J. Biol. Res. 2006 n. 1 - Vol. LXXXI - Rubbettino - Soveria Mannelli

# The Atlas Project

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KEY WORDS: reforestation, Kyoto Protocol, Morocco.

**Abstract**

***The International Institute for the Study of Man (c/o Chair of Anthropology - Department of Animal Biology and Genetics "Leo Pardi" - University of Florence) has promoted a research team charged with a project of reforestation of the Atlas Mountains in Morocco, Algeria and Tunisia. The project concerns the building of $CO_2$ sinks that are also a source of energy and income in regions, the Moroccan area and the North Africa in general, from which vast migratory flows start due to the lack of both. The members of the European Union are not able to absorb the quantity of $CO_2$ produced by industrial combustion, heating systems and cars, and do not follow the international agreement on pollution control. Moreover the project is also related to the regular stream of air from Northern Europe through Continental Europe which discharges its humidity on the Atlas Mountain's chain and could be a natural carrier of the excessive $CO_2$ produced in the industrialised regions of Europe through its fixation in timber on the Atlas Mountains.***

***The realization of the project has to be assumed as a complex system, which, besides the study of the actual forestation, requires the study of the annexed activities such as agriculture, pastoralism, the industrial transformation of the woody materials and the infrastructural planning.***

## Introduction, discussion and perspectives

Since the United Nations Earth Summit on the Environment, held in Rio de Janeiro in 1992, all nations of the world agreed that future of our planet lies in sustainable development, which means improvement of the quality of life with respect for environmental equilibrium. In order to reach this purpose, a fundamental concept was underlined: "as a complex ecosystem capable of providing fundamental economic, social and environmental benefits, the forest has a vital impact on the stability of the biosphere, the maintenance of biodiversity and the process of global sustainable development".

Moreover, now, Kyoto Protocol has become effective and Clean Development Mechanism (CDM) projects are eligible to provide Certified Emission Reductions (CER) pursuant to Article 12 of the Protocol.

In civilization process the Mediterranean area played a pivotal role, but at the same time this area underwent the most systematic and extensive deforestation occurred in history. The present policy of tropical deforestation, in order to produce wood and make room for agriculture and breeding of livestock, is particularly serious from an ecological point of view.

The *International Institute for the Study of Man (c/o Chair of Anthropology - Department of Animal Biology and Genetics "Leo Pardi"- University of Florence)* in Florence is sustaining a research group with the aim of preparing a project of reforestation of the Atlas Mountains which mark the limit of the south western Mediterranean ecosystem and extend from Morocco to Tunisia, through Algeria (Chiarelli et al., 1997; Tommasi Crudeli et al. 2003).

The reforestation project of a wide area in Morocco intends to present a solution to three topics of policy and research, of interest for the environment of the Mediterranean area (Chiarelli et al., 1998; Chiarelli, 2000).

The first topic is the reduction of the amounts of $CO_2$ – the dominant anthropogenic greenhouse gas – emitted by the industrialised countries, which cannot follow the international agreements on its absorption for lack of appropriate $CO_2$ sinks. On the other hand a regular stream of air from Northern Europe through Continental Europe releases its humidity on the Atlas Mountains, before it ascends to high atmosphere. This stream of air could be a natural carrier for conveying and immobilising big amounts of $CO_2$ produced in the industrialised countries of European Union through its fixation by forested regions of the Atlas Mountain's chain.

The second one concerns the development of a region

through its reforestation and related activities, while the third deals with setting up technical and economic exchanges between the innovative abilities of Europe and the manufacturing potentiality of North Africa.
The realization of the project has to be assumed as a complex system. In fact, besides the interest for the actual forestation, it requires the study of joined activities such as agriculture, pasture, industrial transformation of wood and infrastructural planning.
In the synthesis, the project will consider and analyse the following aspects:

i) the evolution of the forestal situation in the Atlas Mountain's chain, the possibility of an improvement and the search of areas for new afforestation;
ii) aspects of local pastoralism and study of the sheep-rearing impact on the forestal setting;
iii) evolution of agricultural practices in relation to the demographic course;
iv) demographic increase in Morocco and the consequent economic aspect;
v) study of the economic evaluation of the local infrastructures;
vi) socio-economic analysis;
vii) ethical and environmental impact consideration.

Finally, from this project practical results are expected as follows:

i) climatic and environmental re-balance in western Mediterranean basin and reduction in the greenhouse effect;
ii) creation of new job chances in North Africa and reduction of the migratory flow towards european industrialised countries;
iii) production of foodstuffs, wood as raw materials, and renewable energy sources for the Atlas countries and related induced business and trade, including the tourist aspect;
iv) a greater economic and socio-environmental equilibrium in the Mediterranean countries.

At this purpose, actually, the *International Institute for the Study of Man* is sustaining a first activity on the Moroccan area. This concerns a micro-action of reforestation by *Argania spinosa*. It is a native arboreal species of North Africa that is very similar to olive species and shows very important potential applications (in food, cosmetic and medical fields), but now at risk of extinction.

Moreover, to this end, the *International Institute for the Study of Man* and the Provincia Regionale of Messina have promoted the realization of a study on the effects of the anthropogenic activities on the $CO_2$ emissions and consequently increase of the $CO_2$ amount in the atmosphere on the region. In fact, the area of Messina is the centre of a lot of traffic lines (railways, ferries, cars etc) between Sicily and Continental Italy and this city is really at the centre of Mediterranean basin.
In conclusion we want to underline that the fundamental role of this kind of action comes from a necessary big re-thinking of the interaction between Man and Nature. Our ethical and social conceptions are based on the demographic pressure on the ecosystem-Earth from the beginning of civilization: the new technologies about development of energetic and nutritional resources will help to overcome this phase of crisis of Mankind, but it will require a revolution of the traditional ethical idea (Chiarelli, 1997).

## Acknowledgements

The authors are grateful to Dr. E. Grillandini, Dr. M. Masseti and Dr. A. Muccio - International Institute for the Study of Man, Florence, Italy - for their valuable remarks and to Dr. L. Mori - ARSIA, Florence, Italy - for technical assistance.

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