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The modernization process in Greek Agriculture: The case of investment aid

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Abstract

The present study focuses on certain critical aspects of the agricultural modernization, in the course of implementation of the investment aid scheme in Greece. Although the investments made under the scheme, contributed to the significant reorganization of the farms as well as to employment creation, serious deficiencies were detected in the way the scheme has been designed and implemented: lack of programming logic serving specific targets and of suitable mechanisms for information and back-up of farmers on technico-organizational matters, as well as non-incorporation of the principles of programming, monitoring and assessment. The way the scheme was implemented, exemplifies the subventionist logic of income assistance, and underlines some standing characteristics in Greek agricultural policy. Finally, alternative priorities of investment policy application are examined.

Keywords: *Investment aid, agricultural policy, farm modernization*

Introduction

In the long and changing course of the Common Agricultural Policy, investment aid to private farms is considered a basic means for achieving the structural modernization of European agriculture. The real improvement of the efficiency of structures of European agriculture is pursued through submission and approval of a detailed investment plan (also known as "Improvement Plan") (EC 1972; 1975).

Incentives to farmers whose Improvement Plans have been approved include the granting of assistance in the form of either interest rate subsidies or capital grant aid. Aid is granted in particular for investments aimed at reorganizing and improving the quality of production, cutting production costs, promoting diversification of farm activities, improving working and living conditions of farmers and improving the well-being of animals (EC, 1991). The investment aid scheme has also been used for the achievement of more specific objectives such as the "agri-environmental incentives" of Article 19 in Regulation 797/85 or Articles 21-24 in Regulation 2328/91 (EC, 1985; IEEP, 1993). Historically, the scheme has focused on a wide range of objectives, giving to Member States the ability to choose the desirable set of priorities (Agra Ceas, 2003).

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From 1988 onwards, the private investment aid scheme (thereinafter: 'the scheme'), constituted an inseparable element of the policies exercised through the Structural Funds, on the purportedly self-evident assumption that the reform principles of the latter would naturally also apply for the former, as for the other schemes for aiding private investment. Since 1999 and the promulgation of Regulation 1257/99, private investment aid to agriculture has been organically integrated into overall EU rural development policy (EC, 1999).

The present study focuses attention on certain crucial aspects of the scheme for providing investment aid to Greek agriculture. Following a summary analysis of the scheme's implementation in Greece, the theoretical framework is outlined and analyzed in detail. Finally, discussion of the findings and certain observations are put forward by way of conclusion.

Implementation of the aid scheme in Greece

Private investment aid in Greek agriculture, through submission, approval and implementation of a specific *plan* providing a detailed description of the types of investment and quantifying the anticipated improvement in the functioning of the farm, is a practice first appeared in Greece at the beginning of the '80s. It was implemented as national policy in the 1983-84 biennium, in the course of which 24,080 improvement plans were approved, with an average level of investment of 0.23 million drachmas and average proportion of subsidy of 24%.

The first quantitative and qualitative departures from past practice were registered in the context of implementation of Directive 72/159: in 1983 and 1984, 148 development plans were submitted, 95 of which gained approval (an approval rate of 64%), with an average investment level of 5.1 million drachmas and subsidy corresponding to 38% of overall investment (GMA, 1999).

Systematic implementation of the policy in question dates from 1986, with the introduction of Regulation 797/85. In some years since then, particularly the period from 1993 to 1995 there have been significant falls in the number of improvement plans being submitted, while from 1996 onwards, and particularly in 1997, the upward trend recommences. It is considered that the basic reasons for this downturn in farm investment activity are the ten percent fall in subsidies to the various categories of investment after 1-1-1992, high interest rates on medium-term loans at the Agricultural Bank of Greece during the period in question and an increase in the costs of investment (Tsiboukas et al 2000).

At the same time the state budget often encountered difficulties in securing national participation in the relevant investment outlay on account of the high fiscal deficits. As a result, in the context of the efforts to reduce the high rate of inflation and put a brake on public deficits and debt, from 1985 onwards, tight credit policies were pursued by Greek governments. Because of these austerity policies and also because of overborrowing by a significant proportion of farms, from the beginning of the nineties onwards a falling tendency was to be seen in the granting of medium-term loans in the farming sector (Baltas, 1998).

Increase in the proportion of subsidy after 1-1-1996 and a more general improvement in the macro-economic figures for the Greek economy resulted, among other things, in a turnaround in the climate, accompanied by an acceleration in the rate of implementation

and completion of investment plans, without that solving however the basic problem of disinvestment that for years had been one of Greek agriculture's distinguishing features. It is worth noting that the average level of investment in approved plans between the first and second Community Support Framework (CSF) increased from 3.8 to 5.1 million drachmas (in 1988 prices), while the average proportion of subsidy in the approved investment plans rose from 40% to 44% (GMA, 1997).

The basic findings for investments provided with aid under the scheme were as follows (Tsiboukas et al. 2002):

- they covered a large proportion of farm requirements for provision and replacement/modernization of mechanical equipment,
- they made a decisive contribution to increasing the area of irrigated farmland and introducing of electrification,
- they significantly contributed to promoting greenhouse cultivation,
- they facilitated efforts by farms to differentiate their activities and secure additional income through construction of agrotourist accommodation,
- three quarters of the sums invested were channeled into plant production, with animal production absorbing only 15% of the relevant funding.
- In 1994, 37 percent of supported holdings used the investment to re-orientate their production.

The scheme undoubtedly constitutes a strategic tool for modernization of the productive procedure, by promoting mechanization and irrigation. But no effort is made to direct farms receiving assistance towards non-surplus branches of production. Instead, there is perpetuation of an orientation towards production within a type of farming whose competitiveness is being progressively eroded.

Theoretical framework and hypotheses

Programming, monitoring and assessment are the three basic principles of the reform of the Structural Funds, introduced through Regulation 2052/88 and which should encompass all the separate structural policies of the EU (EC, 1988). Questions have arisen, as to how far the institutional framework of the investment aid scheme has incorporated the principles in question (Court of Auditors, 1990).

The reply to this criticism starts from the argument that the principles, the objectives and the terms of implementation of the scheme are precise, while on the other hand the details should maintain the necessary flexibility, taking into account the special characteristics of the different EU regions (reply of the European Commission to criticism from the Court of Auditors) (Court of Auditors, ibid). Under these arrangements the EU is confined to setting the goals and the principles governing the aid grant, leaving it to the national and regional authorities to decide on the basis of Community criteria the precise form of the intervention and implementation of the rulings.

On the other hand, from the early 1970s onward, the question of providing investment aid to agriculture was seen as inextricably linked to accomplishment of a concrete income-policy goal on the part of the agricultural holding. The basic motivation behind Directive 72/159 was selective application of investment incentives (Article 1.1) (EC, 1972), implying obviously that there was a need for targeting of structural policies in

agriculture. This requirement was however evaded through member-countries' practice of also granting investment aid to farmers who were not in a position to reach comparable income levels (Fennel, 1997). It had been envisaged that the selectiveness in question would be implemented regionally also; member-states were free to administer financial aid for investments in a differentiated manner and not to make available some grants at all, obviously so as to be able to focus their efforts on the regions with the greatest needs.

This kind of targeting was never practised at the Community level, the policies in question following an undifferentiated logic of making no distinctions between the various types of farms in relation to the achievement of some income-related objective; in reality from a certain point onward all agricultural holdings could be considered eligible to carry out an Improvement Plan (Tracy, 1993). The only distinction that was implemented in practice was that between the different proportions of subsidization by type of investment and by region (Less Favoured Areas [LFAs] and other areas).

As far as the agricultural policies implemented by Greek governments is concerned, it is worth mentioning that in the 1980s the practice of continual increases in income subsidies predominated, at a time when the productive performance of Greek agriculture was stagnant and no effort was being made to improve its international competitiveness (Louloudis and Maraveyas, 1997). Both the 'farmer-friendly' policies and the state corporatism that predominated in the farming sector were the key elements of the overall agricultural policy followed at this period. The basic consequence of this way of implementing farm policy was contraction, in real terms, of the structural expenditures for agriculture, which from 4.3% of the overall farm output between 1974 and 1980 fell to 4.0% between 1981 and 1989, while during the same period expenditures of an income-related kind increased from 13.8% to 35.0% of total farm output. Greek agricultural policies, therefore, were chiefly income-oriented in character, placing emphasis on subsidizing the volume of production, and not enhancing the necessary structural adjustments.

It has also been claimed that particularly after the mid-90s Greek agricultural policy underwent a change in character, abandoning the 'farmer-friendly' policies of the previous decade, and shifting the emphasis to modernization of Greek agriculture through timely institutional and structural interventions (Louloudis and Maraveyas, ibid).

Within the framework mentioned above, certain critical issues of considerable importance emerge. They have to do mainly with the policy of farm modernization and are questions the present paper proposes to examine. First and foremost, to what extent has the investment aid scheme incorporated the basic principles of reform of the Structural Funds? Secondly, how is the scheme integrated into the dominant practices of Greek agricultural policy? Thirdly, what would in reality mean for the developmental model of Greek agriculture the setting of certain priorities concerning the implementation of the scheme? This question is examined on the basis of two alternative definitions of the target population, i.e. those who, in priority terms, would be the potential beneficiaries of the scheme. Finally, what recommended framework emerges – what axes emerge – for investment policy?

The scheme in relation to Structural Funds policies

In the following text there is an examination of how far the three principles of reform of the Structural Funds are incorporated into the investment aid scheme in Greece. Attention focuses on the planning and implementation of the scheme during the second programming period (1994-1999). The scheme under examination was, along with the 'Young Farmers' and 'Compensatory Allowances' schemes, included in measure 1.1 of the Agriculture Ministry's Operational Program 'Development in the Agricultural Sector 1994-99'.

The first finding has to do with *absence of clear programmatic logic*. Failure to provide concrete specification of obligations and final budget at the action level resulted, for example, in the scheme (like the other two schemes) being implemented in a 'slack' manner. No sums were allocated at the regional and prefectural level, so no need was perceived to grade or prioritize potential beneficiaries in the event that the amount of funding available was insufficient to cover all the investment plans approved. Similarly, there was no attempt to arrange distribution of available funds in a way that would optimize returns on investment and/or secure the best prospects for further farming development.

Another significant absence was that of clear functional, sectoral and geographic priorities, making impossible an integrated and comprehensive evaluation of the scheme. Note that this type of programming is essentially different from the corresponding organization of farm product processing and marketing, where in each particular case the sums approved are checked against the budget, a ceiling is established for each region, and sectoral and functional priorities are established (AUA, 2002).

In any case, in the course of implementation of the program, serious *planning deficiencies* were detected, not the least of which was underestimation of the unit cost of each Improvement Plan. This led to corrective adjustments in the course of implementation of the program, at the level of both goals (change of physical object) and financial obligations. The factors contributing to the increase in cost per investment plan were on the one hand a rise in prices for investment goods and on the other increased borrowing by farmers, by virtue of improvement in the macro-economic figures for the Greek economy. A significant role was also played by administrative decisions to increase the proportion of subsidy on investments by 10% after 1996. Thus the unit cost ultimately emerged at a level around 15% higher than originally projected.

The result was that the initial goal of 50,000 Improvement Plans was soon adjusted downwards to 30,000, an objective which was ultimately over-fulfilled, while the final budget for Measure 1.1 was 25% higher than originally planned, with a corresponding 15% increase in the Operational Program for Agriculture. It is thus to Measure 1.1, and specifically to the scheme being examined here, that one must attribute the fiscal disequilibrium of the overall Operational Program and the relative failure of initial planning to properly estimate the cost of covering the needs of the Program.

The resources available for implementation of the scheme were thus exhausted by August 1999, while enrolment of would-be beneficiaries was continuing at an undiminished rate. This resulted in a serious problem of budget overrun and Program overindebtedness. Emerging conspicuously in 1999, the problem of over-absorption proved insuperable despite successive increases in the overall Program budget. Continuous pressure was generated for the necessary funding to be found and a significant proportion of it was eventually covered by the Greek national budget.

One of the consequences of the above was perpetuation of the problem of burdening of the Operational Program for Agriculture during each programming period with tasks deriving from legal obligations contracted during the previous period: Measure 1.1 of the 1994-1999 Operational Program for Agriculture was charged with 17.5 million Ecus from the corresponding measure of the 1988-1993 Operational Program for Agriculture (32.8 million Ecus for the total of the Operational Program for Agriculture) and imposes a corresponding charge of 250 million Euros on the equivalent measure in the 2000-2006 Operational Program (AUA 2002).

One key problem is *inability to specify to what extent the objectives of the scheme have been fulfilled.* As indicated, the aims of the Regulation can be summed up as increase in Farm Income (central quantitative goal) and a total of eight separate additional quality- and quantity-related goals, such as for example reduction in production costs, diversification of farm activities, protection of the environment, etc. In reality, however, through the Improvement Plans the only goal to which there can be a quantitative approach is increase of Farm Income (Farm Labor Income per Annual Work Unit) (EC, 1997). Therefore, from the way the Improvement Plans are compiled it is not possible for the performance of one farm to be determined in relation to the totality of scheme's objectives.

Retrospective auditing of the scheme's implementation at prefectural level is also impossible because no prior distribution of funds to be absorbed takes place at that level.

The consequences of the above for the Program process should be obvious. The procedure for proper monitoring of implementation of the scheme and evaluation of its results is annulled, there being no way of determining to what extent goals have been attained, how much consistency there is between ends and means, how suitable is the strategy being pursued, etc. This means that in reality the scheme has not managed to incorporate the three basic principles of the reform of the Structural Funds in 1988, that is to say programming, monitoring and assessment. A question therefore arises as to how one of the most important elements of structural policies in farming is being integrated into the overall policy framework as implemented through the Structural Funds.

How the scheme relates to Greek agricultural policies in practice

From available statistics it emerges that around half of the total number of approved Improvement Plans received approval in the last two years and around one third just in the last year of the second programming period (Table 1). Apart from the improvement in the macro-economic environment of the Greek economy and the anxiety of many farmers to gain entry to the scheme before the – at that time rumoured – change in the whole system of investment aid subsidies, the basic factor accounting for this 'boom' in Improvement Plan approvals is the fact that 1999 was a pre-election year[1]. The worsening of the economic situation of many farmers following the reductions in institutional prices on account of the reforms of the CAP in 1992 adversely affected farm incomes thereafter. The existence of schemes for economic aid to be available to farmers and also consonant with the new restrictive framework of the CAP was incorporated to the patronage-based political system and served as an instrument for the government's pre-electoral policies, given that authority over distribution of resources at the prefectural level belongs exclusively to the Ministry for Agriculture. The investment aid is an ex-

ample par excellence of this type of measure. It was this distribution, which as previously indicated does not follow any strict programmatic logic, that finally determined the number of Improvement Plans to be implemented following approval.

To some extent political, again, was the decision to continue approval of Improvement Plans after the exhaustion of the program's resources, throughout the second half of 1999, leading the entire Operational Program of the Ministry of Agriculture into serious fiscal imbalance and related programming errors. However, the most serious consequence was the serious undermining, in fact even largely nullification, of any possibility for continuation of the same policy measure (assistance to private farming investments) in the third Program period[2]. The implications of this problem are obvious, given that what we are referring to here is the most important part of the endeavour to achieve structural modernization of Greek farming.

Table 1. Improvement Plans during the 2nd Community Support Framework

	Approved Improvement Plans
1994	2,824
1995	2,836
1996	3,472
1997	7,188
1998	6,792
1999	10,165
2nd CSF	33,277

Source: Greek Ministry of Agriculture

The institutional framework for implementation of the scheme suffers from significant weaknesses, not so much through inherent inadequacies and ambiguities as through dependence on a complex bureaucratic framework for its implementation, via an institutionally totally inadequate and defective institutional environment (Papadopoulos, 1997). Administrative inadequacies and institutional rigidities at the local level, as well as the concurrent implementation with price-support policies, were the main reason for unsuccess of structural agricultural policies to alleviate structural impediments of the agricultural sector (Diakosavvas, 1998).

Ample documentation is available on the implementation of the whole politics of investment aid in agriculture in an environment characterized by *institutional vagueness* and arbitrary actions on the part of the engaged scientific and technical personnel employed in the local departments of rural development (Papadopoulos, 1999). With the passage of time a voluminous legislative framework accumulates, difficult of access for farmers interested in implementing an Improvement Plan. This significantly strengthens the position of the official argonomists at the local level in each Prefectural Agricultural Development Directorate, who quite apart from provision of detailed information on implementation of the Regulation are also charged with checking and approving the Improvement Plans submitted, as well as monitoring the investments of the Plans after their implementation. The truth of the matter is that these personnel are not accountable to any other official body for the way they run the scheme.

One major problem, and source of a host of malfunctions, is the existence of a range of different instances of institutional vagueness in defining basic concepts: concepts such as *time in farming and off-farming employment, farm operator, existence of the farm and operation for a year, adequate professional capacity, three years' experience in farming,* not to mention characterizations such as *a farmer by primary or secondary occupation* and *place of permanent residence* are reiterated by the municipal authorities or the co-operative manager on the basis of imaginary criteria and/or non-existent institutional frameworks (Papadopoulos, 1999).

Another conspicuous factor is the non-existence of common criteria and methods for implementing the scheme in practice[3], drawing into question the reliability both of the data included in approved Improvement Plans and of the assessment methods being implemented for the various farm economics statistics at the level of the individual agricultural holding. Crucial in this respect is the role of local extra-institutional networks, in which basic protagonists, apart from the would-be investor, are the agronomists drafting the Improvement Plan and the agronomists in the local departments of rural development who check, and have approval powers over, the Improvement Plans being submitted.

The absence of targeting and clear priorities in the scheme

Other critical features of Greek agricultural policies to add to the above list are its undifferentiated character and the non-existence of targeting and prioritization in its implementation, since it is supposedly addressed 'to everyone' equally. In the present section these features will be traced in the method of implementation of the scheme, and an attempt is made to define the target population – i.e. the farms which should be prioritized in elaboration of private investment aid policies, in quantitative terms.

Despite the undifferentiated character of the scheme, prevailed at the EU level, the need for more precise definition of target populations for agricultural investment aid, has also been heard from official sources. For example, faced with the requirement in 1971 for calculation of product prices in terms of 'objective' criteria, the European Commission divided agricultural holdings into three categories (EC, 1971): those which had incomes equal to or higher than the 'comparable' income and were economically efficient (Group I), those which were below the level of comparable income but with suitable assistance could achieve it (Group II) and holdings not in a position to utilize aid for purposes of modernization but whose income was also so low that price policies were not appropriate for them (Group III).

In determining the target population for the purpose of implementing the scheme in Greece, it should be taken into consideration that the total number of farms with fully employed farmholdings do not exceed 31% of the total, whereas the potentially economically efficient farms account for approximately 18% of the total (see Appendix).

Another worth mentioning element is the fact that three quarters of the Improvement Plans so far approved in Greece have been carried out in LFAs (Agricultural University of Athens, 2002). Non-LFA agricultural holdings are included in the categories of efficient and potentially efficient with smaller economic and productive sizes than is the case with LFAs. This is attributable to the higher factor productivity of the more dynamic areas, as compared to the others, testifying on the one hand to the soundness of current policies of providing more assistance (in proportion to the investment made) to

LFAs and on the other to the utility of granting compensatory allowances in these areas. However, the fact that about 48% of the potentially efficient farms are situated in non-LFAs might call for re-examination of the criteria for inclusion in the scheme, and avoidance of misusing the scheme as a classical regional development policy measure.

Discussion - Conclusions

In the course of implementation of the investment aid scheme in Greece certain important aspects concerning the structural agricultural policies have come to light.

Although the investments that were made under the scheme undoubtedly had beneficial effects for the farms that carried them out, they all operated strictly within the framework of the 'modernization' paradigm (mechanization-irrigation). They did however at the same time provide the farms with the opportunity to go ahead with radical reorganization of their production, and even with changes in their technical and economic orientation. The modernization in question was not accompanied by loss of employment positions for people but on the contrary frequently contributed to the creation of new jobs.

From study of the method of planning and application of the scheme it is possible to perceive a serious lack of programming logic, with significant secondary consequences. Only to a negligible extent have the scheme, and the institutional framework into which it is integrated, succeeded in incorporating the three basic principles of the Structural Funds of 1988: programming, monitoring and assessment.

Apart from this, there was also evidence of an extremely serious lack of suitable mechanisms for information and backup of farmers on technico-organizational matters, and for rationalization and efficiency in investment initiatives. These deficiencies led on the one hand to marginalization of the agronomists in the public sector and their relegation to a subaltern role (processing of subsidy monies, etc.) and on the other to a strengthening of extra-institutional networks, first and foremost that of the private-sector agronomists, operating in a murky and ill-defined administrative environment. This is even more clearly the case with two other aid schemes: the 'Young Farmers' and the 'Compensatory Allowances'.

The deficiencies and the problems noted here are a product not only of ambiguities in the institutional framework of the EU itself and deficiencies in the system of public administration in Greece but also of political vested interests, in both the EU and in Greece. The way the scheme was implemented, finally, exemplifies the subventionist logic of income assistance, i.e. counterbalancing payments made to farmers to compensate for loss of income through falling prices for their products in the wake of the 1992 reform of the Common Agricultural Policy. In fact the same observation holds for the totality of structural policies in European agriculture (Fearne, 1997). The logic appears susceptible of extension into the structural part of the CAP, at the expense of drawing up and implementation of coherent structural programs and sectoral initiatives.

Following the 1992 reform of the CAP, the implementation of structural policy in Greece faced the following dilemma: it could either move towards a concrete programming logic for the purpose of transforming the structure of the agricultural sector or to make the necessary short run adjustments in order to maintain the stability of farm incomes. The second choice, which was finally adopted, implied in fact the abandonment of the long run development dynamics. Hence, it is no wonder that the introduction of

the concept of farm efficiency as eligibility criterion for inclusion in the scheme in the third programming period could not produce any significant results, since it is applied indiscriminately to all farms.

Up to the end of the second programming period, the most noticeable feature of the way the scheme was implemented in Greece was its largely undifferentiated character; the non-specification of priorities in implementation of the scheme meant that in practice the policy in question was addressed to 'all' Greek farmers. It is thus arguable that this policy was more attuned to the logic of responding to income support demands particularly in the 1980's, while supposedly in the 1990s priority was assigned to institutional and structural interventions in Greek agriculture.

The lack of suitable programming logic serving specific targets coupled with the preponderance of price support policies implied that the main beneficiaries of the CAP were actually the farms focusing on excess production. Evidently, within this framework the implementation of structural policy could hardly be differentiated on the basis of supporting special farm categories as well as certain sectoral or regional priorities.

Repudiation of certain negative elements of the policies in question presupposes, among other things, targeting them, with the focus on endeavours to prioritize assistance to the process of transforming potentially efficient farms into efficient ones; Last but not least in order of importance is the fact that the type of structural modernization that was attempted, although some of its consequences were undoubtedly positive, did not succeed in moving Greek agriculture into a different developmental trajectory, redefining its role in the new competitive international setting.

Notes

[1] A similar chronological imbalance is observed in the "Young Farmers" scheme, with half of the total registrations in the 1994-1999 period, taking place in 1999.

[2] As a consequence of these developments, and because of obvious lack of resources, the Ministry of Agriculture estimates that in the third programming period the number of Improvement Plans carried out will be about one third of the figure approved during the second programming period.

[3] For example, up to 1999 at least eight different Improvement Plan forms were being used in Greece. [4]The key concept of 'reference income' is illustrated by five different figures in a single year for the various regions of the country, etc (Tsiboukas et al., 2000).

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APPENDIX

A. The full-time farm operators

It is well-known that the existing institutional framework for investment aid to agriculture mentions farm holdings whose heads are employed in this sector on an "exclusive full-time basis" (Regulation 2328/91, Article 5 and Regulation 950/97, Article 5) (EC, 1991; 1997). The criteria for exclusive full-time employment are on the one hand distribution of working time (the farm head must devote at least half of his total working time to the agricultural holding) and on the other income (the farm head must derive from agriculture or other activities on his farm – in forestry, tourist services, light industry, environmental protection – at least half of his total income).

Given that no reliable figures exist, at the level of the individual farm holding, for overall incomes of farm heads in Greece and their allocation as between agricultural and non-agricultural, we may limit ourselves to the first of the above-mentioned criteria, utilizing data from the 1997 Farm Structures Survey (Eurostat, 1997). More specifically, use was made of information from the Survey referring to the distribution of farm heads in accordance with the proportion of their overall working time they devoted to their farm (Table 2). Obviously categories 50%-75%, 75%-100% and 100% are those that include the agricultural holdings potentially entitled within the existing institutional framework to benefit from the Regulation.

There are thus 255,340 (125,690+42,200+87,450) agricultural holdings, 31 percent of the total, covered by the Regulation and satisfying, at least theoretically, the criteria for inclusion.

Table 2. Full-time and Part-time farm holders

Working Hours*	Holders
< 25%	394,460
25% - <50%	171,420
50% - <75%	125,690
75% - <100%	42,200
100%	87,450
	Total: 821,220

(*) Holders' work in their farms as a percentage of the annual working hours of a full-time worker
Source: Eurostat, Farm Structure Survey, 1997

Given that 33,449 agricultural holdings have been able to take advantage of the investment aid measure in the second Community Support Framework, it emerges that in the second Programming period 13 percent (33,449/255,340) of the country's potentially eligible holdings joined the scheme. The figure calculated in the same way for the period 1989-1999 is 23 percent.

We conclude, therefore, that during the first and second CSF, around 1/4 of the country's potentially eligible farm holdings were integrated into the investment aid mechanism, extending and fundamentally modernizing their productive system, through approval and implementation of an Improvement Plan.

B. The criterion of economic efficiency (viability) of farms

Following the aforementioned breakdown of agricultural holdings into three groups, a distinction also known as '*model of the three types of agriculture'*, farms are divided up, on the basis of the key criterion of prospective economic efficiency (viability), into the categories of efficient (Group I), potentially efficient (Group II) and economically declining (Group III) (Kroll, 1987; Fennell, 1997). Obviously financial aid should be given as a first priority to holdings in the second group, which have the potential to become economically efficient.

With implementation of this logic in Greek agriculture, in particular the data of FADN, the Farm Accountancy Data Network, it emerges that around 20 percent of the country's farms of an economic size exceeding 2 ESU are included in clusters where the economic indicators for the average farm holding correspond to the category of efficient, 30 percent to the category of potentially efficient and the remainder (around half of the population) to economically declining (Tsiboukas et al. 2002). It should be remembered that FADN includes only 'commercial' farms, which constitute 60 percent of total Greek agricultural holdings but produce around 85% of the total farm product. Therefore, farms of the 'efficient' category represent 18 percent of the total number of Greek farms (30 percent of 60 percent).

Of course, in the category of efficient agricultural holdings the generation of a satisfactory level of income is directly linked to the level of subsidy received, which makes a contribution of around fifty percent to determining farm income. It is considered extremely doubtful that this level of viability will be able to be maintained in the event of cuts in income support.

The validity of these findings is qualified insofar as the farms' non-agricultural income has not been taken into account, but they nevertheless represent a significant step towards resolution of a notoriously hazy issue in Greek agriculture.