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Lecture 17

Natural Resource Economics-1



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Natural Resources

Our environment provides us with a variety of goods and services necessary for our day to day lives. Nature gives us with the basic needs for our survival such as food, shelter, clothes, etc. We use air, water, soil, minerals, coal, petroleum, animals, plants etc. in our daily life? But do you ever think how long these precious materials of nature will last? The growing population, rapid industrialisation and— urbanisation have created heavy demand on natural resources.



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The term —natural resource|| means anything that we use from our environment to achieve our objective. For example, we require bricks, cement, iron, wood etc. to construct a building. All these items are called resources for construction of building.



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A resource can be defined as 'any natural or artificial substance, energy or organism, which is used by human being for its welfare.

These resources can be two types:

- (a) Natural resources
- (b) Artificial resources.



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All that nature has provided such as soil, air, water, minerals, coal, sunshine (sunlight), animals and plants, etc., are known as natural resources. The resources, which have been developed by human beings during the growth of civilization, are called artificial resources. For example, biogas, thermal electricity, plastics. These man-made resources are generally derived from some other natural resources. For example, plastics from the natural resource, petroleum.



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The natural resources include, air, water, soil, minerals, along with the climate and solar energy, which form the non-living or ‘abiotic’ part of nature. Interactions between the abiotic aspects of nature and specific living organisms together form ecosystems of various types. Many of these living organisms are used as our food resources. Others are linked to our food less directly, such as pollinators and dispersers of plants, soil animals like worms, which recycle nutrients for plant growth, and fungi and termites that break up dead plant material so that micro-organisms can act on the detritus to reform soil nutrients.



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Classification based on source of origin:

• Abiotic vs. Biotic

- - **BIOTIC RESOURCES** are resources which come from biosphere and have a life example. human beings, flora and fauna, fisheries, livestock etc. The materials obtained from them are also considered biotic, example fossil fuels, coal, petroleum, because these are formed from decayed organic matter.
- - **ABIOTIC RESOURCES** are those resources which come from non-living, non-organic material. Example, rocks, minerals, air, water, metals etc.



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Classification based on exhaustibility:

• Renewable vs. Non-renewable

- - PERPETUAL RESOURCES – these are resources which exist irrespective of the amount of their usage. With adequate technology, they provide a vast potential for use. Example. Sun, wind and water
- - RENEWABLE RESOURCES - the resources which can be renewed and reproduced by physical, chemical or mechanical processes are known as renewable or replenishable resources. These resources are able to increase their abundance through reproduction and utilization of simple substances. Examples of such resources are water, forests and wildlife, plants etc. we can further divide into continuous or flow and biological.



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Classification based on ownership: Individual vs. Community vs. National vs. International

- - This classification is inspired from socio-economic demarcation or classification of resources and natural wealth. Interestingly, the resources (metals/ minerals) found on these pieces of land ownership also belong to the concerned owner.



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Classification based on the stage of development of the resource: Potential vs. Developed vs. Stock Reserves

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- - POTENTIAL RESOURCES are those which can be found in a particular region but are yet to be put to use. Example. Regions in states like Rajasthan and Gujarat have huge potential for development of solar, wind and tidal energy, which us yet to be used.
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