

Sustainability: Implications for Agricultural Extension, Education and Training - The Greek Case -

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Introduction

Sustainability has undoubtedly been among the key-words in recent agricultural / rural development literature, especially within the Farming Systems Research /Extension (FSR/E) discourse. Nevertheless, no solid definition has been, so far, attained concerning either FSR/E or sustainability. "In general, FSR introduces an interdisciplinary focus, including sociology and economy, a systems perspective and a more equal participation of researcher and farmer in the design of new technology in the research set-up" (Guzman et al., 1994, p. 305). Furthermore, as Calatrava (1994, p. 129) argues "the concept of sustainable Farming System is difficult to grasp and its definition is often dependent on the perspective adopted." Such a concept, can in general terms, relate either to the sustainable utilisation/growth of natural resources (rooted in technical principles as allied to renewable resource management) or to sustainable development / eco-development (i.e. development taking advantage of physical, biological and cultural resources, being livelihood - oriented). The paper deals with the problem of raising the issue of sustainability in relation to wider changes which should take place in the agricultural extension and education / training system in both empirical and conceptual basis. The Greek experience, so far, serves as the basis for the development of the relevant problematisation and argumentation.

Extension

"Traditional/normal" extension, i.e. the diffusion - Transfer of Technology model, has for long been criticised on many grounds (Roling et al., 1981; Hulme, 1990; Bruce and Chamala, 1992), especially for its unresponsiveness to particular development needs emerging in the local level and its overt top-down character. As a result, a number of new approaches emerged such as the various versions of FSR/E (e.g. Hildebrand, 1982; Collinson, 1985; Farrington and Martin, 1987; Chambers and Conway, 1992). The issue of sustainability further challenges the traditional extension approach since environmental innovations differ substantially from the commercial ones and they simply cannot and should not be socially diffused in the same way (Roling and Jiggins, 1994; Vanclay and Lawrence, 1994).

The same argument is true for "traditional / normal" professionalism in the field of agricultural / rural development embracing both the fields of research and extension. Despite strong traditional / normal professional and disciplinary cultures, a new paradigm emerges (Chambers, 1987 & 1993). Such a paradigm requires major reversals in the way rural

development is conceived, designed, implemented and evaluated as well as in the way professionals are being educated / trained.

Education / training

Up to now, extensionists' education / training mainly falls in the traditional positivist strand, resulting in a way of thinking / acting closely related to the dominant productivist model of agricultural / rural development. This in turn has serious implications for farmers' training through extension activities. As already mentioned, facing the issues of sustainability two streams of thought, and consequently of developments, can be identified. The first one, referring to sustainable utilisation of resources can largely be incorporated within the traditional educational system as part of a "hard systems" thinking. Such developments refer to the introduction, amidst the technical-oriented reductionist curricula, of new subjects ranging from "ecology" to "Farming Systems". In such an approach, social scientists have only a peripheral role to play and teaching refers to the hierarchical, top-down linear transfer of information and methods.

The second one, referring to eco-development and livelihood-sustainability largely challenges traditional science and education. Such challenges are based on the introduction of "soft systems" thinking and the constructivist approach to science and rural development. In turn, this paradigm requires the reorganisation of structures and curricula i.e. the partitioning of knowledge among disciplines and hierarchies resulting in integrated, that is least framed and classified, curricula (Young, 1971; Bernstein, 1989). A further important feature refers to the new kinds of personal skills and qualities required for agronomists in order to act as "change agents/facilitators among which "... a capacity to integrate knowledge and information from diverse perspectives and disciplines in both natural and social sciences" as well as "... understanding of dynamic systems (and) environmental laws and regulations" (Jiggins, 1994, 791) are of crucial importance. Further comparison between conventional / commercial and sustainable agriculture results in the identification of a number of issues / principles which in turn may lead in a new educational design for both tertiary educational institutions (agronomists) and farmers' courses (extension training).

The Greek case

In Greece, through a series of research projects (Panagiotou et al., 1993; Koutsouris et al., 1994), it has been found that a new role for both researchers and extensionists is urgently needed so as to service semi-mountainous and mountainous areas (as well as small islands). Such areas (Less Favoured Areas - LFAs) disintegrate due to a complex of interrelated social (e.g. rural exodus), economic (e.g. low returns from agriculture) and environmental problems (e.g. erosion). In these cases the issue of sustainable development (in the sense of livelihood oriented / eco-development) is most relevant (low tech track). The same holds true but in a more technical sense for the plain areas, where intensification of agriculture is predominant, in which the main issues are that of the rational use of agro-chemicals in order to avoid pollution and the quality of the produces (high tech track). While the latter case can be relatively "easily" accommodated within traditional educational activities, the former one needs to be dealt on a broader basis (ecological thinking in its broadest sense) which might need major reversals in the way universities and professionals perform (i.e. need for: systemic

thinking, horizontal curricula, participatory training and technology development, farmers' indigenous technical knowledge, facilitators vs. experts etc.).

So far, such issues have not been considered in depth by either Universities or the Extension Service. The predominant productivist model, as promoted until recently by the Common Agricultural Policy (C.A.P.) (i.e. before the major C.A.P. reform in 1992), still has an extremely strong appeal among policy makers and professionals related to rural development as well as among farmers. Such an attitude is also related to the fact that, despite sporadic incidents, no major environmental problems have been identified so as to attract the attention of the general public (as it has happened in Northern European member states). For the moment, as an aggregate, it is true that (partly due to the two-tier character of the Greek agriculture) the consumption of agro-chemicals is comparatively lower in the Greek agriculture than in the European, while at the same time the small size and geographical dispersal of stockholdings as well as their mostly semi-nomadic character does not, for example, threaten water quality (Louloudis et al., 1993). At the same time, the Extension service has been transformed from being a development agency into a bureaucratic / administration organisation aiming at managing the distribution of the European funds to Greek farmers.

Meanwhile, the Universities still function within the traditional / dominant paradigm. They certainly fall in that category of "Universities (which) have generally failed to respond ... to the better knowledge we have today about learning, communication and development" (Knickel, 1994, 797). No institutional change has occurred while curricular changes simply refer to the introduction of new subjects; as a consequence, the traditional approaches towards higher education (i.e. single-discipline structures and reductionist concepts, top - down transfer of knowledge and the like) still enjoy a rather unproblematic acceptance / reification. Hence, our institutions seem to be quite far from realising that technological innovation and social reorganisation are inextricably interrelated as Knickel (1994, p. 798) rightly points out. Considerations like the need for researchers (and extensionists) "... to develop a holistic perspective of the real social, economic and political environment of rural communities" as well as "to develop an initial and continuing understanding of the farm, the household, a community or a resource user group as appropriate units of analysis, together with the members of these units" (Gibbon, 1994, p. 6) remain largely unattended.

The academic and professional circles among which "agriculture is (regarded as) much more than an economic sector, cheap food and landscapes... it is, at least, population, space, patrimony, history and national defence" (Portela, 1994, pp. 269 - 270) are rather scarce. Apart from issues of wider state / international policies (i.e. CAP, GATT), little attention is paid to the fact that "... the farm household is the unit of decision making which determines the speed and level of uptake of new policies and/or technologies" (Jones and McGregor, 1994, p. 338). This in turn, depends "... not only on the farming system itself, but also on the internal features of the farm household and the external or contextual circumstances which they face" (Bryden, 1994, p. 253). So far, some attempts to integrate systemic thinking and interdisciplinary research methods to rural development are only marginal, largely related to biological agriculture projects in the local level. There is no extended debate developing over these issues due, partly, to the fact that farmers' organisations have quite different negotiation priorities and considerations. It seems that Greek universities in close collaboration with major development agencies (i.e. Extension service) have a crucial and pivotal role to play in terms of developing and structuring a lively debate over the issue of sustainability and the

relevant modes of knowledge production. Of course, this implies radical changes in the organisational and institutional aspects of the education system as well as the reorganisation of such development agencies.

Epilogue

Yet, in order for FSR/E and sustainability to be incorporated in the current thinking and practice, not only reversals in universities and extension services will be required but reversals in decision making (e.g. technology, market pricing and related policies) and the wider public (e.g. consumption patterns) will be needed as well. Therefore, one can hardly avoid the challenging question of whether the issue of sustainability can be dealt within a relatively narrow range of agents in the field of agricultural / rural development or it implies major reversals in the society as a whole (since it is extremely difficult to envisage changes in universities and extension services while at the same time the society will be operating on a different basis - assumptions, values, life-styles etc.). Therefore, the question of what the role of sustainability - oriented FSR/E academics and practitioners should / can be, becomes one of great importance.

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