

SUSTAINABILITY, THE ONLY CHANCE FOR HUMANITY

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Rezumat. Pornind de la concepția fostului prim ministru al Norvegiei Gro Harlem Brundtland prezentată în "Dezvoltarea durabilă" (1987) și de la „Declarația de la Rio” (1992), articolul analizează atât complexitatea acestui concept cât și raportul dintre economie și mediu. Pornind de la tiparul dezvoltării durabile, este prezentată strategia acestui tip de dezvoltare ca unică șansă a evoluției umanității, care trebuie să asigure echilibrul între preservarea mediului și dezvoltarea economică.

Abstract. Starting from the conception of Norway ex Premier Gro Harlem Brundtland about „Sustainability” (1987) and from „Rio statement” (1992), the paper analyzes both the complexity of this concept and economy-environment ratio. Starting from the pattern of sustainability, it is presented the strategy of this type of development, as the only chance of mankind evolution, which should assure the balance between the environment preservation and economic development.

Keywords: Sustainability, human system, environment system, pattern of sustainability, strategy of sustainability

1. Concept of sustainability (S.D.)

Sustainability (S.D.) is development corresponding to present needs without compromise for the possibility of future generations to meet their own „necessities”². This message is found as „principle 3” of Rio Declaration regarding Environment and Development (June 3 – 14, 1992) according to which „right to development should be exercised so that needs for environment and development of present and future generations should be equally met”. S.D. concept supposes interaction and compatibility of four systems (see fig. 1). S.D. concept was born from actual world reality characterized by: accelerated economic growth and accelerated demographic growth. This development should be accompanied by severe measures of environment protection and saving the resources. On the contrary, *Earth risks becoming non-habitable*.

2. Economy - environment relation

There are two main directions to approach this relation:

a) technocentrism, supposing the wide possibility to substitute the production factors;

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²Report „Our common future” presented by Norway ex Premier *Gro Harlem Brundtland in 1987* as president of World Commission for Environment and Development.

b) ecocentrism, supposing the existence of restrictions to substitute the production factors and severe limitation of production level, consumption level and demographic growth level.

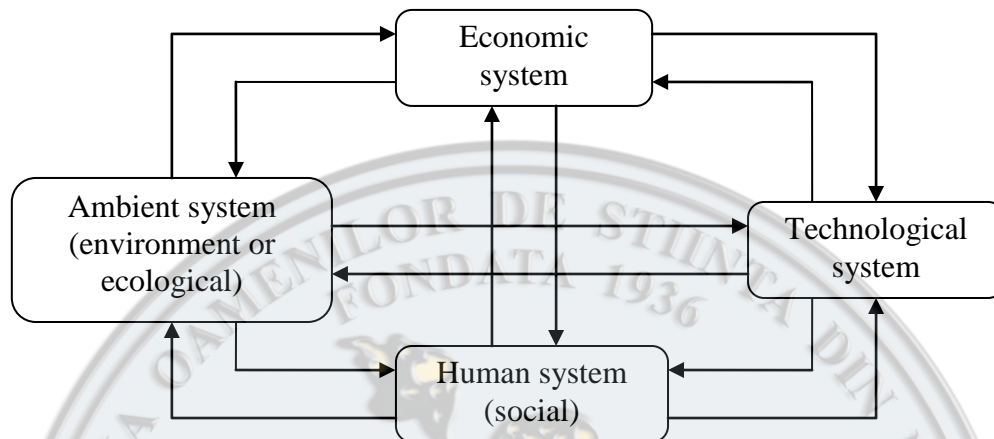


Fig. 1. Interaction and compatibility of four systems.

3. Model of economic sustainability

This model presents the following characteristics:

- optimization and not maximization of economic objectives;
- universality of constraints imposed by physical laws in the manipulations of substance and energy;
- recognition of ecological rarity (abandon the principle of ecological abundance);
- underling the economic models by exhaustible finished resources and by finished rates of renewable resources;
- improving the methods of quantifying the ecological impact and resources, assuring the proecological character of all the economic decisions (internality of negative externalities);
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- subordination of economic micro liberty, economic and ecological macro constraints;
- resetting up the ecological taxes for rare resources.

4. Strategy to achieve the sustainability

Because development of a country depends on 5 factors mutually influenced: (i) population, (ii) natural resources and environment; (iii) industrial production; (iv) agricultural production; and (v) pollution, it results that sustainability has 3 dimensions (see fig. 2).

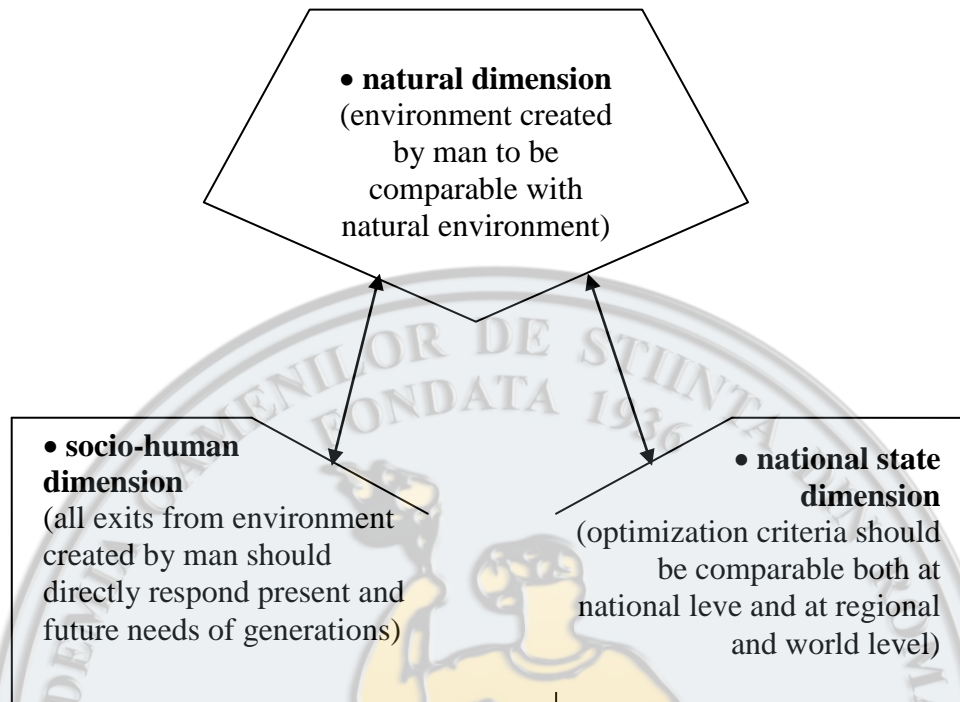


Fig. 2. Three dimensions.

Elements to be taken into account to achieve economic sustainability are:

- 1) Obligation to keep or **increase inherited natural resources**.
- 2) Long term consequences of **diminishing the natural resources** and higher pollution.
- 3) More and more international and even global characteristic of environment issues.
- 4) Dependence of **general welfare** not only on economic growth rate, but also its quality.
- 5) Welfare depends on **3 types of capital** we should leave inheritance for future generations: **natural capital**, capital **created by man** and **human capital**.
- 6) Possibility to achieve the **substitution between various types of capital**.

Therefore it is necessary to find a **way of development** to mix: economic interests, social interests and environment interests.

It supposes to cross **two stages**:

- **improve actual technological systems**, to stop negative effects amplifying;
- carry on the researches in the field of **future technologies** to assure the sustainability.

Strategic components and actions to be developed from one stage to another are given in fig. 3.

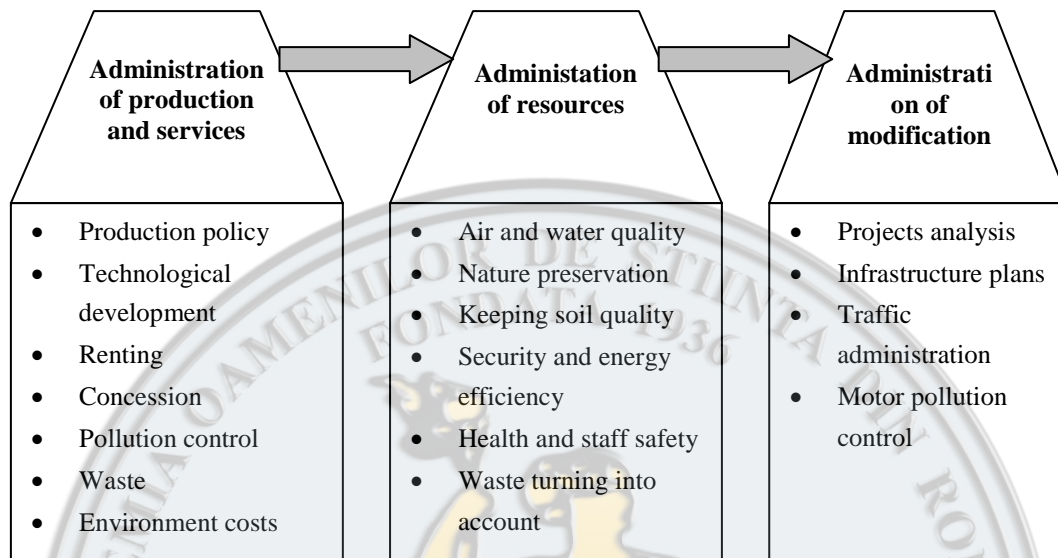


Fig. 3. Strategic components and actions.

Conclusions

- economy and environment are closely related, while development planning should integrate ecological elements to reach sustainability;
- it is necessary economic and ecological international cooperation;
- sustainability strategy becomes operational by adequate national policies, able to achieve compatibility of systems inter conditioned in time and space, regional or international collaboration and cooperation.

5. Economic sustainability – the only chance

Taking into consideration the etymology of words development – economic – sustainable, earth population and of each country should have in view: *earth production capacity* and *quality of wished life*.

It results the necessity of „*family planning*” which supposes: control of population number, increase in population quality, keeping the population health, family care, keeping the health of social environment and less illiterates.

It is necessary to create jobs *not export of jobs and import of unemployment* from developed countries, as well as application of „*comparative theory of social and ecological advantages*”.

There are not standard models as development level to be taken as examples (Swedish, Chinese, Finish, Korean, Japanese, American etc.). If today average

consumption in the world is aligned to the *level of North-American one*, we would assist the disparity of fossil natural resources and food production should increase four times (practically impossible).

Solving the problem – build up a *sustainable economy* based on a *new model of industrialization* less desolating and savage, on intermediate technologies, man holding the first place. Therefore „to think globally and to act locally”.

It should be found a *balance between environment preservation and economic development*, to benefit of economic growth, without significant degradation of natural resources base, which in fact, supports economic activity as well.

Economic sustainability supposes administration of economic life to limit dysfunctions taking place in the economy (crisis, unemployment, inflation) harmonizing the economic growth with evolution of social issues.

Environment should be considered itself a production factor because its exploitation effectively takes part in economic growth, increasing the production potential. Improving the environment situation supposes at the same time *efficient exploitation of resources* resulting in *positive consequences over economic growth*. There is no conflict of objectives between sustainable economic growth and environment protection. Economic sustainability supposes the *coordination in time of policies* of economic growth and those of environment protection.

European Union considers that economic sustainability wished a *sustainable and non inflationist economic growth, observing the environment*. *Economic sustainable growth* should stop to be an objective to be followed by all means. It should be extended the principle „*who pollutes, should pay*”, by *internality of negative externalities*.

Limitation of natural resources besides *demographic explosion* creates special problems for sustainability.

Economic sustainability supposes to eliminate destructive effects over the environment, such as: climatic changes; ozone stratum destruction; acidification; biodiversity; waste; noxious effects of chemical substances; soil degradation; inward waters; marine and coast area; natural and technological risks; urban area, etc.

Conclusion

Sustainability supposes economic growth keeping the jobs, with the possibility that future generations could meet their own needs.

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