

A wide range of resources are available in the natural environment, and are exploited by humans for survival or financial gain. Historically, a reliance on natural resources has been key to the development of the human race and to our economic progress. They are vital for human survival, even in today's technologically advanced world, and a large proportion of new advances in science and technology still involve improving our ability to exploit natural resources, and the efficiency with which we can do so.

Typically, natural resources can be separated into two categories: renewable and non-renewable. The most well known examples of non-renewable natural resources are fossil fuels such as oil and natural gas. Although these resources do have the capacity to replenish themselves, the process is so slow that in the context of human demand and lifespan, it can be considered irrelevant. In contrast, renewable natural resources are those which have the capacity to replenish at a rate which is useful for human exploitation. The extent to which a resource can be described as renewable can vary enormously, making it a broad categorisation. At one end of the spectrum are resources such as sunlight, which are continuously available in an almost unlimited quantity (or at least available at a level far beyond human consumption ability). At the other end of the renewable spectrum are biotic resources such as fisheries, which are able to replenish themselves, but at a level which is easily impacted by even moderate human exploitation. For this reason, some describe these types of resources as semi-renewable.

When exploiting these semi-renewable resources, it is therefore vital that the level of exploitation (or the amount being removed from the natural environment) is below the rate or replenishment/recovery. This forms the basis for the idea of sustainability which has become such a popular term in everyday life in recent years. If a renewable resource is removed by humans slower than it is able to replenish itself (e.g. birth rate and survival to sexual maturity in a hunted species is higher than the number being hunted), then under normal circumstances that level of hunting can continue indefinitely without the resource diminishing. However, if the amount of a resource being extracted by humans is higher than the rate of recovery, then the resource will decline and, if removal remains at this level, will eventually disappear completely. The highest amount of a resource which can be removed in a sustainable way is known as the Maximum Sustainable Yield (MSY), and is the aim for many natural resource managers as it maximised the benefits to humans, but doesn't threaten the future availability of the resource.

It is important to remember that natural resources, by definition, exist in the natural environment, and are therefore at risk from a range of threats and impacts, not only from humans. Any impact which affects the survival or population recovery of a renewable natural resource has the potential to dramatically reduce the MSY for that resource, meaning that it is not always entirely within human control whether resources are available to the same extent in future years.