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# SEARCHING FOR ENDOGENOUS DEVELOPMENT PRACTICES: THE PRODUCTION OF ORGANIC OLIVE OIL

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## INTRODUCTION

A major problem for almost all European countries is the development and revitalisation of the rural areas. The key-stone for such a target is perceived in this piece of work to be the endogenous development paradigm which has lately appeared as an alternative to the modernisation, "top-bottom" approach. What appears to be decisive for endogenous development is not just the local resources, but rather the balance among the internal and external elements (van der Ploeg, 1992). In addition endogenous development is not only definable at the farm level but it also concerns the local system as a whole, formed by farms, agro-industries, farm suppliers. Three space fields and three time fields may be encountered: farm, local system, market and past, present, future respectively (Iacoponi *et al*, 1993).

The starting point for any endogenous rural development practice is the concept of heterogeneity. The latter resulted only partly from the differences in the morphology of the land, the geographical position, and the climate; it also rather appears to be the "outcome of strategic actions/regional responses adopted by farmers" (van der Ploeg, 1992), as a result of the continuous interaction of the farmer with the outside world and is shaped by the goal orientation of each actor - farmer. Heterogeneity is not an obstacle to development but something fruitful, since it reflects and provides different development patterns, each one emerging from a corresponding farming style. A farming style represents a course of actions taken by farmers towards technology and markets.

At the core of any endogenous practice is the identification of the farming styles, the disclosure of the endogenous development potential existing in the area, the strengthening and evaluation of the actual or/and potential impact of endogenous development processes. The ultimate goal is to initiate the re-evaluation and valorisation of local resources such as local knowledge and practices, and local labour, and to revitalise the less favoured, rural, mountainous areas.

The case study that follows makes an attempt to search for endogenous potential in rural areas of Crete where olive oil production is of great importance. More specifically, organic olive oil production is considered as a practice which is in compatibility with the endogenous development rationale. Until now little attention has been given to the production of organic olive oil in Greece and very limited quantities have been available. The main hypothesis to be examined is that in the framework of the two villages exists a "potential actor", a "social carrier" a group of farmers able and willing to take the initiative and proceed towards a shift in the cultivation techniques, namely a shift towards organic farming and more specifically to organic olive oil production. The final scope of the survey was to "push", that is to initiate changes that will encourage the farmers to proceed towards the conversion of their olive oil to organic.

This paper, at a first stage, provides some general information regarding organic farming in general and the importance of olive oil production for Greece. A description of the area where the survey took place follows, along with the disclosure and the identification of the farming styles at the inter as well as intra village level. The profile of the organic farmer is defined, in relation to the farming styles. Finally, some ideas are presented regarding strengthening of endogenous rural development potential.

## **ORGANIC FARMING AND OLIVE OIL PRODUCTION**

According to the Elm Farm Research Centre, organic farming is a production system which avoids or largely excludes the use of synthetically compounded fertilisers, pesticides, growth regulators and livestock feed additives. Organic farming practices are based on the idea that each part of the farm operation augments the other parts to form an efficient and sustainable food production system. The interactions between elements of a system such as a farm are such that the whole can be greater than the sum of its parts (Lampkin & Padel, 1994). On the other hand the interest in alternative forms of agriculture and more specifically in organic farming - as opposed to the conventional one - has increased due to the increasing consumer interest in food free from pesticide residues and policy makers' and pressure group's interest in degradation of the natural environment through science-based agricultural practices.

Olive oil production was selected due to the economic, cultural, ideological and environmental role it plays all around most Mediterranean countries and more specifically in Greece. Olive oil and olives are important nutritional components of the local diet and they are a main source of income in areas where the soil is generally considered to be unsuitable for growing other crops. Kiritsakis (1988) states that 400,000 families benefit from olive oil cultivation. Crete contributes 30.8 percent to the Greek production of olive oil and the cultivation of the olive tree accounts for 60 to 70 percent to the rural agricultural income of the island, providing work for approximately 90 percent of the farmers of Crete. On the other hand it is worth mentioning that extensive research on consumer behaviour has been conducted in selected European cities, Paris, Munich and London, which shows that olive oil produced in Crete has a comparative advantage regarding its organoleptic characteristics as well as its aroma, taste, odour (Nikolaidis and Baourakis, 1994).

## SEARCHING FOR ENDOGENOUS DEVELOPMENT POTENTIAL

The endogenous development rationale presented in the introduction was visualised in the framework of two villages of Crete<sup>1</sup> - Greece. The first is Gavalochori village and the other is a County seat, namely Vamos with 426 and 618 inhabitants respectively (N.S.S.G. census 1991). The survey was administered in such a way that the heterogeneity was to be disclosed and underlined via the detection of farming styles.

To trace the structure of the two villages secondary data were employed. Later, a series of structured interviews guided by a questionnaire, as well as open interviews, were conducted in order to gain a clear picture of the socio-economic structure of the area and the way each of the farmers, the "*social carriers*", organises the olive oil production.

The topography of the area around Gavalochori - a very small valley lying between two rather infertile hills, is the main reason for the remarkable scarcity of resources, that can be summarised as limited arable land with an inadequate irrigation system. Under these conditions, olive tree cultivation is probably the most appropriate for the area. In fact, olive oil production is very important for the village: of a total of 309 ha of agricultural land owned by the locals, 227 ha are used as olive groves. Other crops cultivated in the area are vegetables (19.7 ha), cereals (38.5 ha), vines (5.2 ha), and are used mainly for personal consumption. Animal breeding, on the other hand, cannot be considered as an important source of income and during recent years it has declined substantially. Most of the households produce almost the same products for their own consumption. It seems that there is a 'perpetual motion' as far as self-sufficiency is concerned, involving stock breeding - all households have sheep and/or goats, chickens, rabbits, and cultivate vegetables.

The second village, Vamos differs a lot, being an economic centre for the surrounding area. Main cultivated crops are vineyards (14.4 ha), cereals (66.3 ha), vegetables (31.4 ha) and last but not least olive trees (230 ha) that cover about 73% of the agricultural land of the village.

The analysis of the primary data<sup>2</sup> concluded that a farm head in the village at a proxy is over 55 years of age, has no formal education and owns a "medium" to "large" (over 5 ha) farm that consists mainly of olive trees. A distinction<sup>3</sup> is also noted among pensioners (the majority), pure farmers, civil servants-private employees and workers and it mainly concerns factors such as age, the size of land owned, the level of productivity they achieve, the time devoted to agriculture, the expectations they have from agriculture. Pluriactivity, expressed as the existence of another source of income, rather than the percent of time spent in agriculture, is a striking phenomenon; in the sample of 42 farmers there were 9 (21.4%) 'pure farmers', 11 (26.2%) 'civil servants/private employees', 18 (42.9%) 'pensioners' and 4 (9.5%) 'workers'.

## IDENTIFICATION OF THE FARMING STYLES IN THE TWO VILLAGES

The detection of the farming styles existing in the villages was achieved by taking in account differences in scale and degree of intensity existing among farmers. Variables that were considered essential to be included in the analysis were the number of olive trees owned by the farmer, the yields of olive oil produced and sold and productivity measured as the olive oil yields produced per factor of

<sup>1</sup> Both villages were chosen because there were two olive groves close to them where the production of organic olive oil was taking place on an experimental basis. The survey was conducted in the framework of an EU project on the "Production, extraction and marketing of organic olive oil" (Ref. No: 92 EL 06 040).

<sup>2</sup> The data analysis was first implemented to summarize the data and examine the distributional characteristics of the variables by performing a frequency procedure. In a second step a cross tabulation procedure was employed to define the probable associations among variables along with a measure of association or a test of statistical significance. The Statistical Package for Social Sciences (SPSS) software was used for the statistical analysis. Also for the sake of simplicity the statistical figures mentioned are statistically significant at least at 10% level. Finally factor analysis was performed to facilitate the reduction of the data as well as the detection of heterogeneity.

production, the quantity of fertiliser used. Four farming styles were detected, named and outlined in the context of each one of these villages (table 1).

**Table 1.** The farming styles

Village	Farming Styles			
Gavalochori	Maximisers	Big Farmers but old and Unable	Small Farmers and Indifferent	Not pure farmers but Intensive
	N = 8	N = 9	N = 14	N = 10
Vamos	Large scale Pure Farmers	Big but not intensive Farmers	Small Farmers and not interested	Small Farmers but Maximisers
	N=7	N=9	N = 12	N=14

"Maximisers" of Gavalochori and "Large scale pure farmers" of Vamos are the farming styles characterised by a combination of the scale development (they own the biggest amounts of farm and the largest olive grove) with the intensification of the cultivation (they all have medium to high level of productivity). The farmers that follow such a combination are mainly pure, middle aged farmers that run a rather big farm and cultivate it rather intensively so as to achieve the optimal production. They rely on agriculture, they take good care of their olive trees. They would not decide any shift however unless they could secure their income; *"who will pay for any loss in yields produced"* as well as *"who will pay for the additional cost of cultivation"*, are the questions normally asked.

"Big Farmers but old and unable" of Gavalochori are aged farmers that still run their farms. They cannot however take care of a large farm nor can they make an effort to achieve high productivity; *"I have worked a lot during in my life, I am tired out..."*. They are satisfied being able at least to produce some quantity of olive oil. They are always eager to talk about the cultivation of olive trees in the past, practices followed by their parents, changes recorded through years. In the Vamos village, however, farms big in terms of scale but not intensively cultivated owned not only by retired farmers but by civil servants/private employees as well that do not have any spare time at all ("Big but not intensive Farmers").

Farmers that do not care too much about their farm, belong to the group of "Small Farmers and Indifferent" of Gavalochori. They own a small size farm and they don't rely on agricultural income, since they are either civil servants or private employees and pensioners that are not willing to perform any change. It should be mentioned that this is the largest group in the village of Gavalochori. Those called "Small Farmers and not interested" in Vamos, emphasise that they would be pleased with securing a substantial amount of food for their everyday diet and they would accept a shift to organic produce, *"if I had enough information, I would do it just because olive oil would be more healthy"*.

Last but not least the groups of "Not pure farmers but Intensive" of Gavalochori and "Small Farmers but Maximisers" of Vamos consist of civil servants/private employees and workers. In general, they own a small number of olive trees, they are capable labour force units and they manage to produce a large quantity of olive oil. Remarkably, these are the farmers that use the largest quantity of fertiliser. They could, however, easily become sensitive to environmental issues, and it could be concluded that they are the most interested in organic farming or at least they could be the first to "yield to the temptation" and change their cultivation system.

**DETECTION OF HETEROGENEITY AT AN INTER-VILLAGE LEVEL**

At a next stage, heterogeneity was to be detected in the larger population of the villages. The styles of farming found commonly shared by farmers of both villages are depicted in the following figure (Fig. 1 ).

Figure 1. Farming styles in inter-village level.

<u>I n t e n s i t y</u>	<p><b>“Economic Multi-goaler Farmers”</b> N= 19</p>	<p><b>“Large scale Intensive Fanatical Farmers”</b> N=11</p>
	<p><b>“Multi-goalers Indifferent-Farmers”</b> N=30</p>	<p><b>“ Large scale Slow Farmers”</b> N=21</p>
	<u>S c a l e</u>	

“Large scale Intensive Fanatical farmers” is the smallest of all groups, indicating the limited number of pure farmers in both villages. They are basically pure or even recently retired pure farmers that are devoted to and rely on agriculture. They consider as their main income the one derived from olive cultivation. They manage to produce high yields of olive oil but on the other hand they are still willing to expand if they have the chance. They consider as the main motivation for any conversion to organic farming, the higher price and production with the same yields.

“Large scale Slow farmers” are mainly retired farmers that own a large number of olive trees but they are rather idle and they do not care too much and some big pure farmers that are not particularly productive just because they are big.

Another important group is the “Multi-goalers Indifferent Farmers”. It is the biggest one and probably the most inter-heterogeneous with respect to its factual characteristics. It consists of civil servants and private individuals that do not have any spare time and do not rely on agriculture at all as well as of retired farmers. They both own a small amount of farm, consider agriculture as food supplier and they are satisfied if they secure enough olive oil for their self-consumption. They have very low productivity and as a result they produce the lowest quantity of olive oil compared to other groups.

Finally the group of “Economic Multi-goalers Farmers”, consist mainly of civil servants and private individuals, workers and a limited number of straight farmers. They are interested in farming and consider it not just as a food supplier but also as a source of (additional) income as well as an meaningful activity. They manage the second highest level of productivity after the “Large scale Intensive Fanatical Farmers”.

**THE PROFILE OF THE ORGANIC FARMER**

The ultimate scope of this work, after the detection of the heterogeneity, is to identify the potential organic farmer as well as certain ways to strengthen the endogenous potential in discussion.

It is remarkable that most of the respondents expressed ignorance on the issue of organic farming. All of them, however, especially in the village of Gavalochori are able to perceive the consequences of the conversion to the extent that they understands what organic farming implies in practice; *“If I do not spray then all Dacus Oleas insect will come to my olive grove”* or, *“If I do not use fertiliser I have to use manure very careful to achieve the same yields”* etc. However, each one of them stresses different aspects depending on their personal priorities; a farmer explained: *“If I don’t use fertiliser I’ll have a reduction in yields”* and another farmer stressing more the financial aspect, said *“if the price was double I would start thinking about it”*.

According to what Lampkin concluded from several case studies, organic farmers are well educated, young, have an urban background and limited or no previous farming experience (Lampkin & Padel, 1994). The situation seems complicated; the potential organic farmer is rather multi-faceted. There is a lot of evidence that different motivation may encourage farmers that are distinguished by their factual characteristics as well as the style of farming they follow, to take similar course of action. It is rather hard to give an answer to the question in discussion, namely the profile of a potential organic farmer and at a second stage the definition of the ways and the means to strengthen the endogenous development potential.

A considerable part of the "Large scale Intensive Fanatical Farmers" and the "Economic Multi-goalers" expressed an interest in converting to organic farming. Although the aforementioned groups differ a lot regarding their dependency on agriculture, they both reach a high productivity level per tree, by following different farming practices. The characteristics shared by both groups that seems to be decisive, are knowledge about how to organise his work, willingness to work hard, love and finally an ability to search for and learn whatever may be needed.

## **STRENGTHENING THE ENDOGENOUS DEVELOPMENT POTENTIAL**

The ultimate scope of the survey was to strengthen the endogenous development potential. By strengthening endogenous development potential we don't mean isolation from the global economy or more than that, destruction of all existing institutions, but rather the conversion of the hindrances into valuable resources.

Financial factors may play a certain role as the motivation in a farmer's decision to convert to organic farming. Such an attribute could be expected by farmers whose income is seriously dependent on agriculture. "Large scale Intensive Fanatical Farmers", have as a main driving force the prospects for higher price for the organic olive oil which will compensate for any loss in yields as well as for the additional labour required. Pure farmers wouldn't decide any shift unless there was a guarantee related to the existence of a market niche or in other words unless there were market channels to secure a higher price. On the other hand, factors other than financial, such as personal concerns including mainly family's health may encourage farmers to exploit opportunities for a reduction in the use of pesticides such as organic farming. Farmers that have been named "Economic Multi-goalers" (or at the intra-village level as "Not pure farmers but intensive"- Gavalochori and the "Small farmers and not interested" and the "Small but maximisers" - Vamos) seem to care about their health and the environment.

The lack of co-operation among the actors - farmers, agronomists, co-operatives- seems to be one of the strongest obstacles to any change. We consider as one of our tasks to institutionalize trust, co-operation and co-ordination between all actors involved in the production, extraction and marketing of organic olive oil. Farmers seems suspicious about the co-operatives, agronomists. They speak about "weakness or even corruption of the system". In the case of production of olive oil the compatibility of organic farming with consumers' preferences-marketing advantage - along with the fact that even "conventional" farming practices, as well as *circuits along with* the use of indigenous knowledge doesn't make use of a lot of chemicals have to be stressed as enabling factors.

Agricultural co-operatives might play an important role in any change in farming practices, by eliminating the obstacles. Several studies, however, have outlined the weakness of the Greek Agricultural co-operatives. A study on the impact of EU accession on exports by Greek agricultural co-operatives showed that although in most cases CAP measures stimulated co-operatives to improve their capacity and expand their processing and marketing activities and other EU policies encourage the use of modern technology, agricultural co-operatives involved in export activities have not been able to exploit the initial positive effect from the accession and increase further their export shares,

especially due to management problems, lack of experience, organizational and structural weaknesses (Oustapassidis, 1995). Besides, a strong request expressed by most of the farmers is the establishment of close relationship between the farmers and the co-operatives, that can be considered a fundamental prerequisite for any change in farming practices.

## CONCLUDING REMARKS

Heterogeneity in the inter as well as intra - village context became obvious throughout the survey conducted with relation to the olive oil production. The farmers of both villages while apparently performing the same tasks for the cultivation of their olive trees and the production of the olive oil, they make different decisions regarding the organisation of their production, the farming practices they follow determined by their goal orientation. Through the study of the two villages, the farming styles adopted by the farmers were disclosed, identified and the profile of the organic olive oil farmer was described.

It seems that the characteristics that the potential organic farmers groups share, are: knowledge, experience, willingness to learn, professionalism, that all assure 'dedication' to their farm. However it was obvious that farmers will only proceed to ecologically sound production methods if dissemination of available information, co-operation among the actors involved, establishment of market channels and institutional support was guaranteed.

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