DESERTIFICATION IN EUROPE

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Despite the fact that Spain already finds itself on the UNO map of desertification, when mentioning the subject of desertification in Europe the most usual reaction is well that embodied in the title of Prof. Mensching's paper : "Desertification in Europe ?", and according to the various interlocutors the question mark may express any nuance from candid astonishment to perplexity and beyond. Most of the problem concerning the acceptance of the concept of "Desertification in Europe" is semantic in character. "Desert" as a place where sand dunes roam about with hardly any vegetation and no water is the mental picture one generally gets. Yet "desertification" is no desert : it is, as the suffix -ication clearly indicates, a process, of which a full desert is one end, a healthy ecosystem being the other. It is a degradation process which deserves being studied in any of its phases because of the dangers involved. When the cost of the restoration of a land to its former productivity is higher than whatever net gain may have been obtained at the price of the decrease in productivity, one has to acknowledge that some precious resources have been lost, irrespective of the fact that rain may fall and certain plants still grow. Something has to be abandoned, deserted, and that is desertification.

The definition of "desertification" has been the object of many discussions. Normally, and quite understandably, the various definitions found in the literature reflect more their authors' concern and scientific interest rather than an inquiry into the actual meaning of the word itself. We would venture to suggest that Rapp's definition ("the spread of desert-like conditions in arid and semi-arid areas up to 600 mm, due to man's influence or to climatic change") is the one which best fits the concept we are discussing. The rainfall limit set by Rapp is easily seen to include most of Southern Europe. The human component is the key to the observed difference in conditions between, say, Greece and Sahel. The climatic component is a warning that man's activities may in the end be unable to avoid passing the point beyond which the process is no longer reversible.

The papers collected in this book provide evidence that the continuous loss of fertile soil is a constant in at least the Mediterranean Europe. The problem is not new. As the Symposium on European Desertification took place in Greece, it is becoming to evoke that greatest among men, Plato. In *Critias*, 111, b-d, he gives a picture of ancient Attica. He says that "many and remarkable floods have occurred The mass of soil which descended steeply from high places did not expand, as it does elsewhere, in terraces, and its great flow rolling down unceasingly was finally lost in the deep. Since then what remains, as one can see it in small islands, offers, when comparing the present conditions to those then prevailing, the image of a body that a sickness has made skeletal, once all that

¹ I owe to A.T. Grove that my attention has been brought upon this passage of Plato.

which earth has of fat and soft has left the bones, only the fleshless body of the land remaining". Plato goes on recalling the time when the country "had vast forests on its mountains ... which today only have what can nourish bees ... The land was carrying abundant pastures for cattle. Moreover, the water which every year fell from sky to fecundate them, was not lost by the soil as it is today and did not leave the bare ground to flow down into the sea; on the contrary the soil had plenty of it and stored it in its bosom and kept it under a mantle of clay. Then water, descending from high places, ... provided everywhere an inexhaustible flow to fountains and rivers".

Here is a precise account of both climatic and anthropogenic factors of land degradation, as we say nowadays. A climate change can also be inferred from Plato's description, and one may argue whether man has had a part in it.

Today, man's role in environmental degradation is increasing in importance. As A.T. Grove points out, we have to face accelerated erosion and sedimentation, soil salinization, falling water-tables, further deterioration of the plant cover and urban sprawl, processes which, even though they operate locally, have nevertheless a Community-wide dimension. If one views all those processes in the frame of a semi-arid climate, and if one is willing to consider the possibility of a man-induced climate change in a short or medium term, due to increasing atmospheric CO₂, the need for a lucid awareness of dangers and opportunities, such as sound, applied research can provide, is only too obvious.

It is therefore with satisfaction that the editors acknowledge the support and encouragement received from Dr. Ph. Bourdeau, Director, Environment, Raw Materials and Materials Technologies Research Programmes (DG XII), Commission of the European Communities, Brussels.

Roberto Fantechi

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