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What land use for a sustainable agriculture?

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SUMMARY - What kind of land abandonment? What areas are more strongly concerned? Land abandonment is not only characterised by the decline of arable land and permanent meadows and pastures but also by the decrease of the number of farms and the active population involved in the agricultural sector and most of the time of the population in the rural areas. At the same time the area of woods and forests increases in a more accelerated trend than abandonment of arable land. Peripheral rural areas have been deserted and emptied from their population; some of them in a no-return way possible, others with a possibility of revival on other economic bases (tourism, winter activities, etc.). The application of the set-aside regulation (1988) may have some consequences on the use of the land; probably it will accelerate land abandonment. Some future prospects are also related to a larger application of the set-aside in the framework of the CAP (Common Agricultural Policy) reform (1992). It may have an important effect on land use. Community policy is also encouraging afforestation of arable land, bringing new possibilities in land use. Extensification of arable production and also animal production may have a strong impact on some regions especially those with intensive breeding. High intensive breedings (mainly porcine and poultry) are not concerned. Environmental protection has been one of the main orientations of the rural policy in some EC countries. For others it is starting to be an important issue in the agricultural policy. It will allow a management of the land in regions where population density is very low and with a less competitive agricultural sector. The new agri-environmental Community regulation set in the framework of the CAP reform intends to have a strong impact on the extensification of production and on the protection of the land and the landscape.

Key words: Land use, sustainable agriculture, environment.

RESUME - Quelle sorte d'abandon des terres ? Quelles seront les zones les plus fortement affectées ? La déprise agricole ne se caractérise pas uniquement par la diminution des terres cultivables, des prairies et pâturages permanents, mais aussi par une réduction du nombre d'exploitations, de la population active dans le secteur agricole, ainsi que de la population des zones rurales. En même temps, la surface en bois et en forêts a augmenté plus rapidement que les terres cultivables abandonnées. Des zones rurales périphériques ont été délaissées et vidées de leur population ; certaines de façon irréversible. D'autres voient renaître des activités sur d'autres fondements économiques (tourisme, activités récréatives d'hiver, etc.). L'application de la directive sur le gel des terres (1988) peut avoir eu des conséquences sur l'utilisation de celles-ci ; il n'en a probablement fait qu'accélérer l'abandon. Celui-ci peut être étendu avec l'application plus vaste de la directive sur le gel des terres dans le cadre de la Réforme de la P.A.C. (Politique Agricole Commune) de 1992, qui pourrait avoir un impact important sur l'utilisation des terres. La politique de la Communauté encourage également le boisement de terres cultivables, créant ainsi de nouvelles possibilités d'utilisation des terres. L'extensification des cultures ainsi que de la production animale pourrait avoir un impact sur certaines régions, surtout celles où l'élevage est intensif. Les systèmes très intensifs (production porcine et de volaille hors-sol) ne sont pas concernés. La protection de l'environnement a été l'une des orientations importantes de la politique rurale dans certains pays de la C.E., tandis que dans d'autres, cette question commence à prendre de l'importance dans le cadre de la politique agricole. Elle permettrait une meilleure gestion des terres dans des régions de faible densité, dont le secteur agricole est moins compétitif. La nouvelle législation agro-environnementale de la Communauté établie dans le cadre de la réforme de la P.A.C. compte avoir un fort impact dans le sens de l'extensification de la production et de la protection des terres et du paysage.

Mots-clés: Utilisation des terres, agriculture durable, environnement.

Introduction

Looking at the landscape in rural areas of some countries of the European Community (EC) there is a feeling of emptiness, a lack of habitat, or even more, villages which are deserted or occupied only by old people. Is this evolution an alarm signal anticipating a wider phenomenon of desertification, as some French authors suggest (Fottorino, 1989) wondering how could we let the countryside be neglected and abandoned? Is it the end of a certain rural world; probably the peasant society? Or, is it a normal stage in some historical evolution (Braudel, 1977), whereafter the conquest of large areas for land cultivation and accompanying demographic trends, there follow migrations to urban areas and decline of population as well as increase in productivity? Have all these factors provoked the marginalization of less productive land making it "useless" again?

Land abandonment is quite complex. First, it is necessary to define it, then to determine its reasons, and also the impact of the deliberate institutionalized set-aside regime. On the other hand, possibilities of new land uses should be more carefully analyzed such as forestry, tourism or environmentally protected areas.

Rural development has no meaning when desertification has already taken over in a region. It has to anticipate the moment where the process becomes irreversible and it is difficult to find rules defining it.

Land use trends in the EC

Dimension of land abandonment

It is not obvious when land should be considered abandoned. Rarely is land left fallow for many years, like it used to be for some areas in Portugal (interior of the Alentejo region) or for land dedicated to poor cereals (rye, oats and barley) in Mediterranean countries. In these cases non-cultivated land is generally used for regular or occasional pasture. It belongs to the usual practice where the plots were part of the followed land. Pasture keeps the land neat, without the inextricable vegetation which makes an unused area inaccessible (the so-called "déprise") which also has a negative and frightening significance for the rural population.

Some authors as Cloarec (1992) have the tendency to consider land abandoned after a three year period of fallow. This period is too short for the Southern countries with irregular ploughing or pasturing especially for scattered plots where activities depend on many factors such as price fluctuations, climatic conditions, availability of labour, etc.

Abandonment may be a characteristic of three categories of land:

- i. Poor areas (central France -Cevennes- and also the Vosges and Jura, North and north interior of Portugal and central Spain, Southern Italy, etc.) which suffered a decline of more than half (half being the average for rural areas) of their active population since the seventies.
- ii. Unproductive plots of land, left uncultivated by old farmers with less investment capacities and nearly retired; this category is important because one third of the farmers are aged more than 55.
- iii. Periurban regions with undefined land use and pressure of speculation on land prices.
- iv. Regions finding new opportunities (such as tourism) which are subject to land speculation and reconversion of farm activities.

Does land abandonment concern all EC countries?

The problem of land abandonment is quite different between the Northern and the Southern countries.

For Northern countries, it is difficult to speak of land abandonment ("friches"). Land use is subject to strict planning and most of the inhabited regions are either covered by forests or considered protected areas. Populated regions use their non-agricultural land for extensive pasture. The undetermined use of some land would mainly concern some periurban areas. For this reason, when the question of the existence of abandoned land is raised for the UK the first reaction is to say that the problem does not exist except for land in set-aside. But some recent studies (4) show that in fact abandonment concerns marginal grazing uplands and for arable lowland and grassland it is mainly periurban areas. The main problem is related to the changes in the ecological characteristics of the area, such as "dramatic changes in the botanical composition of the vegetation", invasion of some species (biota) coming from field margins. "In contrast, in uplands, where the vegetation has not been so strongly transformed, the processes may be less dramatic, but the rate of change may be slow" (Bunce, 1991).

Southern poor areas are more affected by the end of the peasant era; they face more difficulties professionalising the former categories of farmers which could transform their units into viable enterprises. This process is still in progress and sometimes the result is not obvious.

In the Northern regions this process is nearly finished and there is a distinction between areas of arable land with well divided and bare plots and the hills and mountains with pastures and forestry. In the Southern regions the contrast is less visible and the two or more possibilities of land use are more intermixed. The interaction between man and landscape is stronger; industrialized agriculture has not yet dominated the whole landscape.

Two other factors have also had their influence. Probably they have delayed farm restructuring and land management which have generally followed or accompanied agricultural changes:

- i. Most of the Southern regions have been affected by a strong and relatively more recent migration flow and the restructuring process has been slower than in the North.
- ii. Common agricultural policy has more recently been applied to Greece, Portugal and Spain which have not benefited from the golden age of this policy and who have lost, at the same time, the advantages of their former protectionist policy splitting up their rural economy and their less competitive production.

The type of land abandonment is different according to the level of development of the region. In the less developed regions the three first categories can be found and sometimes the last one. In the more developed regions, it is rather the third and the fourth categories and sometimes the second. Between these two poles all other combinations are possible according to the development level and the strength of the regional and rural development policies which are implemented.

Evolution of land use

From 1975 to 1987 Utilized Agricultural Area (UAA) has diminished by more than 3 million hectares. This evolution is parallel to the diminution of the number of farms and active population in agriculture (Table 1). These figures should be carefully interpreted because of the UAA definition. In principle, it includes fallowed land but not abandoned land ("friches") or very poor pastures rarely used. It excludes also all pastures belonging to local communities or to the State. When a plot is not cultivated or afforested it still may be counted as UAA.

Some countries are more concerned by the decline in agricultural land:

- Germany from 12,019 (1,000 ha) to 11,868 between 1980 and 1990,
- France from 31,581 (1,000 ha) to 30,581 between 1980 and 1990,

- Italy from 17,522 (1,000 ha) to 17,215 between 1980 and 1990, which means respectively 1,251, 1,000 and 307 ha (1,000 ha) abandoned.

Other countries have lost between 100,000 to 200,000 ha during the same period.

Between 1980 and 1987 cereals crops are the ones which suffered the greatest decline having lost nearly 2,462 (1,000 ha), about an average of 350,000 ha/year. But at the same time fresh vegetables and fruits have slightly increased their area, while potatoes, sugar-beet, forage roots and tubers have diminished.

Table 1. Evolution in land use in the EC (Source: EC Commission).

	1975	1985	1990		Share in total UAA (%) in 1990
	EC10	EUR10	EC10	EC12	
Nb of holdings (1,000)	7,684 (1970)		6,217	8,644 (1987)	
Surface (1,000 ha)	90,448	88,241	87,273	115,401	
Evolution 1975/85		-0.2			
1984/85		-0.4			
Arable lands (1,000 ha)	47,475		46,777	63,194	52.6
Evolution 1985/90 ²				-0.1	
1989/90				-0.5	
Total UAA ¹	90,448	132,825		128,080	
Evolution 1985/92 ²		28,391 (80)		-0.3	
1989/90		25,923 (87)		-0.5	
Cereals (1,000 ha)	27,289	36,025		33,836	27.2
Evolution 1985/90				-1.2	
1989/90				-4.6	
Permanent crops		11,752		11,886	
Permanent meadows and grass lands		35,998	34,772	41,429	9.2
Evolution 1985/90				-0.4	
1989/90				-0.2	
Woods and forests		52,884		53,862	
Evolution 1985/90				+0.2	
1989/90				+0.3	

¹ Utilised agricultural areas

² Annual rate of change (%)

Surface covered by permanent meadows and grassland have strongly declined, nearly one million hectares during the last decade, although the figures should be interpreted cautiously. But, they confirm the tendency towards more intensive breeding and abandonment of nearly one million hectares of pastures during the last decade. In fact, the number of bovines has increased from 77,810 to 80,288 (1,000 heads) and pigs from 80,616 to 102,536 (1,000 heads) from 1985 to 1990. At the same time

the number of milk cows which are partly fed on permanent meadows and pastures has diminished from 24,518 to 23,921 (1,000 heads). This decrease can be explained by the quota system and the restrictive policy towards milk production with falling prices.

On the other hand woodlands have increased but at a slower rate than arable land or permanent pasture. They have been encouraged to replace deserted land or unproductive plots.

The evolution in land use confirms that policy has played its role rewarding more productive farms and marginalizing the less competitive.

The more recent tendency in the CAP mainly towards diminishing surplus production and arable land is not yet visible in these figures.

Incidence of agricultural policy on land use

Community policy has intervened recently on land use in a quite decisive way and through a set of measures mostly related to the CAP reform: set-aside which may extend land abandonment, introduction of more extensive agricultural practices and development of a more environmentally orientated policy. It is also intended to pursue the protective policy towards less-favoured areas. These policy orientations could have a somewhat ambiguous effect, aiming at the same time to maintain the rural population in poor areas, but giving them also a possibility through subsidies to diminish their agricultural activities, which when they are not intensive can be useful to the environment. But this means creating other activities, otherwise once old farmers disappear the region becomes depopulated.

Effects of the set-aside policy

It is difficult to forecast what could be the effects of the compulsory set-aside planned in the framework of the CAP reform and which should be applied to 15% of the land of all farms having above 92 tonnes of production of cereals or oilseeds on arable land. It should start to be fully applied in 1993-94. But some preliminary elements could be drawn from the application of the pluriannual set-aside regime implemented since 1988 and the annual regimes of 1991/92 and 1992/93.

Pluriannual set-aside concerned until now nearly 1,600,000 ha mainly in Germany, Italy, United Kingdom and more recently France and Spain (Table 2 and 3).

In Germany, at the beginning of its application, take-up was mainly by farmers from regions with poor land (Lüneburg and Lower Saxony). Later there was participation by big farms from Saarland. The proportion of land set-aside is relatively high compared with the farm area, i.e. between a third and a half.

But the most important set-aside programme concerns the New Länder. Nearly 600,000 ha are already out of production to which 105,000 ha financed by the Community can be added. They cover mainly cereals crops and potatoes.

Also in Italy set-aside includes the less productive land, at least when the regime started to be applied. With the exception of the Trento region, the south of Italy and Sicily absorbed the greatest part of the financing. More than a quarter of the land is on farms with less than 20 ha and a third have less than 50 ha. Half of the farms have land permanently set-aside and many farmers opted for abandoning agricultural activities.

In the United Kingdom set-aside was largely encouraged. Most of the farms concerned have more than 50 ha and an insignificant part less than 20 ha. The rate of abandonment of the farms was also quite high at the beginning of the application of the regime; most of the land is in permanent fallow.

In Spain, Aragon, Castilla-La Mancha and Leon regions occupy 89% of the set-aside land and only 5.5% of the farms have more than 50 ha.

Table 2. Community subsidies for set-aside to NVA¹ (Source: EC Commission).

Countries	Amount of aid (ECU/ha) ²	NVA (ECU)	Nb of ha Set-aside Until 1992 ³
Belgium	207-518	605	880
Denmark	112-431	-	12,813
Germany	300-600	356-585	374,375
New Länder	120-290	-	104,885 ⁴
Greece	150-300	265	713
Spain	121-344	179	103,169
France	195-481	307	235,492
Ireland	242	272	3,452
Italy	380-600	346-473	571,489
Luxembourg	217	215	91
Netherlands	700	395	15,373
United Kingdom	285-314	346	152,700
Total	-	-	1,575,432

1 Net value-added at factor cost

2 Variations according to land cultivation

3 Provisional (Oct. 1992)

4 Nearly 600,000 ha for the New Länder are set-aside without Community financing

Figures show that these Member States used the set-aside regime more intensively. Germany, Italy and the UK offered aids higher than the value added of the farms. The value of aids in France and Italy is lower but they generally cover the added value and exceed it for less fertile land.

On the other hand Denmark, Ireland, Netherlands and Greece offered lower aids, in order not to give priority to the set-aside regime. They have a preference for more positive policies, such as rewarding farmers for positive actions for environmental protection or extensification. This is an example of the way Community policy can be used respecting priorities determined by national policy and more adapted to their agriculture.

Exceptions were made for Portugal and some Spanish regions which were not obliged to apply the set-aside regime. They will last until the application of the CAP reform. In these cases application of set-aside could have dramatically accelerated land abandonment and desertification of the poorest rural areas, without creating job alternatives for the population concerned. This may happen with the CAP

set-aside regime.

National figures (mainly for Germany, Italy and Spain) show the importance of farms having less than 20 ha or even less than 50 ha participating in the set-aside scheme. Most of the land was left in permanent fallow and many holdings went out of production, mainly in 1989, the first year of the scheme's application. In 1989, among 1,350 farmers who took up set-aside in the United Kingdom, 650 (48%) abandoned agriculture. Such figures seemed alarming and after an analysis of a report on the set-aside regime, the Agriculture Committee of the European Parliament recommended that only exceptionally should a farm be authorised to set-aside more than 35% of its area (1) and to be very cautious on the negative effects for rural areas.

Table 3. EAGGF spendings for set-aside in millions of ECUS (EAGGF Guarantee Section)(Source: EC Commission).

Member states	1990	1991	1992 ²
Belgium	0.1	0.1	0.06
Denmark	-	0.2	0.50
Germany ¹	20.8	24.1	47.60
Greece	-	-	0.008
Spain	-	1.0	1.60
France	-	-	11.70
Ireland	0.2	0.1	0.13
Italy	13.5	32.8	67.00
Luxembourg	-	-	0.006
Netherlands	0.6	1.2	1.32
United Kingdom	6.3	8.3	11.20
Total EAGGF	42.3	76.8	154.40
Guarantee Guidance	42.3	76.8	154.40

1 Including New Länder

2 Provisional

The application of the set-aside regime was enlarged with the Commission decisions to increase at the same time aids and co-financing rates. These decisions show the strong weight given to this measure for achieving the CAP orientations towards reducing surpluses and production subsidies. This objective has not been reached until now, surplus production has not diminished.

Other constraints also influence farmers' decisions (pluriannual set-aside is obligatory for the farmer) to reduce their arable lands or animal productions:

- i. Indebted farmers use this regime as a way to terminate some of their activities.
- ii. Farmers with adjustment problems (small size, non-competitive production, etc.), or having to limit their production because of quotas may choose the set-aside solution.
- iii. Older farmers reducing their activities.
- iv. Possibilities of other off-farm activities, or occupations such as intensive breeding, processing of agricultural products, etc.

Effects of set-aside on environment are not obvious and they can be negative (1) if land is abandoned despite what is planned in the legislation to keep the land in good condition. It also provides possibilities for other uses: green fallow (maintenance of extensive grazing) or yellow fallow (growing of lentils, chick-peas and vetches). But until now these uses have been very limited (in 1990, 10% of the land in set-aside for green fallow and 1.5% for yellow fallow -this latter possibility was not proposed in all Member States-).

This raises the problem of alternative land uses (2).

Rotational set-aside

CAP reform introduced rotational set-aside (3) integrated in the production practices of the farm. It has been applied since the 1991/92 marketing year and covered 803,341 ha; most of the area is concentrated in Germany (39%) integrating part of the pluriannual set-aside, Spain (31%) and France (25%) where mainly big cereals producers took part in the scheme.

Obviously the intention is to reduce cereals and oilseeds production. But it is difficult to assess this effect on production. In most cases, large farms have started to set-aside their marginal land and some areas around cultivated plots. At this stage it has not reached intensive, highly productive areas. However this situation can have good environmental effects when it concerns areas around cultivated plots or when maintenance works are done. Abandonment can be avoided and the landscape can benefit; but environmental practices are difficult to impose when they are not specifically targeted in the scheme.

CAP set-aside scheme

It will start for the 1993/94 marketing year and will be integrated into regional programmes which will contain the calculation of the set-aside premium and the compensatory payments:

- i. The categories of beneficiaries with compulsory set-aside of 15% of the arable surface.
- ii. The base areas (calculation based on the average of the cultivated areas 89/90/91, for cereals, oilseeds and protein plants with information since 1986).
- iii. The reduction of the base area in cases where the area forecasted is exceeded; the additional area should be set-aside without any compensation.

At the same time possibility is also given to set-aside irrigated land. In these cases premiums are higher. When different cereals are cultivated an average of the yields is taken, and for mixed areas yields are determined according to the yields on neighbouring areas.

Intensification based on irrigation concerns mainly Southern countries and is an important component of Community agricultural programmes. It covers nearly 16% of EAGGF-Guidance assistance to objective 1 regions (Portugal, Greece, Ireland, part of Spain, Italy, Northern Ireland and

the DOM's) concerned by development programmes and 13% for the three countries mainly concerned (Greece, Spain and Portugal)(Table 4).

It is forecasted that the set-aside integrated in the CAP reform should cover 4.4 million ha, which corresponds to a reduction of 15.7 million tonnes of cereals and 1.1 million tonnes of oilseeds. Most of these areas will be concerned by rotational set-aside and will continue as arable land. It is difficult at this stage to assess the importance of the land concerned by changes in land use or simply by abandonment.

Table 4. Community subventions for irrigation in millions of ECUS (1989-93)(Source: EC Commission).

Countries	Irrigation	Total	%
Greece	123	286	
Spain	40	493	
Portugal (86-93)	75	667	
Total only countries concerned	238	1,446	16.5
Total objective 1 EAGGF Guidance	-	1,770	13.5

Average compensation of income losses due to price cuts should be of nearly 207 ECU/ha absorbing 768 million ecus/year (compared to 308.8 million ecus in 1992 for the rotational and pluriannual schemes and 153.6 million ecus in 1991 only for the pluriannual scheme) out of a total of 13.067 million, which covers mainly income compensatory payments.

Abandonment of other productions

If set-aside is suitable for reduction of cereals, other crops with production creating surpluses have to be uprooted. This is the case for vineyards. Under Community measures introduced in the eighties and especially the 1988 regulation (4) with effects mainly in Italy (50,073 ha), France (45,332 ha) and Spain (39,730 ha), but also Greece and Portugal (Table 5), concerning for the first two countries nearly 5% of their vineyard areas. Uprooting concerns generally small areas of vineyard of a mediocre quality mostly for table wine, despite some of them being classified as VQPRD (régions démarquées).

There is no quantitative data on new uses of uprooted land. Some may be left uncultivated for a while. But most of the time abandonment is only temporary and concerns a limited area. In Spain, some are replaced by olive trees (La Mancha), others by vineyards for grapes or dried raisins or also fruit trees. Afforestation has rarely replaced vineyards. Some of the areas go out of agriculture to urban uses stimulating speculation on land which encourages uprooting. But premia for uprooting also have a perverse effect increasing land value. Older farmers are the first to be affected, followed by farmers on holdings concerned by urbanisation projects.

Table 5. Community subsidies for uprooting vineyards in millions of ECUS (Source: EC Commission).

Area (ha)	Germany	Greece	Spain	France	Italy	Luxembourg	Portugal
V.Q.P.R.D.	125	0	23,229.57	4,962.31	1,910.88	3.99	
Table wine	0	4,173.45	11,423.90	37,296.81	41,709.16		
Others	0.75	9,619.04	5,075.45	3,073.11	6,453.04	0	
Total	126	13,793	39,730	45,332	50,073	4	7,200
Total area of vineyards	93,000	85,000	1,396,000	983,000	978,000	1,000	
% of uprooted area (ha)	0.14%	16.23%	2.85%	4.61%	5.12%	0.40%	
Average wine production (hb)	8,593,667	4,662,000	31,630,000	64,966,333	66,687,333	130,333	
Uprooted production	0.11%	5.36%	2.52%	4.21%	4.47%	0.21%	
Average yield uprooted surfaces	78	60	23	65	68	70	
Total payments (million ECU)	823.91	94,197.04	122,429.67	278,579.39	340,366.87	24.66	
Average premium (ECU/ha)	6,552	6,830	3,082	6,145	6,797	6,168	

Alternative use for non-food

Non-food use is one of the first alternatives for set-aside land. In the pluriannual regime, only 10-15% of the area was used for this purpose and in the whole EC no more than 2% of the UAA, mainly for ethanol (France). Despite EC legislation encouraging non-food, there was only a very slow increase in the area concerned (5). Its application is complex, imposing a strict control on crop marketing.

Other EC interventions were quite limited, they concerned mainly research and pilot or demonstration projects. Some diversification actions were also included in some rural development programmes financed by the Structural Funds.

Although some EC countries are planning to build their own bio-fuel industries, it is Austria that leads the world in the development of the technology to convert rape oil into diesel fuel. Because of the high cost of the bio-fuel this country has concentrated the limited supplies in areas where avoidance of air and water pollution is important (powering of snow-levelling machines on ski slopes, vehicles close to water supplies, etc.). This policy is approved by the citizens who are willing to pay for it (6).

If most of the policy measures already mentioned correspond to the objective of reducing production surpluses, others do more specifically address the difficulties that most rural areas face. The more positive are included in Community interventions under the rural development policy, which also cover compensatory allowances to less-favoured areas and environmentally-oriented measures.

Policy measures under the CAP should allow agriculture to become more competitive, excluding non-viable farms by refusing to limit compensatory payments to this category as was proposed by the Commission. Even this is not entirely correct, because giving the compensatory payments to all farmers and compensatory allowances to family farms in less-favoured areas gives a chance to less competitive farms to survive.

Subsidizing only smaller farms (under 92 tonnes) would have been a political option to maintain this category of rather small family farms that some call "historical", "belonging to a museum", or to the past. Some also say that it is completely unsatisfactory to let farmers survive in such an unsatisfactory way, and with a much lower income than in any other job in our society (ignoring the jobless).

It would have also dumped medium farms which can still survive with subsidies. Besides, drastic redistribution of income support was declared unacceptable from a political point of view by the Council of the Ministers of Agriculture of the Community.

This question is still very polemic and it is not obvious that disappearance of small farmers is only a question of time. This statement was already made some fifty years ago and was untrue (Chayanov theory). What happens is that this reality transforms and adapts to the new context and probably we already have some elements of the new forms it can take, if a chance is given to these farms in the context of a rural development policy.

Positive Community policy for less favoured areas

Community intervention is designed to encourage and maintain agricultural activities in mountain areas and areas which suffer special handicaps. It tries to avoid abandonment of regions with difficult conditions and which are the first to suffer from desertification.

Compensatory allowances for less-favoured areas are granted as an income aid proportional to the headage or the farm surface up to a limit of 120 ecu/head, and for a maximum of 120 heads. Payments for farmers who have between 60 and 120 are only half of the amount. The aim is to avoid concentrating subsidies on large herds although it does not always succeed. But on the other hand it excludes tiny farms (less than 2 ha) with some exceptions (Portugal).

Compensatory allowances have a positive effect on declining rural areas. Easy to administrate and going directly to the beneficiary, they have concerned nearly 1,221,000 farms, which means 30% of the farms in less favoured areas and 13.5% of the total (Table 6).

Impact on income of all Community subsidies including compensatory allowances and other market aids is very important. It reaches an average of 36% of the farm income for the less-favoured areas. This percentage is much less for normal areas which do not benefit from compensatory allowances.

The percentage of compensatory allowances in the total farm income is very different between Member States. Some of them have given priorities to this measure and reach nearly the maximum amount authorized, others prefer to concentrate their resources on agricultural investments or environmental measures. This percentage reaches 87% in the United Kingdom, 69% in France, 55% in Ireland, 44% in Portugal and 43% in Germany (Table 7).

Another Community intervention may also help less favoured areas, although it addresses all regions: sheep premium. In the CAP reform the ceilings of 1,000 head in less-favoured areas and 500 head elsewhere are maintained. For animals in excess of this number only 50% of the premium per head will be paid. A national reserve (1%) is also set for less-favoured areas and the supplement of 5.5 ecus per ewe is maintained.

Such favourable orientations are contradicted by others which may harm the less-favoured areas such as the transfers of rights between producers and between regions (in the limit of 15%) and the setting of an individual limit per producer.

It is not enough to allocate subsidies, a more active intervention is needed. It appears in the rural development programme for less developed regions of the Community and includes not only agricultural measures but also others which allow diversification of activities on the farm (tourism, craft, etc.) and outside the farm (small enterprises, services, etc.).

Environmental protection and its incidence on land use

Land abandonment took probably devastating forms during some historical periods, the nearest to us being the results of the European migrations which took place in the last century and at the beginning of this century after some dreadful famines spread over Europe.

Since then national policies and, after the constitution of the European Common Market, Community policy has stimulated land cultivation and the fight for food self-sufficiency. Then agriculture had to suffer the negative consequences of intensive production methods and the first alarm was given when water pollution increased in an unsustainable way. The awareness of a need for an environmental policy for rural areas took shape and was translated in the eighties by national regulations concerning restrictive practices (Jazra Bandarra, 1991; Jazra Bandarra, 1992).

Not much could have been achieved without the positive evolution of public opinion towards environmental questions, encouraged and informed by pressure groups which have expressed these interests also at a political level. For this reason environmental policy, preservation of nature and new land uses are much more advanced in the Northern countries gaining a step, sometimes quite important, compared to Community policy, still scattered and indecisive. But more positive recent orientations were given which have a big added value.

Integrating environmental preoccupations means introducing new practices in agriculture and the management of the farms, and also another form of land use and space planning.

The main recent Community orientations are directed towards fighting against different types of pollution, ensuring the compatibility of other policies with the environment, creating an environmentally friendly agriculture and protecting nature and threatened areas.

Table 6. Presentation of the results of the 75/288/EEC Directive on mountain agriculture and of certain less favoured areas (Source: EC Commission).

	Accorded compensations for less favoured agricultural areas										Number of farms in 1,000 ¹				Farms receiving compensation (1988) over total number			
	Number of beneficiary farms			Amount of compensation paid in 1990		Amount of compensation per LU												
	1988	1989	1990	Total (ECU)	Average amount per farm (ECU)		Number of LU (1990) (1,000)	ECU/LU		Total	Surface area over 2 ha	Total in less favoured areas	of farms in %	of farms over 2 ha in %	in less favoured areas in %			
					1989	1990		1989	1990									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Belgium	8,309	8,073	7,853	7,705,812	983	981	184.4	42.1	41.8	93	71	13	8.93	11.70	63.92			
Denmark	----	----	----	----	----	----	----	----	----	87	86	----	----	----	----			
Germany ²	235,392	245,679	245,679	307,519,676	1,258	1,252		66.0	65.7	705	593	373	33.39	39.70	63.11			
Greece	269,193	215,516	214,151	83,478,560	322	390	1,300.2	35.5	49.9	953	511	572	28.25	52.68	47.06			
Spain	116,315	224,318	228,039	81,656,888	293	358		20.5	25.8	1,792	1,195	645	6.49	9.73	18.03			
France	162,405	154,897	161,559	242,005,625	1,354	1,497	4,419.0	54.4	54.2	982	853	324	16.54	19.04	50.13			
Ireland	95,839	96,110	100,010	86,106,945	702	861	1,271.9	49.6	67.7	217	207	129	44.17	46.30	74.29			
Italy ³	92,569	56,533	92,000	57,000,000	519	600	850.0	56.7	60.0	2,784	1,340	1,288	3.33	6.91	7.19			
Luxembourg	2,672	2,570	2,507	8,102,511	3,101	3,232	62.7	91.2	87.0	4	4	4	66.80	66.80	66.80			
Netherlands	964	1,249	1,557	778,484	417	500	11.2	58.6	69.3	132	107		0.73	0.90				
Portugal	133,844	96,218	111,842	42,572,723	323	380	522.9	53.2	62.7	636	246	418	21.04	54.41	32.02			
U. Kingdom	55,843	56,091	55,935	169,463,486	2,908	3,029	2,873.0	61.0	59.0	260	233	94	21.48	23.97	59.41			
	1,173,345	1,157,254	1,221,000	1,100,000,000	832	900	11,500.0	62.4	62.0	8,644	5,443	3,865	13.57	21.56	30.36			

1 Source: Survey on the structure of farms 1987 - EUROSTAT

2 Land before 03.10.90

3 Year 1990 estimates based on previous years

---- Regime not applied

Table 7. Part of subsidies in agricultural income (ADFN, 1987-1988-1989)(Source: EC Commission).

Subsidies in % ref.	NA ¹ (%)	LFA ² (%)	MA ³ (%)
Belgium	15.7	34.4	-
Denmark	60.6	-	-
Germany	25.1	55.8	69.6
Greece	17.8	30.0	38.6
Spain	10.7	12.7	13.0
France	15.8	69.3	84.6
Ireland	21.3	43.5	-
Italy	10.0	14.6	11.5
Luxembourg	-	21.6	-
Netherlands	6.6	-	-
Portugal	36.4	44.0	40.9
United Kingdom	20.7	87.6	-
EUR 12	15.4	36.1	27.3

1 Normal areas

2 Less favoured areas include mountain areas

3 Mountain areas

Pollution limitation

After some years of discussion the Community's nitrate directive was approved in December 1991. The levels which are proposed are still quite high according to expert opinion, but it is a good step for limiting pollution originated from the use of fertilizers. Member States have two years to propose the definition of their vulnerable zones, and some of them intend to include their whole territory (11). Some phyto-pharmaceutical products have been prohibited as they are not included in the list of authorized products in the EC (7).

Application of this policy has been hindered by strong opposition from farmers' organizations and sometimes by difficulties in national and regional administrations.

In the framework of rural development policy some programmes are being implemented concerning sewage infrastructures and water filtering (Portugal, Ireland, etc.)(8).

Compatibility with other Community interventions

Projects which may have an impact on environment either by their nature, their dimension or localization are submitted to an obligatory assessment of their impact on environment. In agriculture it mainly includes: land restructuring, irrigation projects of more than 200 ha, changes in land use, drainage of wet or semi-natural zones and new large-scale intensive breeding.

Difficulties of implementation have appeared; this measure was seen more as an obstacle to the realization of projects than as a preventive way to avoid destruction of ecological elements.

All regional and rural development programmes are also reexamined from the point of view of environmental impact, mainly on questions related to infrastructures. Sometimes, it remains theoretical but in other cases projects were rejected because assessments showed their negative influence (motorway project in Portugal).

Introduction of environmentally-friendly practices

This is the most difficult part of environmental measures. It needs a change in farmers' practices without putting them out of market competition.

Measures introduced in 1988 to stimulate extensification (9) had a very limited impact.

The environmentally sensitive areas (ESA) were created in 1985 but in practice they only started in 1988/89. They now cover 4.5 million ha of which 2.5 are eligible for a premium for actions preserving the landscape and environment. More than 60,000 farmers already benefit from this premium (Table 8).

In 1992, more important decisions were taken in the framework of the CAP reform plan to stimulate extensification and environmental protection enlarging the application already started with the creation of the ESA.

They complete some market measures and concern:

- i. Premium for suckler cows (75/ecus/head) for all farms under 25,000 kg and for the first 40 milking cows of each farm under 1.4 head/ha in less-favoured areas and 2 head/ha in normal areas.
- ii. Complementary premium (30 ecus/ha) for respecting this same density for bovines; it should be introduced gradually and respecting the previous condition which limits herds to 90 animals per producer to benefit from compensatory payments.
- iii. Granting of compensatory allowances is subject to the same density level on the farm. They are aimed to exclude intensive breeding.

But the most fundamental contribution of the CAP reform related to environment is the agri-environmental accompanying measure which aims to encourage the use of farming practices reducing the pollutant effects of agriculture, extensification of cattle farming, long-term set-aside of agricultural land for environmental reasons, upkeep of abandoned farmland and woodlands for ecological reasons and avoiding depopulation of rural areas. It continues the application of practices included in the ESA programmes. But the premium rates are higher (from 150 to 250-350 ecus/ha) and also the co-financing rates (from 25% to 50% and from 50% to 75%). This means an important increase in the spending which is now 12 million ecus and should reach 830 million per year (Table 9, including extensification and environmental protection).

This regulation should be applied during 1993, after presentation of regional programmes by the Member States.

Nature protection

Part of nature protection is covered by the agri-environmental measures of the CAP reform when it states that farmers or rural populations should be compensated for protection of landscape and not only for good agricultural practices.

Encouragement has also been given to creation of natural parks and their use for different purposes such as tourism or other activities. It is a way to preserve ecological systems but also to bring some new activities to rural areas.

A nature conservation programme, in addition to interventions included in ESA programmes and rural development programmes, is being pursued, as well as the application of the directives on birds and zones with threatened fauna and flora and natural habitat.

The use of land for forestry purposes is supposed to give more protection to ecological systems and also create new activities, although in some cases it can be a disturbance to the natural habitat if it is not carefully planned and introduced. In the Southern countries, its effects on human activities were not always very positive. In some regions, it led to depopulation and land abandonment, without compensation by new activities resulting from marketing and processing of forestry products.

Situation in rural areas need innovation. Most existing measures have the role to prevent, preserve, or restrict but few try to develop activities harmonizing nature and human interests. No national or regional administration can do it, or can be able to substitute the farmers' role. Farmers have an important task to perform in a friendly environmental use of rural areas. An intensive orientated agriculture giving priority to immediate profits has prevented them from performing this task and has led to incalculable damages.

Table 8. Aids in environmentally sensitive areas (Application of regulation EEC n° 2328/91-Section VII¹)(EC Commission, 1992).

	Agricultural area (ha)		Number of farmers receiving premium	Agricultural area per beneficiary (ha)	Surface area involved ²
	Total sensitive areas	Eligible for premium			
1	2	3	4	5	6
Denmark	127,970	p.m.	3,459	8.11	28,060
Germany	2,560,000	1,223,000	40,780	7.15	291,646
France	944,430	83,000	p.m.	p.m.	p.m.
Italy	944,430	820,740	6,038	37.98	229,359
Luxembourg	2,800	600	4	10.00	40
Netherlands	75,800	27,000	5,013	5.34	26,815
U. Kingdom	740,930	396,570	4,997	56.50	282,351
Total	4,566,550	2,550,910	60,291	14.23	858,271

1 Situation at 29.09.92 (provisional data)

2 Surface area involved for reimbursement until 1992

Changes in land use diminishing cultivated areas and increasing fallows should give more importance to a co-management of the rural territory. Different entities could participate beside farmers and their organizations including local public bodies and new users of rural areas (such as for tourism or natural parks planned in good conditions, etc.) where rural and urban population and activities can interact.

Table 9. Summary table of financial implications in millions of ECUS (Source: EC Commission).

	1993	1994	1995	1996	1997	Total
<i>Pre-retirement: EAGGF Contribution</i>	32	204	458	604	708	2,006
<i>Environment</i>						
EAGGF Contribution (average rate 60%)						
- reduction of fertilizers/extensification	6	24	49	80	122	281
- environmental protection	17	72	146	236	360	831
- use of abandoned agricultural land	20	84	170	275	420	969
- set aside of land	-	18	18	18	18	72
- training	-	2	2	2	2	8
- total	43	200	385	611	922	2,161
<i>Afforestation</i>	58	65	76	94	120	413
Total cost for EAGGF	133	469	919	1,309	1,750	4,580
Minimum expenses EAGGF: set aside of land	-	-180	-180	-180	-180	-720
Net cost for EAGGF	133	289	739	1,129	1,570	3,860

Notes

- (1) COUNCIL OF EUROPE PARLIAMENTARY ASSEMBLY: Report on the consequences of set-aside of arable lands in rural areas. 12.01.1990, doc. 6159.
- (2) EC COMMISSION: Institute for European Environmental Policy, Acts of the seminar on "The implementation of the agri-environment policy in the EC", 21-22.02.1991, Brussels.
- (3) Reg (CEE) 1272/88 of 29.04.88, O.J. 11.05.88 on set-aside regulation completed by Reg (CEE) 3981/89 of 20.12.89, O.J. 29.12.89
Reg (CEE) 1703/91 of 13.06.91, O.J. 26.06.91 on rotational se-aside for 1991/92.
- (4) Reg (CEE) 1442/88 on permanent abandonment of vineyards. CEE report on the application of the regulation in different Member States.
- (5) CEE: Utilisation non-alimentaire des produits agricoles. COM (89) 597, Nov. 1989.
- (6) FINANCIAL TIMES: 15.09.92
- (7) Directive on nitrates 91/676, J.O. C 375, 31.12.1991
- (8) Directive on phyto-pharmaceutical products 91/144 of 15.07.91, J.O. L 230, 19.08.91
- (9) Extensification regulation (CEE) 4115/88 of 21.12.88, O.J. 29.12.88

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