain hotel may serve as an example. Only this hotel's customers have access to the beach, while there is no rivalry among the hotel's customers concerning the beach. Severe environmental problems may arise where natural goods can be characterized as collective goods (non-excludability, non-rivalry) such as the purity of the atmosphere or as open access goods (non-excludability, rivalry) such as Sea fish. By substantially reducing greenhouse gas emissions, global climate stabilization could be achieved. No person in the world could be excluded from the corresponding benefits. In addition, there is non-rivalry, because the fact that climate stabilization would be enjoyed by people in all over the world.

Natural resources can be classified into renewable and non-renewable resources. Renewable resources are generally living resources (fish, coffee, and forests, for example), which can restock (renew). Non- renewable natural resources are non-living renewable natural resources include soil, as well as water, wind, tides and solar radiation, etc.

Natural resources can also be classified on the basis of their origin i.e. biotic and abiotic. Biotic resources are derived from animals and plants (i.e., the living and organic resources). Biotic is a living component of a community obtained from the biosphere; for example, organisms, such as plants and animals. Examples of these natural resources: the foods, sugars, tea, coffee, medicines are obtained from the plants; and fossil fuels such as coal and petroleum are also included in this category because they are formed from

decayed organic matter. Abiotic resources are derived from the non-living materials e.g. land, water, and air. Mineral and power resources are also abiotic resources.

Natural resources are also classified based on their availability for commercial use as potential resources and actual resources. Potential Resources are known to exist and may be used in the future. For example, petroleum may exist in many parts of Saudi Arabia and Kuwait that have sedimentary rocks, but until the time it is actually drilled out and put into use, it remains a potential resource. Actual resources are those that have been surveyed, their quantity and quality determined, and are being used in present times. For example, petroleum is actively being obtained from the Ghawar Oil Field. That part of the actual resource that can be developed profitably with available technology is called a reserve resource, while that part that cannot be developed profitably because of lack of technology is called a stock resource

The above-mentioned issues were mainly considered in Natural resource economics.

Natural Resource Economics

Natural resource economics deals with the supply, demand, management, and allocation of the earth natural resource. Main objective of natural resource economics is to better understand the role of natural resources in the economy in order to develop more sustainable methods of managing those resources to ensure their availability to future generations. Natural resource economists study interactions between economic and natural systems, with the goal of developing a sustainable and efficient economy; and managing natural resources.

Natural resource management

Natural resource management refers to the management of natural resource such as land, water, soil, plants and animals with a particular focus on how management affects the quality of life for both present and future generations. Natural resource management brings together land use planning, water management, biodiversity conservation and the future sustainability of industries like agriculture, mining, fishing, etc.

Case Study: Oceans, Fisheries and Coastal Economies
"For billions around the world—especially the world's poorest—healthy oceans mean jobs, food and protection. FAO estimates that fisheries and aquaculture assure the livelihoods of 10-12 percent of the world's population with more than 90 percent of those employed by capture fisheries working in small-scale operations in developing countries. Oceans are equally important for food security and jobs. In 2012, fisheries produced roughly 160 million tons of fish and generated over US$129 billion in exports while securing access to nutrition for billions of people and accounting for 16 percent of total global animal protein. Coastal areas within 100 km of the ocean account for an estimated 61 percent of the world's total Gross National Product (GNP) and are of particular importance for developing countries. In 54 coastal and island countries up to two thirds of total national territory is ocean. Overall, healthy oceans, coasts and freshwater ecosystems are crucial for economic growth and food production. A healthy ocean is also fundamental to the global effort to mitigate climate change and its impacts. "Blue carbon" sinks such as mangroves and other vegetated ocean habitats sequester 25 percent of the extra CO2 from fossil fuels and protect coastal communities from floods and storms. In turn, warming oceans and atmospheric carbon are causing ocean

acidification that threatens the balance and productivity of the ocean. Ocean resources have a vast potential to unlock growth and wealth but human activity has taken a toll on ocean health. Fish stocks have deteriorated due to overfishing—the FAO estimates that approximately 57 percent of fish stocks are fully exploited and another 30 percent are over-exploited or depleted. Fish stocks are further exploited by illegal, unreported and unregulated fishing, responsible for roughly 11 to 26 million tons of fish catches or US$10-22 billion in unlawful or undocumented revenue. In fact, poor fisheries management squanders roughly US$80 billion annually in lost economic potential. Fish habitats are also under pressure from pollution and destructive fishing practices that undermine fish population rehabilitation efforts. Proper management of fisheries, investment in sustainable aquaculture and protection of key habitats can restore the productivity of the ocean and return benefits to billions of people in developing countries while ensuring future growth, food security and jobs for coastal communities." (The World Bank, 2017)[1]

[1] The World Bank. (2017, June 5). *Oceans, Fisheries and Coastal Economies*. Retrieved from The World Bank Group: http://www.worldbank.org/en/topic/environment/brief/oceans