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THE SPANISH APPROACH TO THE MULTIFUNCTIONALITY OF AGRICULTURE: A SURVEY OF THE LITERATURE

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ABSTRACT. A review of the Spanish literature on agricultural multifunctionality shows that it has mostly centred on analysing the wide range of functions displayed by agriculture, paying a special attention to the protection of biodiversity and the environmental functions. The Spanish debate on the conceptual and strategic – in terms of policy reform and international trade negotiations – aspects of *multifunctionality* has been comparatively scarce. Research oriented to provide alternatives to a monofunctional or *productivistic* view of farming has come mainly under the general heading of *rural development*.

Key words: multifunctionality, Spanish agriculture, rural development

National context

A review of Spanish scientific literature on the concept of *multifunctionality of agriculture* faces the initial difficulty that very few studies explicitly include the expression *multifunctional* or *multifunctionality*. This may be because the problems associated with the non-productive functions of agriculture have only belatedly become the object of theoretical reflection, as a consequence of the ample possibilities of modernisation and development of its productive potential that Spanish agriculture still showed when in 1986 Spain joined the European Community. Though relatively abundant, scientific publications on the non-productive functions of Spanish agriculture do not usually mention explicitly their inclusion in the context of a general debate on *agricultural multifunctionality*.

The studies directly addressing theoretical or conceptual *multifunctionality* have been mainly the work of economists and economics-oriented agricultural engineers and have been cast in the mould of the OECD research program. They constitute the *core* of the scientific research interested in the *multifunctionality* of agriculture in Spain. On the other hand, it is relatively easier to find published works dealing with issues of great

importance for a fair understanding of the different functions performed by farming in the specific Spanish conditions, the authors of which have not bothered with conceptual matters. Different scientific communities share this *second circle*: economists, agricultural engineers, sociologists, geographers and natural scientists. Research dealing with the complex relationship between agricultural production and wild flora and fauna, or having to do with rural development, valuation of agroforestry environmental products, and landscape transformation by farming, belong, among others, to this category. Finally, a *third peripheral circle* may be found, made up of a great variety of different scientific communities whose research work is indirectly contributing to increase the pool of knowledge on multifunctionality-related issues, but without doing it purposely.

The revealed preferences of researchers for some topics, like the effects of agricultural intensification on the preservation of wild flora and fauna can be better understood taking into account that historical evolution has preserved in Spain a higher proportion of agricultural systems of extensive character than is usual in the rest of Western Europe, and with them a rich variety of ecosystems and natural habitats. Among these systems are the *dehesa*, in the South-west, the mountain pastures in the North, and the dry agriculture that extends the length and breadth of the Meseta Castellana, in the centre of the country.

The background of current academic reflections on agricultural trends and on the role of farming in the Spanish society can be briefly stated. The Spanish agriculture completed in the 1970s a transition from the *semi-natural* conditions of the 1940s, to a modern agriculture, capitalised and intensive in industrial inputs (Abad and Naredo 2002). Spain's entry into the EC reinforced the trend towards the modernisation and commercial opening-up of the agricultural sector (Reig and Picazo 2002).

Farm output prices have habitually increased less than consumer prices, thus moderating the real income growth generated by the increase in agricultural output. However, the steep reduction in the use of labour has raised substantially the individual remuneration of agricultural labour, which has achieved substantial convergence with the European average. At the start of the 21st century, the number of AWUs ("Annual Working Units") employed by Spanish agriculture is only a third of what it was thirty years ago.

Interpretation of *Multifunctionality* at the policy level

Multifunctionality as a highly relevant concept, orientating a new vision of agricultural policies, has not had much impact on the positions of the Spanish Agricultural Administration. A view more orientated to the development of the productive capacities of the agricultural sector has predominated, and non-productive functions have been mainly considered as an alternative limited to the less competitive agricultural areas. The devolution of political powers to the regions has made rural development, and structural and agri-environmental policies the province of the Regional Autonomous Governments, that enjoy the freedom to design and implement their own programs according to the needs and particular circumstances of their regional farming sector.

The representation of farmers' professional interests is shared in Spain by three organisations: ASAJA (Agricultural Association – Young Farmers), COAG (Coordinator of Organisations of Arable and Livestock farmers of Spain) and UPA (Union of Small

Farmers). These organisations occupy different positions in the political spectrum and express to different degrees “entrepreneurial” or “neo-peasant” discourses (Moyano 2002). All the organisations agree in exonerating the agricultural community of the environmental damage caused by intensive agriculture, the solution to which they place in the domain of science and technology (Garrido and Moyano 2000).

In a sense, *multifunctionality* has been interpreted by policy-makers as a policy approach intended to complement the main drive towards agricultural modernisation and competitiveness, providing a basis for redirecting funds to less-favoured areas, and reinforcing the diversification of economic activity. *Rural Development* has been the focal point and the buzzword for all those policy-makers and academics that wished to express support for a policy design no strictly centred in the farm as a production unit, and able to consider the complex interrelationships between agricultural production, the environment and the social fabric in the rural areas.

Conception of multifunctionality in academic/research work

Research directly focusing on multifunctionality

The Spanish research papers that have taken the direct approach to the study of *agricultural multifunctionality* have focused on one or other of its three main distinctive facets:

1) as a characteristic of the process of agricultural production, analytical categories belonging to OECD work on *multifunctionality* like market failures, joint production, transaction costs and social welfare functions (Tió and Atance 2001, Atance 2003).

2) as an element defining a new paradigm for agricultural policies, with different implications for alternative systems of farm domestic support (Massot 2003).

3) through its consequences for international commercial relations, considering whether WTO *green box* criteria are too stringent and/or weak from an economic analysis viewpoint to preclude some policy measures in defence of multifunctionality (Compés et al. 2002).

Research dealing with the different functions performed by Spanish agriculture

Productive functions

The modernisation of Spanish agriculture occurred later than that of other industrialised countries, and took place basically during the last half century. In the Spanish literature the analysis of the productive functions of agriculture has not been limited to its role as supplier of foods and raw materials: supply of labour and capital to other sectors of the economy, and market creation for manufacturing products have also been considered (Leal et al. 1975, Abad and Naredo 2002).

Environmental functions and impacts. Landscape

The modernisation of Spanish agriculture gave rise to a double process of *intensification* in the most productive areas, and of *abandonment* in those of low productive

potential (Varela-Ortega and Sumpsi 1998). Membership into the European Communities is thought to have contributed to reinforcing this dualism.

Negative externalities linked to livestock and crop intensification are not widespread, and affect mainly some Mediterranean regions highly specialised in intensive fruits and vegetables production, but two types of environmental impacts are of distinctive importance for Spanish agriculture: irrigation and erosion. Currently, the environmental and productive uses of water are clearly competing with each other. Negative environmental impacts of the use of water by Spanish irrigated agriculture include over-exploitation of aquifers, partial drying out of wetlands of great natural value and nitrate contamination of groundwater in areas of intensive arable or livestock farming. Concerning the existence of a positive externality from agricultural production with regards to the prevention of the risk of *erosion*, the evidence is not conclusive (Cerdà 2004).

Concerning landscape, more extensive research remains to be done in this area. Different groups of users, including livestock farmers, have been shown to display different preferences regarding the structure of the landscape.

Biodiversity protection

Recent research by Spanish natural scientists is focusing on the relationship of biodiversity and agriculture, pointing also to the risks posed by rapid technical change and intensification from the viewpoint of the survival of valuable species. Some specific agricultural ecosystems like *pseudosteppes* and *dehesas* have received special attention.

Pseudosteppes are important in inner Spanish regions, and are characterised by a great variety of habitats, including cereal crops, dry legumes and winter and three-five year fallows. They represent an important habitat for some birds species of European conservation concern. Dismantling of the current income support system for arable crops will probably produce two main consequences: intensification pressure would increase in the more productive cereal areas, through irrigation and farm amalgamation, and marginal lands would be subjected to abandonment and sometimes afforestation. Biological diversity of the *pseudosteppes* would be reduced in both cases (Suárez et al. 1997). *Dehesas* are the most internationally renowned agricultural systems of Spain. They are agroforestry systems of the Southwest of the Iberian Peninsula that generate a wide range of commercial outputs and environmental uses. Finally, *rice cultivation* is also important in Spain for biodiversity protection. As natural wetlands have been reduced, rice fields can serve as partial replacements.

Rural development

Rural development can be understood in two main ways. On the one hand it is related to the *will* of the authorities to drive policies that will endow rural areas with environmentally sustainable economic dynamism. On the other, it touches the *transformations* of the economic and social fabric of the countryside in response to technological changes and new social demands.

Regarding its policy aspects, the increasing bias in favour of rural development that can be observed in the CAP has to do with the preservation of the *European model of agriculture*, related to the maintenance of family farms, and the economic vitality of the countryside. Some scholars have preferred to link the most specific traits of the *model* to the persistence in Western Europe of the *social market economy* model (Massot 2000).

Concerning the second meaning of rural development, the Spanish experience has been marked by the dubious contribution of the CAP to the maintenance of agricultural

employment, the convergence of households' income between rural and urban areas and the rapid changes in the structure of farms, because the application of the CAP to Spain has sped up the process of agricultural structural adjustment. But the outsourcing or *externalisation* of productive tasks constitutes an alternative response to the pressure generated by the need to achieve economies of scale, which contributes to the survival of small farms, and limits in some cases the intensity of structural change. Despite the importance of the processes of restructuring, strategies of diversification of production are not absent from the reality of rural Spain, though the concept of *diversification*, intra- and extra-farm – has to be exactly determined and displays a wide range of different regional experiences (Arnalte 1998).

Multifunctionality and sustainability

The lack of a commonly agreed definition of sustainability has made more difficult the developing of operational concepts in this area. Concerns have been repeatedly expressed in Spain regarding the sustainability of intensive vegetable production in drought-prone areas, like Almeria, or signalling the loss of valuable ecosystems in the second half of the 20th century under the pressure of land cultivation expansion, wetlands. Also, some researchers have expounded the contradictions between the payments made to the farmers in the *dehesas* under agri-environmental programs, and the incentives for livestock intensification arising from some CMO regulations.

Biodiversity can be considered as a part of the rich *natural capital stock* of Spain. It is linked to some specific traits derived from the existence and special management of particular agricultural ecosystems. But assessing the sustainability of current agricultural practices requires a sound scientific understanding of the interaction between farming and the natural environment. Some efforts have been made to select agri-environmental indicators for extensive cereal and *dehesa* systems (Peco et al. 1999).

From a methodological viewpoint it is also important to emphasise the efforts to build up economic accounts specifically devoted to measure the *sustainable total income* provided by agro-forest systems, that have arisen after a recognition of the multifunctional goods and services provided by *dehesas* (Campos et al. 2001).

Conclusions

The Spanish debate on the conceptual and strategic – in terms of policy reform and international trade negotiations – aspects of *multifunctionality* has been comparatively scarce. On the other hand, the real *multifunctionality* of Spanish agriculture has been recognised for a long time and has stimulated a research effort with a strong emphasis in analysing the links between agriculture and biodiversity, and discussing the impacts of agricultural techniques and input use on the environment. A distinctive attention has also been paid to the competing productive and non-productive (i.e. ecological) uses of water. Public sponsored irrigation schemes were considered in the past the key to agricultural income growth and economic development in the countryside. Now, this vision

conflicts with a new water culture that emphasises demand management of water resources and highlights the dangers of overexploitation and pollution of aquifers.

The large room of manoeuvre still available in the 1980' for the modernisation and intensification of farming in Spain, was even enlarged by the Spanish membership of the EEC in 1986, and contributed to the predominance of productivistic values. Research oriented to provide alternatives to *productivism*, or simply to widen the range of concern of farm-focused studies, has come mainly under the general heading of *rural development*.

While the political and academic media disseminate the modern approach to rural development – diversification of activities in response to new social demands, agro-environmental responsibility, search for alternatives to “productivism” – Spanish agriculture still seems to be immersed in an intense process of modernisation and structural adjustment. Some researchers have expounded the sequence of conditions required for multifunctionality to be used as a successful policy reference, and identified the sources of failure in specific areas (i.e. dryland farming in Castile-and-León). It has led them to the questioning of the suitability of agriculture as the main channel for rural development, given the growing dissociation between farm income support and agricultural modernisation on the one hand, and rural vitality on the other (**Moreno et al.** 2004).

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HISZPAŃSKIE PODEJŚCIE DO WIELOFUNKCYJNOŚCI ROLNICTWA: PRZEGLĄD LITERATURY

S t r e s z c z e n i e

Celem artykułu był przegląd hiszpańskiej literatury dotyczącej wielofunkcyjności rolnictwa i obszarów wiejskich. W rezultacie wykazano, że w większości koncepcje wielofunkcyjności koncentrują się na analizie możliwości poszerzenia zakresu funkcji rolnictwa. Szczególną uwagę zwraca się na ochronę bioróżnorodności i środowiskowe funkcje rolnictwa. W artykule zanalizowano także koncepcje wielofunkcyjności w odniesieniu do politycznych reform i międzynarodowych negocjacji handlowych. Jednocześnie wykazano, że głównym nurtem badań odnoszących się do rozwoju obszarów wiejskich jest określenie alternatywy dla monofunkcyjności tych obszarów lub produkcyjnego profilu rolnictwa.