

Even primary needs consume resources and produce polluting emissions. Humans will exploit and appropriate resources and transform them to meet their needs. This is not without consequences on the state of the planet (see course on planetary boundaries). It is within this framework that Malthus (1966) posited his principle of population, where he shows that there is an intrinsic divergence between the increase of population and that of subsistence. Subsistence increases more slowly than needs. Malthus believes that the earth will not be able to feed the entire population in the long term and therefore that population growth must be regulated.

Since the beginning of the 1970s, one of the ideas carried in ecological thought is that there are limits to growth, economic but also industrial, demographic, pollution, consumption ("The limits to growth " by Meadows et al. 1979 sponsored by the Club of Rome). The report showed that after decades of rapid growth, humanity must reach a threshold beyond which growth would be neither possible (due to planetary boundaries and finite resources) nor desirable. It is the work of Georgescu-Roegen (with "La décroissance "Georgescu-Roegen 1979-

http://classiques.uqac.ca/contemporains/georgescu_roegen_nicolas/decroissance/la_decroissa nce.pdf) which poses the problem of the inevitable dépletion of non-renewable natural resources. One of the conclusions of this work was that the decades of growth was an exception in history and that this context was about to end. Consequently, it was urgent to anticipate this reduction before a decline. Ayres and Kneese in their writing " Production, consumption and externalities " (1969), present an approach that questions production methods but also consumption patterns by analyzing flows and therefore identifying the origin of emissions. In their work, the authors show the principle of conservation of the mass of flows in the economic system. In fact, part of the flow is transformed into a system and a larger part of the flow is emitted in the form of pollution.

It is the foundations of ecological economics that have given rise to reflections on sustainable development.

The Brutland report, united nations, defined in 1987, sustainable development by :

" Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs"

In this definition, there are two essential notions : 1) needs and 2) the level of sustainability 1) How can we define the needs? What needs are we talking about ? Are these basic needs ? What is the difference between needs and wants ? Are our daily needs necessary ? The central question would rather be how to clearly define its needs with regard to the resources that we are going to consume or the programs that we are going to emit to produce in order to meet the needs. 2) The level of sustainability of the concept of sustainable development with two positions : weak and strong sustainability. In the concept of sustainable development, the concept of development includes structural change or a modification of the lifestyles of society (we are not talking about an economic model or growth) What type of sustainability : weak (we admit that technology can replace nature) or strong (we admit that nature is irreplaceable).

Here it is what is important is to decouple economic decrease and ecology, through new models which call into question the relationship with society. For example, social and solidarity economy approaches, sharing economy, The main question is : What kind of models are suitable to stay within planetary boundaries while meeting needs ?