

## Report: Making the most of Ecological Diversity and Local Knowledge

*João Castro Caldas*

Making the most of ecological diversity and local knowledge is a topic leading through questions and methodological remarks that remain essential elements in technical and social systems approaches for sustainable development. An important group of these questions has been discussed on the workshop dedicated to the formulation of an agenda for future research on this topic and concerns how to manage articulation between local and most comprehensive economic and social systems.

Paper presented by Angeli and Senni (Agricultural spatial differentiation vs. homogenisation. Some empirical evidences in Central Italy) allows to introduce the main features of this questions' discussion. As a matter of fact, comparing the cropping pattern in Central Italy's agriculture through a cluster analysis, the authors reach to confirm specialisation hypothesis at local level and they show dynamics of spatial differentiation process. Among other factors, such as external economies, this differentiation process is certainly due also to the relevant role played by local or traditional knowledge and human skills that are left in the system. Empirical evidence consequently reveals that even in areas where one should expect agricultural homogenisation resulting from European Common Agricultural Policy of price regulation and technological change, traditional knowledge is still current and does not belong to the past. Mielgo et al. (Traditional knowledge and management of the vegetable gardens in four Andalusian municipalities-Spain) illustrate the existence of such local or traditional knowledge and human skills left in the system, which ecological characteristics offers the possibility to be incorporated in the design of organic farms, and Bellon et al. (Fallows in a prealpine valley of southern France: from two-course rotation to set-aside) present types of set-aside, introduced with 1992's CAP reform in a prealpine valley of southern France, integrated in the traditional knowledge of fallow management. Besides, as Remmers (Green manufacturing of agro-ecosystems through ethno-ecology: some empirical data from the Contraviesa-Spain) point out, traditional agriculture and local knowledge can be found in communities marginalised until now by the modernisation process, but where natural resources management constitutes a high potential for endogenous rural development. In other situations, as the one illustrated by Al-Baqain (Systems interaction in the relation to marginal and high potential in Madaba Governorate-Jordan), the agri-ecological diversity and the local knowledge allow relationships and linkages between marginal and high potential zones through regional farming systems interaction.

Once, as Fernandez also shows (Rapid Rural Appraisal in the North-western Iberian Peninsula: initial outcomes), the means required as key element of "new" agro-ecosystem structure frequently already exists in many of the current ones, the first question left in agenda for future research is how to find ways to increase interaction between this traditional

knowledge with scientific one, in order to incorporate elements that propitiate, in a most comprehensive manner, the development of agrarian strategies, not only more sensible to the complexity of agro-ecological process and more adapted to the environmental protection, but also able to support the integration of marginalised zones.

Another important question left is attached with the evidence that farmers live and produce now in a very complex world. This fact implies the external pressure over their decisions and consequently the need to understand not only farmers rationality, taking in account collectively managed techniques at agrarian system level as proposed by Vissac (Towards social management of livestock farming systems), but also the way they link and manage local knowledge left in the system with the complexity of economic and social surrounding. As the cycle of "modernisation" and technological change took place under the effective protectionism of public institutions, it is necessary, in this perspective, to apprehend at what extend farmer's dependence on the State and on policies eroded part of their capacity of taking risks and decisions in order, not only to preserve, but to enlarge in a dynamic way localised situations of efficient resources management.

There are, finally two relevant methodological remarks concerning the pursuit of the research that have been discussed taking in to account the above considerations. The first one of these remarks underlines the importance of qualitative methodology, such as participant observation, open and semi-structured interviews or life histories, in the comprehension of local knowledge and identification of its gaps. The second one emphasises the relevance of the use of discussion groups, with farmers and social and natural scientists, in order to put together ideas, share knowledge and induce new solutions within an atmosphere of mutual understanding.