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REFLECTIONS ON THE SOCIOECONOMIC ASPECTS OF DESERTIFICATION

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INTRODUCTION

Most studies on the desertification process has in common a concern about the factors of the natural picture, leaving in the background the socioeconomic issues. From the understanding that this phenomenon is resulting from the relation between the anthropic action and physical aspects of a given area, as pointed out at the International Convention for the Fight Against Desertification, which understands as desertification “*the land degradation in the arid, semiarid and dry sub-humid zones resulting from several factors, including climatic variations and human activities* (UNO, 1994)”, other elements started to be incorporated in the researches on desertification. There is, evidently, a close relation between the use of natural resources of fragile ecosystems and the environmental degradation which can lead to desertification. From that assumption emerges the need to think that the socioeconomic indicators are the most adequate in the studies on the thematic, in search of the construction of more consistent references.

The present essay has as its goal to propose some reflections on that issue, emphasizing man’s relation as agent and, at the same time, victim of desertification. The discussion about this theme becomes necessary, since the populations introduce themselves in the environment as units that practice and suffer the action, being the people who survive on a given ecosystem those directly affected by the environmental degradation.

Desertification: a complex concept

Several studies have demonstrated that desertification is one of the main problems of the contemporary world. Data from UNO show that 6 and 7 millions of hectares are lost annually due to erosion and over 20 millions of hectares are affected by salinization. Approximately 70% of the 5,2 billions of hectares of dry lands used in agriculture already

present evident signs of impoverishment. Although there is a greater concern about the African situation, in Latin America and in the Caribbean the situation is also worrying, since an expressive part of the dry areas is in a moderate or serious degree of desertification.

Used in late 1940's to characterize the areas in an accelerated degree of degradation, resembling deserts or desert expansion areas, the term desertification has had a generalized use. To Verdum et al (2002)

Abreuville (1949) is pointed out as the precursor of that awareness when using the concept to identify the emergence of "real deserts" in the former European colonies in Northern Africa, in countries where annual rainfall ranges from 700 to 1,500 mm.

In the following years, several studies have discussed that problematic, without nevertheless, reaching a consensus about its real meaning. The polemic around the causes of that phenomenon, whether climatic or resulting from human activities, has remained over many years.

According to Nimer (1988), an important fact in the conceptual evolution of desertification was the acknowledgement, even before the Nairobi Conference, that this process does not occur only in areas marginal to deserts, but it is "liable to occur in any tropical, subtropical and temperate region in areas with semiarid and sub-humid climate, regardless of the climatic changes".

Various are the conceptions of desertification currently in use. According to Vasconcelos Sobrinho (1978)

desertification is a process of fragility of the dry lands' ecosystems in general, which owing to the pressure exerted by human populations, or sometimes by the autochthon fauna, lose their productivity and capacity to recover.

To Reis (1988) apud Rodrigues (1999:265), desertification "is man's predatory action on ecosystems in the short and long term".

Although even today there are different tendencies on the process of desertification, there is in common the fact that this phenomenon is attributed, simultaneously, to human activities and to climatic factors in the dry zones, being that the land degradation in those regions implicates the decrease or loss of biologic or economic productivity provoked by the

deterioration of the soils, hydric resources and biodiversity, resulting in the decrease in the quality of life of the population affected.

According to the United Nations Convention for the Fight Against Desertification in the countries affected by serious drought and/or desertification, particularly in Africa, two concepts are fundamental for the comprehension of that process:

- the term desertification, understood as land degradation in the arid, semiarid and dry sub-humid zones, resulting from various factors, such as climatic variations and human activities.
- the measures for fighting desertification, with activities that are part of the integrated utilization of the land in the arid, semi-arid and dry sub-humid zones, within the perspective of sustainable development.

These definitions make clear that desertification arises mainly from human action in structurally fragile ecosystems, mainly those affected by the cyclic phenomenon of droughts.

The importance of the human factor to the process of desertification

Until some time ago, the studies on desertification had as the explanatory basis the characteristics of the natural environment. As time went by, that conception was modified and social and economic indicators were aggregated in the analyses on that thematic.

An important factor that has started to be considered in those analyses was the view of the rural population as the principal damaged part and not just as the causer of the problem. That view finds justification in the fact that the extremely bad economic, political and social conditions existing in the country have a great influence on the degradation of resources in the arid zones. Without good economic conditions to survive in the country, there is an increasingly inadequate exploitation of natural resources in a fragile ecosystem like in the semi-arid regions, what leads to a vicious circle of ecologic destruction and rural poverty.

In that perspective, in the studies on desertification the geosystems' category can be used, defined by Penteado (1980) as "natural formations which experience the impact of the environments: social, economic and technical dialectic almost always not linear or sequential".

The human populations also introduce themselves in the geosystems. Within this analysis, in a study on desertification, the reality must be seen under a dynamic aspect, establishing relations and interconnections among the biotic, abiotic and climatic environments. That idea is in consonance with the most current definition advocated by the UNO, according to which desertification has its origin in the complex interactions of physical, biological, political, social, cultural and economic factors (UNO, 1997).

Within the systemic focus, the populations introduce themselves in the environment as units that practice and suffer the action, as it were a process/response, where environmental degradation frequently results in degradation of life conditions, mainly of the population with lower purchasing power.

The social impacts of desertification are catastrophic, being man a causative agent of desertification and, at the same time, one of his main victims. Rodrigues (2000) states that the decrease in demographic density, the increase in the number of youngsters and senior citizens and the predominance of the female sex (widows of the drought), are direct consequences of the desertification phenomenon, since the economically productive male population frequently migrates in search of work and better life conditions, incrementing, most of the times, the poverty belts in the urban centers. The status of head of the family and principal agent bearer and conveyor of culture in the areas in desertification falls mainly to the women. Regarding the socioeconomic aspect, the above mentioned author states that with desertification occurs the

decrease in the sources of access and in the production/consumption relation, i.e., the human occupation that was basically primary or productive, becomes secondary or consuming. Increase in unemployment, decrease in investment, growing consumer goods imports and, finally, the development of a self-abandonment awareness, provoked by attitudes of resignation in face of the serious problems of survival and the abandonment and disregard on the part of governmental institutions. (Rodrigues, 2000:144).

The life conditions in seriously degraded areas affect the populations even in the psychological aspect, generating an anomic attitude in relation to the environment. The traditional ruralism, with little or nonexistent access to the market, the difficulty in absorbing new technologies (due to the exploitation habits settled through generations), the extreme poverty condition and lack of perspective lead to a paternalistic relationship with the State. This situation reflects itself on a constant search for protection next to the state power and its representatives and the lack of capacity to create and manage their own development.

Socioeconomic factor in the analysis of desertification

Among the principal socioeconomic indicators, which should be considered in an analysis on desertification, are the demographic characteristics of the area at issue, noticeably

those related to density, income, education, age structure, mobility, occupation, etc. From the economic viewpoint, the indicators related to the activity developed, workforce, productivity, among others, should be assessed. Some of those indicators are usually used to characterize the rural area, as shown in Table 01.

Table 1 – Basic Set of Rural Indicators

Population and Migration	Social Welfare and Equality
Density	Income
Move	Dwellings
Structure	Education
Domicile	Health
Communities	Safety
Structure and Economic Performance	Environment and Sustainability
Workforce	Topography and Climate
Employment	Changes in the use of land
Sectorial weights	Habitats and species
Productivity	Soils and hydric resources
Investment	Quality of the air

Source: OCDE (1996)

The amount of population in the areas affected, both rural and urban is an important indicator of the local life conditions. Another indicator required for a study on desertification is the rural/urban migration, bearing in mind the fact that this phenomenon is connected with the difficulties of life in the country, mainly in the drought season, when the soil productivity, already rather degraded becomes compromised, with direct reflections on the financial conditions of the rural population. The life conditions of the population in the rural zone should be assessed from the information as to the type of dwelling, land ownership, rural electrification system, piped water, toilets, in addition to the access to health services, education and forms of political representation.

Economic activities such as wood exploitation for diverse purposes is another indicator that must be considered. Currently, the charcoal business has been one of the activities which degrades most areas of the Brazilian semiarid. Cattle raising, with the predominance of extensive bovine cattle breeding, is another factor that must be assessed, as well as the agricultural production systems. The way in which the irrigated agriculture has been carried out in some areas has contributed to the land degradation. Such activities implicate in the removal of natural vegetation, what alters the whole hydrologic cycle that by altering the productive system, affects the conditions of survival in the degraded areas.

In the socioeconomic aspect, with desertification alterations occur to the production and consumption patterns, decrease in investments, increase in unemployment, decrease in demographic density, increase in the number of youngsters and senior citizens and the predominance of the female sex (widows of the drought) in the degraded areas. In those areas cultural changes are also found, with the permanence of attitudes of resignation in face of the serious problems of survival, the dependence on the State and the status of head of the family being performed by women.

FINAL CONSIDERATIONS

Environmental concern has increased significantly making the discussion regarding environmental problems gain new analysis about their causes and consequences on local, regional and global scales. Within that new approach, the process of desertification has evoked the interest, since more important than the natural causes, the anthropic action accelerates and aggravates the land degradation process and the consequences of that process are reflected on the human beings themselves. Therefore, man is the subject and the victim of desertification.

In face of that situation, the study on desertification requires a deepened analysis of the human aspects of desertification, bearing in mind that more important than land degradation is the degradation of the life conditions of the man affected by desertification.

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