

Resource

A **resource** is a source or supply from which a benefit is produced. Resources can be broadly classified on the basis upon their availability they are renewable and non renewable resources. They can also be classified as actual and potential on the basis of level of development and use, on the basis of origin they can be classified as biotic and abiotic, and on the bases of their distribution, as ubiquitous and localized. An item becomes a resource with time and developing technology. Typically resources are materials, energy, services, staff, knowledge, or other assets that are transformed to produce benefit and in the process may be consumed or made unavailable. Benefits of resource utilization may include increased wealth or wants, proper functioning of a system, or enhanced well being. From a human perspective a natural resource is anything obtained from the environment to satisfy human needs and wants.^[1] From a broader biological or ecological perspective a resource satisfies the needs of a living organism (see biological resource).^[2]

The concept of resources has been applied in diverse realms, with respect to economics, biology and ecology, computer science, management, and human resources, and is linked to the concepts of competition, sustainability, conservation, and stewardship. In application within humansociety, commercial or non-commercial factors require resource allocation through resource management

Resources have three main characteristics: utility, limited availability, and potential for depletion or consumption. Resources have been variously categorized as biotic versus abiotic, renewable versus non-renewable, and potential versus actual, with more elaborate classification.

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Economic

In economics a resource is defined as a service or other asset used to produce goods and services that meet human needs and wants.^[3] Economics itself has been defined as the study of how society manages its scarce resources.^[4] Classical economics recognizes three categories of resources, also referred to as factors of production land, labour, and capital.^[5] Land includes all natural resources and is viewed as both the site of production and the source of raw materials. Labour or human resources consists of human effort provided in the creation of products, paid in wage. Capital consists of human-made goods or means of production (machinery, buildings, and other infrastructure) used in the production of other goods and services, paid in interest.

Biological

In biology and ecology a resource is defined as a substance that is required by a living organism for normal growth, maintenance, and reproduction (see biological resource). The main essential resources for animals are food, water, and territory. For plants key resources include sunlight, nutrients, water, and a place to grow.^[2] Resources, can be consumed by an organism and, as a result, become unavailable to other organisms. Competition for resources vary from complete symmetric (all individuals receive the same amount of resources, irrespective of their size) to perfectly size symmetric (all individuals exploit the same amount of resource per unit biomass) to absolutely size-asymmetric (the largest individuals exploit all the available resource). The degree of size asymmetry has major effects on the structure and diversity of ecological communities, e.g. in plant communities size-asymmetric competition for light has stronger effects on diversity compared with competition for soil resources. The degree of size asymmetry has major effects on the structure and diversity of ecological communities.

Economic versus biological

There are three fundamental differences between economic versus ecological views: 1) the economic resource definition is human-centered (anthropocentric) and the biological or ecological resource definition is nature-centered (biocentric or ecocentric); 2) the economic view includes desire along with necessity, whereas the biological view is about basic biological needs; and 3) economic systems are based on markets of currency exchanged for goods and services, whereas biological systems are based on natural processes of growth, maintenance, and reproduction.^[1]

Computer resources

A computer resource is any physically or virtual component of limited availability within a computer or information management system. Computer resources include means for input, processing, output, communication, and storage.^[6]

Natural

Natural resources are derived from the environment. Many natural resources are essential for human survival, while others are used for satisfying human desire. Conservation is the management of natural resources with the goal of sustainability. Natural resources may be further classified in different ways.^[1]

Resources can be categorized on the basis of origin:

- Abiotic resources comprise non-living things (e.g. land, water, air and minerals such as gold, iron, copper silver).
- Biotic resources are obtained from the biosphere. Forests and their products, animals, birds and their products, fish and other marine organisms are important examples. Minerals such as coal and petroleum are sometimes included in this category because they were formed from fossilized organic matter though over long periods of time.

Natural resources are also categorized based on the stage of development:

- Potential resources are known to exist and may be used in the future. For example, petroleum may exist in many parts of India 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 and natural gas is actively being obtained from the Mumbai High Fields. The development of an actual resource, such as wood processing depends upon the technology available and the cost involved. That part of the actual resource that can be developed profitably with available technology is called a reserve resource, while that part that can not be developed profitably because of lack of technology is called a stock resource.

Natural resources can be categorized on the basis of renewability:

- Non-renewable resources are formed over very long geological periods. Minerals and fossils are included in this category. Since their rate of formation is extremely slow, they cannot be replenished, once they are depleted. Out of these, the metallic minerals can be re-used by recycling them, but coal and petroleum cannot be recycled.
- Renewable resources such as forests and fisheries, can be replenished or reproduced relatively quickly. The highest rate at which a resource can be used sustainably is the sustainable yield. Some resources, like sunlight, air

and wind, are called perpetual resources because they are available continuously though at a limited rate. Their quantity is not affected by human consumption. Many renewable resources can be depleted by human use, but may also be replenished, thus maintaining a flow. Some of these, like agricultural crops, take a short time for renewal; others, like water, take a comparatively longer time, while still others, like forests, take even longer.

Dependent upon the speed and quantity of consumption, overconsumption can lead to depletion or total and everlasting destruction of a resource. Important examples are agricultural areas, fish and other animals, forests, healthy water and soil, cultivated and natural landscapes. Such conditionally renewable resources are sometimes classified as a third kind of resource, or as a subtype of renewable resources. Conditionally renewable resources are presently subject to excess human consumption and the only sustainable long term use of such resources is within the so-called zero ecological footprint wherein human use less than the Earth's ecological capacity to regenerate.

Natural resources are also categorized based on distribution:

- Ubiquitous resources are found everywhere (e.g., air, light, water).
- Localized resources are found only in certain parts of the world (e.g., copper and iron ore, geothermal power).

Actual vs. potential natural resources are distinguished as follows:

- Actual resources are those resources whose location and quantity are known and we have the technology to exploit and use them.
- Potential resources are the ones of which we have insufficient knowledge or we do not have the technology to exploit them at present.

On the basis of ownership, resources can be classified as individual, community, national, and international.

Labour or human resources

In economics, labour or human resources refers to the human effort in production of goods and rendering of services. Human resources can be defined in terms of skills, energy, talent, abilities, or knowledge.^[5]

In a project management context, human resources are those employees responsible for undertaking the activities defined in the project plan.^[7]

Capital or infrastructure

In social studies, capital refers to already-produced durable goods used in production of goods or services. In essence, capital refers to human-made resources created using knowledge and expertise based on utility or perceived value. Common examples of capital include buildings, machinery, railways, roads, and ships. As resources, capital goods may or may not be significantly consumed, though they may depreciate in the production process and they are typically of limited capacity or unavailable for use by others.

Tangible versus intangible

Whereas, tangible resources such as equipment have actual physical existence, intangible resources such as corporate images, brands and patents, and other intellectual property exist in abstraction.^[8]

Generally the economic value of a resource is controlled by supply and demand. Some view this as a narrow perspective on resources because there are many intangibles that cannot be measured in money. Natural resources such as forests and mountains have aesthetic value. Resources also have an ethical value.

Use and sustainable development

Typically resources cannot be consumed in their original form, but rather through **resource development** they must be processed into more usable commodities and usable things. With increasing population, the demand for resources is increasing. There are marked differences in resource distribution and associated economic inequality between regions or countries, with developed countries using more natural resources than developing countries. Sustainable development is a pattern of resource use, that aims to meet human

needs while preserving the environment.^[1] Sustainable development means that we should exploit our resources carefully to meet our present requirement without compromising the ability of future generations to meet their own needs. The practice of the three R's – reduce, reuse and recycle must be followed in order to save and extend the availability of resources.

Various problems relate to the usage of resources:

- Environmental degradation
- Over-consumption
- Resource curse
- Resource depletion
- Tragedy of the commons
- Myth of superabundance

Various benefits can result from the wise usage of resources:

- Economic growth
- Ethical consumerism
- Prosperity
- Quality of life
- Sustainability
- Wealth

See also

- Natural resource management
- Resource-based view
- Resource slack

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External links

-  The dictionary definition of resource at Wiktionary

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