

# Resource

In its broadest meaning, a resource is an element providing some usefulness for human societies. Traditionally in this category are energy and raw materials, but also information and human potential. A resource does not exist per se. A natural element acquires the status of a resource only at the moment when a society uses it for its needs. This usefulness and the importance attributed to a resource derive from social needs. It is assumed that needs increase with population growth and economic development, but over the course of time, the interest attached to this or that natural element changes. The quantity of available resources must constantly be re-evaluated according to scarcity, changes in use, and possibilities for recycling elements considered to be resources. In the contemporary period, humankind has considerably accelerated the use of natural resources, as well as the exploitation of fossil resources from the heart of the Earth, without replenishing them.

Any resource, whether 'natural' or not, has a maximum spatial extension that varies over time. Since the Neolithic period, the distribution of some agricultural plants (wheat, corn, potatoes) has been considerably modified. From year to year, the extension or reduction of cultivated areas produces variations in the amount of agricultural resources that can be exploited to feed the population of the globe. The essential factor in the production of natural, or primary, resources is the ability to capture solar energy. The resources as well as the flows they generate for basic needs are organised for a given area in the form of food chains. These are composed of biomass stocks, producers (generally plants), consumers, transformers and decomposers, and are quantitatively as well as hierarchically organised according to a pyramid of ecosystems. Although some primary natural systems are more productive than others, there are different forms of pressure on resources (water, forests, soils), depending on the continent. These pressures are linked to territorial modes of development, and can generate lasting imbalances.

In order to solve the problem of the balance between resources and development, a number of scientists have attempted to simulate the relationship between population and resources in a given territory (Malthus, Verhulst, Volterra-Lotka). At regular intervals since Malthus, theoreticians have predicted the future exhaustion of resources. Their theories are a broader reflection of the debate about humanity's relation to scientific progress and its way of apprehending the future. In 1972, the Club of Rome published the Meadows Report, which announced the predictable exhaustion-as early as the end of the twentieth century-of raw materials and the reserves of fossil fuels. This report relied on a number of assumptions, among them the idea that economic growth is necessarily coupled with a disproportionate increase in the consumption of raw materials, the notion that known reserves are the equivalent of total reserves, and the absence of such concepts as substitution, creation and innovation. This static vision is now challenged by the concept of sustainable development first proposed in 1987 in the Bruntland report (UN).

## Bibliographie