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State of the art and methods: report on France

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Abstract:
This final draft of the WP2 report for France is organised in three sections. The first section emphasises the historical perspective with insights on the main explanatory factors of the emergence of agri-environmental policy. The second section focuses on regulation 2078/92 and provides a comprehensive description of its implementation. An overview of the many evaluation studies made is also given. The last section deals with the rural development programme and the road ahead. Its implementation mainly relies on the farming territorial contract which has been introduced in the French legislation in 1999. It is a new farm-oriented policy instrument which targets the integration of the economic, social and environmental dimensions in a single framework.

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1 Historical perspective

1.1 Early experience with agri-environmental policy

Pronounced interest for natural sites and the countryside can be traced back 1861, with the public purchase of 1000 hectares of the forest of Fontainebleau. But, it is the law of 1906 which established the first legal framework concerning the protection of natural sites. Following legislation was in keeping with this former law as it aimed at protecting 'small-scale' nature: particular rock formations, waterfalls, unusual trees and so forth. It was based on a type-of-monument approach (Bonnieux and Rainelli, 1996). The emergence of specific concern for the protection of the French rural environment reveals the strict separation, in spatial, policy and administrative terms, of farming, on the one hand, and nature protection, on the other. Beyond the defined protected zones, farmers were considered the most suited and best placed managers of the rural environment. This was very much the general situation up until the 1980s.

The role of traditional farming methods in maintaining landscape and the importance of retaining a viable agricultural population within certain national parks and their peripheries were acknowledged from the outset of the French national park policy in 1960. National parks were initially designated because of their value as 'important sanctuaries of nature', but an important feature of these areas is that they cover land which is inhabited, largely privately owned and used economically. Two different parts are distinguished: a central area, characterised by wilderness, with strict protection and a peripheral zone used economically by an indigenous population. In the Cévennes, in addition to an environmental plan, contracts, launched in 1973, offered money to marginal farmers for the undertaking of specific landscape and access improvements on their holdings. Similar schemes have been extended to the Pyrenees and Ecrins parks and about 262 contracts had been established by 1988 (Boisson and Buller, 1996). These limited examples form the precursors to French AESs.

The influence of agriculture is highly visible in the quality and the diversity of French landscapes and in the concept of nature as a garden. However, when in the sixties agriculture became a sector closely linked with input suppliers strengthening the productivity of the soil, a disruption to the generations of farmers previously practising agricultural techniques in harmony with the environment occurred. The associated developments, land consolidation and the abandonment of traditional mixed farming for large-scale growing of cereals and other industrial crops have had an adverse impact on the environment and the conservation of habitats and wildlife.

The conciliatory relationship between farming and environmental protection began to break down during the 1980s. Some economists and scientists addressed the negative impact of agricultural modernisation (Bonnieux and Rainelli, 1988; Mahé and Rainelli, 1987). The first agri-environmental measure at the European level is generally taken to be Article 19 of Regulation 797/85 on improving the efficiency of agricultural structures. This authorised Member States to introduce ' special national schemes in environmentally sensitive areas' (ESA) to subsidise farming practices favourable to the environment. This amendment to the EC's Structures Directive was promoted by the British Government. It was not agreed that such schemes could receive support from the Community budget, but this point was conceded in 1987 with agreement on Regulation 1760/87 which provided a maximum of 25%

reimbursement from the European Agricultural Guidance and Guarantee Fund (Whitby and Lowe, 1994).

The notion of an ESA emerged in response to public concern over two types of agricultural output (Bonnieux and Weaver, 1996):

negative externalities associated with intensive agriculture and their adverse effects on the rural landscape,
perceived beneficial effects of less intensive, traditional agriculture and its role as a distinctive and valued element in rural landscapes.

In order to achieve a decrease of negative externalities and an increase of positive ones, farmers were offered fixed period contracts providing annual fixed payments in return for the adoption of a set of farm production practices. These practices involved requirements as prohibitions on daily and seasonal activities, with a focus on chemical application, stocking densities, infrastructure installation such as drainage or fencing, and management of landscape features. Payments were based on the area treated by the practice or prescription. Due to the voluntary nature of this policy approach, environmental effectiveness depends upon adoption rates. Other policy measures were likely to produce positive environmental externalities. It is the case of voluntary set-aside introduced by Article 1a of Regulation 1760/87 but the primarily objective was different since the purpose was the reduction of market surpluses rather than environmental protection. The commission recommends that structural policy, the extensification, and measures such as pre-retirement or set-aside should be fully used to reach objectives of environmental protection, (DOC Com 88/388 in May 1988).

1.2 Institutional and political considerations

The elaboration of Article 19 confirmed the particularity of the French position with respect to the farming environment. Indeed, French representatives to the *Comité Spécial Agricole* (Special Agricultural Committee) were initially reluctant to agree to the linking of agricultural and environmental protection. The French agricultural community resisted its implementation (Facchini, 1999). The main farmers' union, FNSEA *i.e. Fédération Nationale des Syndicats d'Exploitants Agricoles* (National Farmers' Unions) and the *Assemblée Permanente des Chambres d'Agriculture* (National Association of the Chambers of Agriculture), were particularly reluctant to back this policy, seen as an attempt to undermine the farmers' endeavours towards modernisation, productivity and competitiveness (Alphandéry and Bourliau, 1995). Accordingly, the Ministry of Agriculture called the regulation an English political manipulation. This attitude can be considered a testament to the resilience of the agrarian and productivist ideology (Boisson and Buller, 1996).

In comparison with the UK and the former West Germany, France was a late participant in the application of Article 19. Thus, the first pilot ESAs (the Vercors, the Crau and the Marais de l'Ouest) were not identified until 1989 after Regulation 1760/87 adoption. Even then, the Ministry of Agriculture remained reluctant to give its support for a policy that, to the agricultural community, appeared to impose production limits on farmers, to belittle their role as producers while labelling them as simply gardeners of nature and to implicitly designate them as polluters and bad countryside managers (Alphandery and Deverre, 1994).

The implementation of ESAs was delayed until 1991-93, when the first applications were enhanced by several Nature Regional Parks (Vercors, Marais Poitevin, Marais du Cotentin et du Bessin) and favoured by the personal commitment of few extension service officers of various agricultural organisations. As a consequence the Ministry of Agriculture paid little attention and did not provide much support to what was considered as an experimentation. However, some of these experimentation schemes achieved reasonable success among eligible farmers and political representatives and the number of local initiatives significantly grew (Dupraz and Rainelli, 2003; Dupraz *et al.*, 2003).

To implement Article 19 on the ground, the territorial aspect of land management has been introduced through a specific procedural and management structure, the OGAF-Environment (*Operation Groupée d'Amenagement Foncier*, equivalent to an integrated land management operation). This legal tool was adapted from previous OGAF models concerned with farm structure improvement.

Otherwise, there was a combination of bottom up and top down procedures. Eligible areas, prescriptions and compensations were defined at the local level by a committee in charge of designing the contracts. The bargaining table included officers from the Ministries of Agriculture and the Environment, representatives of farmers' unions and of environmental lobbies, as well as scientists and experts from the CNASEA who was in charge of paying compensations on behalf of the Ministry of Agriculture. Applications involved extensive negotiation with farmers of the terms of contract offered in each area. Afterwards applications were scrutinized by a national committee and transferred, after being agreed, to the CNASEA and finally to the Commission for a definitive approval. The last meeting of the national committee took place in 1993.

1.3 Factor endowments and pressure on the environment

Four target zones were defined by the type of environmental issue to be addressed:

- areas of intensive farming where the risks of water pollution are high,
- areas of particular importance for rare and threatened species,
- areas of extensive pastoral agriculture threatened by farm abandonment,
- areas threatened by forest fires.

By 31 December 1993, 62 ESA projects approved by the national committee under Article 19, for an eligible area equal to 238 000 hectares and an annual payment about 106 million francs (16 million €) over five years (Rougier, 2002). The distribution of ESAs was as follows:

- Water pollution 4 projects.
- Sensitive ecosystems 28 projects.
- Farming retreat 26 projects.
- Forest fire prevention 4 projects.

Due to the lack of technical and scientific bases, and major difficulties to apply, farm-based pollution reduction projects were temporary left in June 1991 (CNASEA, 1993). No new ESAs of this type have been established since 1991. Otherwise, forest fire prevention projects refused EC funding because they encouraged grazing in Mediterranean forests which was likely to favour an increase in livestock.

French applications therefore focused on two goals:

- *In situ* preservation of biodiversity or specific biotopes (30 ESAs encompassing about 220 700 hectares with about 83 700 hectares was eligible),
- Preservation of extensive agriculture and the reduction of land abandonment (24 ESAs encompassing about 492 000 hectares of which only about 106 600 hectares was eligible for financing).

As shown by the spatial distribution of ESAs, Article 19 became in a number of areas a means of accompanying the process of extensification or supplementing farm incomes in less favoured areas. Programmes aimed at the protection of biodiversity or specific biotopes were concentrated in the coastal marshes of Western France and the Camargue, many of them were affected by the birds and habitats directives and are now directly concerned by Natura 2000 implementation. They concern areas of extensive grazing of beef or dairy cattle where the potential environmental threat comes from drainage and the conversion to arable land.

The second goal was intended to protect natural areas from abandonment or encroachment of more intensive uses. Indeed, ESAs were associated with zones of marginal agricultural production in the mountain regions of the Alps, the Jura, the Vosges, the Pyrenees, and the Southern fringe of the Massif Central. In the Alps, for instance, the abandonment of pastures and grassland areas with difficult geographic conditions has negative environmental consequences. When permanent forage crops situated in sloping zones are not mown or cut regularly, there is a high risk of erosion. Moreover in winter the snow mantle is not stabilised and avalanches can occur. The withdrawal of farming also affects biological diversity and landscape aesthetics. After a few year of scrub invasion, its growth can block out vistas narrowing the horizon and increasing monotony. In the Vosges, a mountainous massif hit specially hard by agricultural exodus, the collapse of traditional farming has led to piecemeal spontaneous afforestation, primarily by spruce trees, which first affects former communal grazing, tilled plots and sometimes even meadows. Rough grass develops in pasture that is grazed occasionally, giving high but uneven growth, and bushes start to appear. The natural development of trees and scrub eventually produces rough woodland. The clear, orderly design that had once shaped the countryside is lost, and the landscape is closed off. This tends to isolate the remaining inhabitants, eroding the quality of the setting in which people live (Gagey and Rainelli, 1996).

Considerable differences exist between the two types of ESAs reflecting different agricultural activities. Agreements under the former goal concerned large numbers of smaller areas: 2523 contractants for an average area of 18.7 hectares against 781 for an average area of 31.3 hectares for the latter one. Both resulted with similar payments to farmers but with a substantial difference per hectare: respectively 600 F (91 €) and 400 F (61 €) per year (CNASEA, 1993).

1.4 Demand for the countryside: housing and rural tourism

The appeal of rural areas for housing, recreation and tourism is directly linked to the increase in income and the urbanisation process. Higher incomes encourage the demand for environmental quality, since they are accompanied by higher education, increasing the awareness of pollution and its harmful effects. The industrialised world, and the consequent

urbanisation, explain the appeal of extra-urban environments in the context of a push-pull model of motivation (Pigram, 1993). For urban dwellers, rural environment appears to support various opportunities to experience compensatory alternative surroundings and cultural or recreational activities. This trend is conditioned by the provision of environmental goods which are only produced by a sustainable development of agriculture.
The concentration of people leads to traffic congestion, noise air and water pollution. All these disamenities have a negative impact on the welfare of both the permanent residents and tourists who suffer externalities produced by themselves. This internalisation of the disamenities explains a growing demand for other types of housing and tourism based on countryside resources which are not completely environmentally friendly, but which are not perceived by tourists and local people as depreciating their enjoyment and appreciation of the area.

The fact that countryside is more and more popular is observable, since the early 1980s, through population increase in rural areas closed to urban centres while there is still a decrease in remote zones (Capt *et al.*, 1994). Increase in the number of hikers and of national park visitors illustrate the growing demand of outdoor activities. Otherwise the upward trend of rural tourism is illustrated by a series of indicators including statistics on overnight stays, farm accommodation and second homes (Bonnieux and Rainelli, 2000).

The close relationship between sustainability of agriculture and rural amenities is used as a development tool for rural areas in which they lie. These offer the whole society, mainly urban centres with a high income, a valuable service which they are partially paid for through housing market and countryside tourism, as well as other forms of commoditisation. The rent of rural cottages is positively affected by a series of environmental indicators such as the share of permanent grassland and negatively affected by farming intensification (Le Goffe, 1996). A number of studies based on contingent valuation method indicate that people value landscape in monetary terms. In Western France, local people supported schemes to restore hedgerows in order to rehabilitate the traditional bocage and stated an amount which justified exchequer expenditures (Bonnieux and Le Goffe, 1997).

2 Assessment of 2078/92

2.1 Overview of AESs

France has been a late starter in the implementation of the ESAs but accompanying measures of the 1992-CAP reform coincided more closely with its policy concerns than Article 19. Indeed, they constituted a broader approach to agricultural development and rural policy (Baillon, 1993; Boisson and Buller, 1996; Couvreur *et al*., 1999; Dupraz *et al*., 2003). Not surprisingly, France played an active role in promoting the drawing up of the Regulation 2078/92. During the final negotiations, the French Government independently announced that it would be setting up a nation-wide scheme which aims at maintaining a certain level of livestock density in areas threatened by land abandonment. The threat of land abandonment in grassland areas was already a widely discussed issue throughout the French public debate in the eighties. Hence a consensus held regarding the grassland premium (*prime à l'herbe*), aiming both equity and environment objectives without the need of further debate. This programme, derived from a domestic initiative, has been incorporated into that Regulation's application.

Table 1. Agri-environmental measures adopted following regulation 2078/92

Type	Objective	Measure
National	To maintain extensive production	Grassland premium (*prime à l'herbe*)
Zonal	Water quality protection Source protection River protection Erosion protection	 Reduce use of agri-inputs *(réduction des intrants)* 20-year set-aside *(retrait à long terme)* Conversion from arable to extensive grassland *(reconversion des terres arables)*
	Extensification by enlargement	Reduced livestock densities *(diminution du chargement du cheptel)*
	Rearing of threatened breeds	Subsidy per animal
	Nature protection	20-year set-aside *(retrait à long terme)*
	Conversion to organic farming	Subsidy per hectare according to crop type
	Training	
Local	Sensitive ecosystems, land abandonment, countryside management and fire protection	Subsidy in relation to constraints imposed on contractants

Source: Baillon (1993)

Regulation 2078/92 has been applied to a wide extent through a national scheme which offered payments for which all farmers in the country can applied, and regional programmes. The so-called agri-environmental programmes combined zonal schemes, local operations and a training section. They were a subtle compromise solution between the FNSEA reluctance at the national level and local concerns.

Thus three types of AESs can be identified: those that apply generally for the whole agricultural area, those that are specific to defined regional zones and those that are locally targeted (Table 1). The key characteristics of all zonal and local AESs is that they are not

generalized, like the grassland premium scheme, but apply only within identified areas defined at the regional level. French agri-environmental policy combined the simple top-down grassland premium horizontal measure on the one hand, and numerous zonal and local vertical measures mainly based on bottom-up initiatives on the other hand.

A significant difference between the zonal and local AESs lies in the designation process of the agreement prescriptions and premiums. Zonal AESs are adapted from national measures for which the same procedure than for the grassland premium scheme applied. Indeed, prescriptions and corresponding premiums were defined at the national level by the Ministry of Agriculture and directly submitted for approval to the STAR committee (*comité des structures agricoles et du développement rural)* at the EU level. The underlying purpose of this centralised designation process was to equip the NUTS2 region authorities with ready to use programmes based on national measures. However, there was some flexibility at the regional level regarding budget allocation and geographical targeting. Regional programmes are drawn at the NUTS2 level according to the national framework but for the selected measures, a 20% modulation of the premium and a specific zoning are possible. Within the NUTS2 Regions, the design and management of programmes involve several specific committees, including environmental and farmers' associations, and institutions currently responsible for the agricultural policy application. There were important differences between regional programmes reflecting differences of attitudes and natural resource endowments.

Agri-environmental local operations (*Opérations Locales Agri-Environnementales i.e. OLAE*) differ from the other component of regional programmes with which they are included chiefly because the management prescriptions are not standardised at the national level but differ according to local agricultural and environmental features. Indeed, eligible zones are much more precisely targeted according to environment concerns whereas farming practices changes and subsidies are locally defined. Local operations are in keeping with OGAF-environment schemes established as part of the implementation of Article 19. Local operations share with their predecessors the same main objectives, to protect sensitive ecosystems from agricultural pressure and to maintain farming in areas threatened by agricultural withdrawal. However they have considerably extended the ESA experience.

A second nation-wide initiative has been additionally defined. It is the farm-based sustainable development scheme (*Plan de Développement Durable i.e. PDD*) which, thought currently limited to a few experimental zones, was permitted by Article 6 of Regulation 2078/92 which gave the possibility to contribute to 'demonstration projects concerning farming practices compatible with the requirements on environmental protection, and in particular the application of a code of good farming practice and organic farming practice'. The experimental phase benefited a co-funding from the EAGGF, the following implementation phase was granted by national funds only. This scheme is a voluntary management plan, concerning the whole farm, whose goal is to promote the economic sustainability of the farm and the maintenance of the agricultural population while protecting natural resources and ensuring good countryside management practice. This scheme targets individual farms which are grouped on a selected site corresponding to a coherent territory.

Other programmes still exist but remain very limited in scope. They usually pursue specific objectives. For instance, some public bodies and firms offer compensations to farmers for complying with specific management prescriptions. It is the case of the Coast and Lake Shore Protection Agency which proposes voluntary agreements in order to protect sites of specific interest (Bonnieux and Dupraz, 1999). Municipalities also rely on a similar approach to

protect water catchment areas. The National Commission for Hunting and Fauna provides a top premium in order to enhance biodiversity (Chuiton, 2002). All these initiatives will not be considered below. Otherwise, product labelling, for example with the definition of the AOCs, can provide specific environmental outputs (Bonnieux and Dupraz, 1999) and is basically a voluntary approach. However, farmers get a premium in the market place for complying with a series of prescriptions and do not receive any monetary compensation. Product labelling and certification are not classified as AESs.

2.2 Implementation of AESs

The designation of the French agri-environmental policy has been based on a single national budget shared between the grassland premium scheme and all other programmes. The latter part of this budget has been allocated to 25-NUTS2 regions (including three overseas regions) in charge of the implementation of regional programmes (zonal schemes and local operations). Budget allocation among regions was made according to an index which took into account the agricultural area and the number of farmers.

2.2.1 National Grassland premium scheme

The grassland premium was designed to protect low density grazing lands and the farming systems that maintained them. It was available to all professional farmers operating holdings of at least three hectares of usable agricultural area, out of which more than 75% are permanent grassland and capable of supporting a minimum of three LUs (livestock units), providing a stocking rate between 0.5 and 1.4 LUs per hectare. This measure was directly administrated by the Ministry of Agriculture like the mainstream CAP compensatory premiums. Neither farmers' unions nor environmental associations were involved in the process.

For a five-year period, the farmer, in exchange for a subsidy, engaged to maintain existing husbandry practices, not to reduce the grassland area of his holding, to keep within set stocking rates, to maintain hedges, coppices, streams and other landscape features and to undertake grass-cutting. In 1993 the level of the subsidy was set at € 30 per hectare. Since 1995 it equalled 46 € with a ceiling of about 4600 € per farm. The scheme was accepted for a first five-year period from 1993 to 1998, and renewed for a second period extending over 1998-2003.

Table 2. Record of the grassland premium scheme

Years	Paid contracts	Area (10^6 ha)	Expenditure (10^6 €)
1997	96 352	5.3	205.4
1998	83 845	5.0	193.0
1999	81 308	5.0	185.9
2000	76 000	4.8	190.6

Source: Rougier (2002)

Since its introduction, the scheme has been very successful since 150 000 applications have been made in 1993-94, of which about 118 000 have been accepted. Some 5.8 million hectares had been contracted for a total cost of 147.4 million €. However since 1994, the uptake has declined towards 4.8 million hectares in about 76 000 farms (Table 2) in spite of

the increase in the premium and in the average uptake per farm. This trend has been expanded since 1998 when stricter prescriptions were imposed by the STAR Committee and farmers over sixty were no longer eligible. Anyway, this movement is consistent with farm concentration trend but also indicates that the extensive grazing area is still declining.

Extension services and farmers likely considered this scheme as another mainstream CAP compensatory payment but targeting zones of marginal agricultural production in contrast with other payments favouring arable farming. As expected the geographical distribution of contracted areas reveals a concentration in the mountain regions and mostly in the Massif central (Couvreur *et al*., 1999).

2.2.2 Regional programmes: zonal and local measures

By 2000, regional programmes comprise more than sixty thousand agreements, about 1.15 million hectares and 26 000 LUs (Table 3). The average annual premiums are about 100 € per hectare and 230 € per LU, but range from 75 € per hectare in local operations up to 166 € per hectare for zonal schemes. Long term set-aside either for water protection or nature protection get the highest average subsidies, while both reduce use of agri-inputs and conversion to organic farming are below the average with 150 € per hectare.

Table 3. Record of regional and local measures on 31 December 2000

Measures	Signed contracts	Area (ha)	Livestock (LU)[1]	Annual expenditure (1000 €)[2]
20-year set-aside (water protection)	39	143		74.2
Conversion from arable to extensive grassland (water protection)	3658	21 381		6 886.4
Reduce use of agri-inputs (water protection)	3067	65 534		10 270.2
Conversion to organic farming	6769	216 527		33 177.5
Reduced livestock densities	1284		23 072	5168.8
Rearing of threatened breeds	1938		12 716	747.1
20-year set-aside (nature protection)	81	326		138.0
Local measures[3]	43 289	850 005		63 788.8
Total	60 125	1 153 916	25 788	120 251.0

1: LU is livestock unit. 2: average over five years. 3: total since the origin of Article 19.
Source: Rougier (2002)

Budget allocation and area distribution among zonal and local measures demonstrate an overall preference for local operations, the conversion to organic farming and water quality protection through the reduction of chemical and other contaminants. The conversion of arable land to grassland and reduced livestock densities measures have operated on a smaller and similar scale. The long term set-aside of farm-land, whatever its current use, and the rearing of threatened breeds measures remained marginal. Water protection operations were defined at the regional level and included river catchments and drinking water sources susceptible to nitrate pollution. They were therefore concentrated in areas of intensive livestock farming of western France, and areas of intensive arable farming of the Paris Basin and the South West (Couvreur *et al*., 1999).

By the end of 2000, more than 300 local operations (including the former OGAF-environment) were accepted by the STAR committee. As the first ESAs they focused land abandonment reduction and biodiversity protection and are located in the same areas. The menu of prescriptions is highly diversified among these operations including requirements such as hedge maintenance, late mowing, rehabilitation of high stem fruit trees in precisely targeted areas. There is therefore a wide range of compensations, the premium currently varies from 15 € up to about 180 € per hectare. But as most agreements do not involve a drastic change but mainly the maintenance of existing agricultural practices, the average premium is lower than the premium offered by zonal schemes which require the introduction of new practices.

2.2.3 Sustainable development scheme

Sustainable development schemes were drawn by technicians of the Ministry of Agriculture in partnership with local stakeholders, including mostly groups of farmers. They attempted to make environmental management a key element of farm development by including detailed environmental audits and resource assessments and by proposing a series of development scenarios to farmers willing to take a sustainable path in order to achieve environmental, economic and social objectives.

During, the experimental phase (1993-1994) around 1200 farms, being regrouped in 59 sites, were engaged in this initiative. This first phase led to 1200 agri-environmental audits and development scenarios. Then in 1995, it was decided to propose participants a five-year contract in order to apply these scenarios. 700 farmers signed a contact and participated in the second phase. They benefited a 4500 € lump sum to compensate technical, financial and social risks, plus extension services amounting 1500 €. While the first phase was co-funded by the EAGGF, the second one was nationally granted only.

The sustainable development scheme sought to place the farm operation as a whole within a broader context of changing social demand with respect both the quality of the rural environment and the role of farmer as a guardian of the countryside. They represented a considerable advance upon the farm development plans (*Plan d'Amélioration Matérielle i.e. PAM*) which were investment measures with low rates loans for farmers with productive or environmental objectives. They can also be considered to be the predecessors of the future farming territorial contracts (*Contrat Territorial d'Exploitation i.e. CTE*).

2.3 Official evaluation

Article 16 of Regulation 746/96 stated that 'Member States shall be responsible for the monitoring and evaluation of agri-environmental measure'. In France, to carry out this task, AESs were divided into two groups. Three AESs (grassland premium, reduced use of agri-inputs and training) were evaluated at the national level while the other zonal schemes and the local operations were evaluated at the regional level according to a common framework. This report included basic information related to exchequer expenditure and farmers' participation which gave on overall assessment of the way in which AESs were applied. In addition, more specific information on the characteristics of enrolled holdings and on environmental impacts was provided for the different AESs.

2.3.1 Grassland premium scheme

The evaluation of the grassland premium scheme combined statistical evidence with scientific literature review and expert opinion (Cozic and Thiebaud, 1999). A simple analysis of the trend in grassland area at the national level, for eligible holdings and for specific regions strengthens the comments made from Table 2. Other things being equalled, the declining trend in grassland has been stopped, and there was plateau over the period 1993-1997. However this average evolution resulted from two contrasted ones. Where there are heavy natural handicaps, the introduction of the scheme is associated with a turning point and an increase in grassland area since 1993. In addition there is a growth of livestock except in the Alps and the Pyrenees. Where there are modest natural handicaps, the evolution is different with a dampened decreasing trend and a reduction in livestock. Literature and expert opinion are used to address the likely impacts of grassland compared to maize crop on water quality, biodiversity (flora and birds) and erosion. This demonstrates the environmental benefits that should result from a shift favouring permanent grassland. This scheme based on simple prescriptions offered a real incentive in areas where income is low, and therefore favoured the maintenance of extensive livestock farming where environmental risks could result from land abandonment. The market effects of the grassland premium have been measured in the Auvergne NUTS2 region with the Positive Mathematical Programming method. The effect on the beef and other productions appeared negligible while the scheme mainly stabilises farm income and the shadow price of land (Röhm&Dabbert, 1999).

2.3.2 Zonal schemes

A review of the evaluation reports of the zonal measures results into a very contrasted findings according to the various schemes (ISARA, 1998).

- *Reduce use of agri-inputs*. This measure has been difficult to implement and to control. Prescriptions did not fit to local situations and they did not result into real constraints on farming practices. It has not been environmentally efficient as far as enrolled farms were dispersed over each eligible zone. Nevertheless it participated in an increase in environmental awareness and facilitated the application of the nitrate directive.

- *Conversion from arable to extensive grassland*. This measure was often paired with the preceding one. Prescriptions were considered to be too drastic and compensations too low. Otherwise it competed with other payments. Uptake increased when temporary meadow became eligible. Its environmental impact was considered to be very modest except on very limited spots.

- *20-year set aside*. Farmers were very reluctant owing to the length of the contract, so the application remained marginal either for water or nature protection.

- *Reduced livestock densities*. The menu of prescriptions was complex and the level of compensation relatively low. Enrolled farms were concentrated in western France in areas of intensive livestock farming. Environmental impact has been negligible.

- *Rearing of threatened breeds*. This measure had a significant but locally limited impact.

- *Conversion to organic farming*. Despite a slow start due the reluctance of a number of stakeholders this measure was very successful. It favoured a shift towards forage crops and technical change at the farm level. It benefited the increase in the demand for organic food and afterwards the support of official bodies and local authorities. Due to the dispersion of organic farmers environmental impact is likely to be limited.

This evaluation shows a series of failures resulting from the procedure used to design prescriptions and corresponding premiums. Despite some flexibility at the regional level, it is basically a top down procedure which resulted into measures that were not well adapted for the local contexts. So it was decided in 1998, to drastically modify regional programmes and five measures were dropped: reduce use of agri-inputs, 20-year set aside for water and nature protection, reduced livestock densities and rearing of threatened breeds. Otherwise, it was decided to encourage the conversion to organic farming and to target the conversion from arable to extensive grassland measure on priority areas in order to achieve a significant environmental impact.

2.3.3 Local operations

The Ministry of Agriculture commissioned reports dealing with local operations with an emphasis on areas threatened by land abandonment (Veron *et al*., 1999). The various stages of a local operation, including identification of problems, contract design, implementation and monitoring, have been considered in more details from case-studies (Dobremez *et al*., 1997). An evaluation of complying costs was also produced for a series of standard prescriptions concerning the conversion from arable land to permanent grassland, the reduce use of agri-inputs and reduced livestock density. In addition, Ministry's officers achieved an overall assessment based on interviews of local stakeholders.

The design and implementation of local operations initiated strong communication and cooperation among local actors of the rural community within a territorial approach. Stakeholder involvement allowed to tailor the menus of prescriptions for the local contexts. This led to a higher uptake of local operations than zonal schemes that mainly resulted from a top down procedure since the framework was elaborated at the national level. However the institutional organisation matters, and there is a lot of evidence that the Nature Regional Park is an efficient tool for originating, designing and implementing because it facilitated the involvement of the different actors of interest. Where a Nature Regional Park was not part of the steering group, the participation of environmental groups and local politicians remained modest.

Due to the location of these local operations, most participants are livestock farmers and a limited number of arable farmers were enrolled. Generally, participation in local operations did not involved an important change in farming practices but only the continuation of an environmentally friendly behaviour. So these operations have contributed to the maintenance of environmental characteristics but higher payments may be needed to ensure attainment of longer term objectives related to biodiversity or aquifers.

2.3.4 Some comments

A scientific evaluation of an AES applied to a given context, should compare an initial characterisation of this context (including environmental, economic and social components) to further characterisation of this context. It should be based on a comparative assessment

between *ex ante* and *ex post* conditions. If possible, similar sites which are not submitted to AESs should be monitored as well and used as references to disentangle the net impact of AESs from other factors of change. Unfortunately, the pre-installation environmental situation was not known and impacts on the environment were not monitored. Due to a lack of information, proxies (based on expert opinion) were used to access environmental effectiveness. This methodology cannot produce definitive conclusions but only some clues which require the support of more serious scientific research.
In addition, since environmental objectives were not clearly set up, the evaluation procedure should not achieve a definitive conclusion.

Compensation should be based on increases in costs induced by contract compliance. This requires a clear specification of farming practices in different contexts and the collection of relevant economic data at the farm level. Otherwise the issue of transaction costs is not considered. As far as economic efficiency is concerned, the evaluation does not consider all the relevant points, or does not address them in a proper way. From this standpoint its conclusions are therefore speculative.

Finally the credibility of procedure itself is questionable. First of all, on behalf the Ministry of Agriculture, the CNASEA commissioned several public and private organisations for carrying out AES evaluation. This first phase complies with a transparent procedure. But in a second stage the output of the evaluation process has been validated at the regional level by a committee in which participated representatives of farmers and officers form the Ministry of Agriculture. Involving as referees, beneficiaries and major actors of AESs poses a real problem.

2.4 Other evaluations

A number of reports deal with a specific regional programme or local operation (e.g. Barbut, 1999). Some consider the contribution of a discipline such as agronomy to the evaluation of AESs (Steyaert and Papy, 1999) but most are limited in scope. The annex 1 shows French studies dealing with AESs evaluations. All NUTS2 regions have been studied and analysed. Some reports deal with farmers' opinion and behaviour to contribute to evaluations of AESs (CNASEA, 1997).

Including the grassland premium, about 20% of French farms benefited from AES payments. More than 50% of farms specialised in cattle for beef production, 25% of dairy farms and less than 2% of other farms did. The economic size of these farms was below the French standard, but their average area and the farmer age were above. 60% of the payments were concentrated in mountainous areas (Berthelot *et al*., 1999). But a comprehensive evaluation should consider the environmental, economic and social various components of AESs. A relevant framework based on indicators was proposed (Bonnieux and Dupraz, 1999). Seventy indicators were defined and filled for 143 countryside stewardship policies selected in different countries. Those indicators come from the targets of policies concerned: environmental effectiveness, economic efficiency, sustainability and political acceptability. Major concluding comments are following. The stronger the restrictions on farming practices are, the higher the compensation per hectare and the share of administrative costs in total costs are. The more the payments overcompensate the required efforts, the larger and the faster the uptake is. This situation most takes place in the AESs with the highest total exchequer cost, although their shares of administrative costs in total costs are rather low. Hence, the issue of environmental

benefits arises crucially. The situation of the AESs aiming at reducing negative externalities is awkward because they are both incompatible with the polluter-pays principle and among the most expensive.

Otherwise, micro-econometric models derived either from production theory or from the household have been estimated on sample of farms. Studies show that four main variables types play a significant role in willingness to adopt AESs in France (Drake and al, 1999). Those variable types are: the awareness of AESs (by information access, knowledge of neighbour or relative who has applied AESs), the impact of adoption on income (for example the possibility to increase profits), sensitivity to environmental aspects, the structure of the farm (in France, the number of employees, including family members).

Both local and zonal schemes involved very high administrative costs, especially to set up the procedures (Falconer and Whitby, 1999). These costs are necessary for the success of such policy; they are expected to decrease with the number of agreements thanks to a scale effect and with time thanks to a learning by doing effect (Falconer et al., 2001).

3 Rural Development programme

3.1 The 1999 Agricultural Act

The Agricultural Act of 9 July 1999 (*Loi d'Orientation Agricole*) set up a comprehensive framework which integrates the various dimensions of farming. It firmly recognised the multifunctional character of agriculture and therefore the need of taking it into account in any agricultural policy. It reaffirmed the diversity of market and non-market functions that agriculture must fulfil with regard to society:

- production of agricultural and food products under conditions offering to consumers the guarantees they are entitled to expect;
- contribution of agriculture to employment by settling new entrants and promoting new activities;
- maintenance of landscape, rural heritage and protection of natural resources;
- international competitiveness of French agriculture.

The Act has strengthened the commitment to food safety and environmental protection in addition to more traditional objectives such as the setting up of young farmers and the contribution to export. But it is not instrumental in achieving a trade-off between functions which are potentially competing and conflicting as shown by a number of actual cases. This contradiction results from the political compromise that underpinned the preparation and the vote of this legislation. However a new policy instrument the farming territorial contract (*Contrat Territorial d'Exploitation i.e. CTE*) provides a means to overcome this contradiction by reconciling differing objectives. It has been considered by its initiators a major policy initiative which promoted a contractual approach to public policy. This standpoint is overstated, because to some extend, it proceeded along similar lines than the former sustainable development scheme. Nevertheless the CTE was associated with an ambitious policy initiative which targeted a very large application of the voluntary approach to achieve a sustainable development of the farm sector.

The CTE is indeed a single policy instrument with multiple objectives (Gauter, 2002):

- to maintain an agricultural sector with many farmers,
- to promote quality products and environmental services,
- to place farmers in the centre of an integrated rural policy,
- to transfer a significant part of the public support from large specialised farms towards labour intensive multifunctional farms.

The modulation of CAP compensatory payments, which is permitted to each EU Member State by Agenda 2000, should lead to the achievement of the last objective.

The Agricultural Act encourages farmers to submit either an individual or a collective project, which integrates the farming functions, and therefore promotes a horizontal approach. Five-year contracts signed between farmers and State Authorities are issued out of accepted projects. The CTE scheme was financed through a specific fund the CTE Financing Fund (*Fonds de Financement des CTE i.e. FFCTE*).

Every CTE includes two different sections:

- the 'economic and relating to employment' section dealing with socio-economic aspects,
- the 'territorial and environmental' section.

The first section is intended to support 'the improvement of existing practices defined in a dynamic project which modifies or improves the farming system, improves the quality of products, creates or diversifies activities, is integrated in an economic organisation, develops an agri-food chain'. To a certain extent, socio-economic aspects could involve investment cost-sharing and incentive payments to facilitate a transition towards new activities creating value added (e.g. conversion to organic farming).

Concerning territorial and environmental aspects, the CTE opens rights to annual payments which compensate for higher costs resulting from the services provided through various more environmentally friendly practices, or which contribute to the maintenance of the territory, like the AESs do. The remuneration of additional services beyond the reference level of good agricultural practices seems fair. The adaptation of farming practices to the protection of fragile biotopes, the restoration of elements of rural heritage (buildings, paths, etc.), as well as forest-grazing for the prevention of fires are relevant examples of such additional services.

Compared to previous instruments CTE introduces some new provisions:

- investment aids are conditioned by minimal environmental commitments,
- agro-environmental annual payments are conditioned by the design of a global investment project at the farm level,
- payments are 20% higher than those corresponding to 2078/92 AESs premiums,
- all farmers are eligible.

So there is clear reference to cross-compliance and to the farm as a whole. In addition the broad ambition of the scheme is restated through the eligibility provision and the increase in financial incentives. Ultimately, the CTE should only proceed from the provider-paid principle, symmetrical to the polluter-pays principle.

3.2 Economic rationale underlying the CTEs

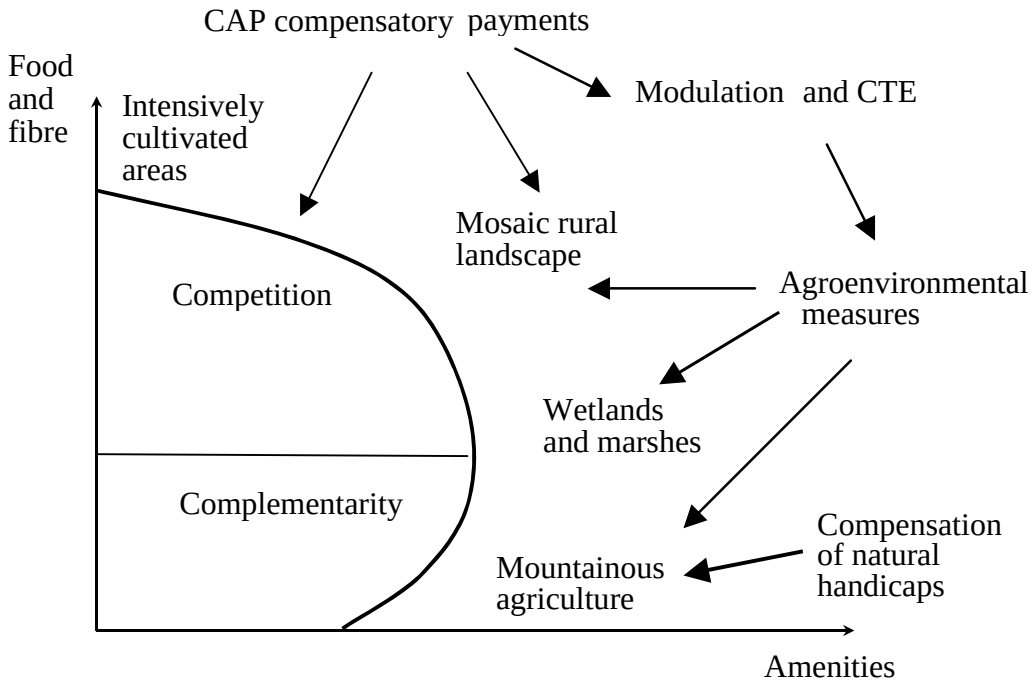
From a territorial point of view at the national level, co-financing the CTE scheme by tuning the CAP compensatory payments should lead to transfer public support from regions where potential agricultural amenities are low to regions where they are higher. Indeed, due to different technologies as well as diverse natural conditions the commodities outcomes and the non-commodity outcomes are not the same everywhere. Thus such a transfer mechanism should involve a new balance between market and non-market goods, and a new regional allocation of all these goods.

The production of non-market goods depends on the nature of the joint production process. This point can be illustrated by a production possibility curve (e.g. Gatto and Merlo, 1999). Figure 1 represents the shape of contours of the production function drawn in a two-output space given a fixed expenditure in production factors and a set of processes. The non-commodity outcomes can be regarded as negative externalities (the left part of the horizontal axis), or positive externalities (the right part of the horizontal axis). A better representation of the production possibility curve would need three dimensions space. The agricultural production process is likely to provide simultaneously negative and positive externalities. This approach is consistent with the recognition that a framework on multifunctionality must consider both positive and negative externalities (OECD, 2001).

Concerning the situation where complementarity holds, agricultural production increases with the production of non-food by-products. In this case any policy which aims at encouraging agriculture improve the amenities. Where there is an economic jointness, because of a shared input, the interdependency between the two outcomes is more flexible. In this case things are more complex because other policies and other instruments can enhance or jeopardize the multifunctional character of agriculture.

Figure 1 presents few examples of agricultural landscapes along the transformation curve. They are typical of different mix of amenities and food and fibre production corresponding to wide rural areas in France. Where competition holds between them, the amenities are endangered by the intensification and the streamlining of farming practices. Losses of biological diversity and beautiful mosaic landscapes are at stake. Where complementarity holds, both amenities and food and fibre production are endangered by land abandonment. Mountainous agriculture of central and eastern France is particularly concerned. The wetlands, especially marshes of western France, are in between. Some remote land lots are abandoned while the intensification of farming practices might happen on others.

Figure 1. Agricultural landscape and policies along the transformation curve



3.3 Framework of the French Rural development programme

The European Rural Development Regulation 1257/99 (RDR) relies on an integrated approach of rural economics which is consistent with the multifunctional features of agriculture. The RDR aims at:

- improving competitiveness in rural economy,
- reinforcing agricultural and forestry sector,
- conservation of rural environment.

Twenty two measures, the Member States are mandated to implement, are listed to achieve these objectives (Table 4). The first four measures are accompanying measures including the 'agro-environment' measure f. The other eighteen measures concern diversification and modernisation of farm structures. They include the package of Article 33 measures of the RDR.

The objectives of this programme refer to the second pillar of the CAP aiming at financing environmental improvement and rural development. This pillar is essentially financed through the sections O and G of the EAGGF. In addition, the LIFE NATURE fund can finance specific measures applied in 'NATURA 2000' network areas.

All these measures were considered in French rural programmes. They are classified either in the National Rural Development Programme (*Plan de Développement Rural National i.e. PDRN*) or in the Single programming Document (*Document Unique de Programmation i.e.*

DOCUP) which target an increased efficiency of regional aids efficacy. The DOCUP have three objectives:

- to promote the development and structural adjustment of regions whose development is lagging behind,
- to support economic and social conversion of areas facing structural difficulties,
- to create jobs.

The first two objectives are related to precise areas. The areas under the first objective concern 5% of the French population while those under the second one concerns 31%. The DOCUP includes an audit (*diagnostic*) of the area of interest and a socio-economic analysis. Otherwise there is a review of the goals to achieve and of the strategy to implement. Some measures are introduced in the PDRN and programmed in the DOCUP.

A number of PDRN measures are offered to farmers through the CTE mechanism. Once the French application of the RDR through CTE, and especially once the menu of agro-environmental measures available to farmers has been validated by the EU, the FFCTE received subsidies from the financial instrument defined by the RDR (i.e. mainly the EAGGF)

Table 4. Application of RDR measures in France

EU	**France**		
RDR measures	**PDRN**		**DOCUP**
	CTE	**Other**	
Accompanying measures			
d: Early retirement	X		
e: less-favoured areas and areas with environmental restrictions		X	
f: Agro-environment	X		
h: Afforestation of agricultural land	X	X	
Diversification measures			
a: Investment in agricultural holdings	X		X
b: setting-up of young farmers	X		
c: Training		X	
g: Improving processing and marketing of agricultural products		X	X
i: Other forestry measures	X	X	
Article 33 measures			
j: Land improvement		X	X
k: Reparcelling		X	X
l: Setting-up of farm relief and farm management services			X
m: Marketing or quality agricultural products	X		X
n: Basic services for the rural economy and population			X
o: Renovation and development of villages and protection and conservation of the rural heritage	X		X
p: Diversification of agricultural activities and activities close to agriculture to provide multiple activities or alternative income	X		X
q: Agricultural water resources management	X		X
r: development and improvement of infrastructure connected with the development of agriculture			X
s: Encouragement for tourist and craft activities			X
t: Protection of the environment, animal welfare	X		X
u: Restring agricultural production potential damaged by natural disasters and introducing appropriate prevention instruments			X
v: Financial engineering			X

In addition, three schemes have been implemented at a national level in order to enhance the impact of particular measures. There are provisions, which require the compliance with farming standards, if the operator wishes to remain eligible for these schemes. These provisions focus on current legislation concerning pollution control and environmental protection, as well as good farming practices specified at the NUTS 2 level.

- The Improving Machinery Plan (*PAM*) is expected to strengthen measure 'a' which targets the modernisation of farming structures. The PAM can be integrated in a CTE but can also be offered independently.
- The Young Farmer Grant (*Dotation Jeune Agriculteur i.e. DJA)* provides an additional subsidy to facilitate the installation of young farmers (measure b). This top premium is modulated according to the type of area, with a higher rate in disadvantaged ones. Low rate loans are also made available to young farmers: 3.5% interest rate in lowlands and 2% in disadvantaged areas.
- The Natural Handicap Compensatory Allowance *(Indemnité Compensatrice de l'Handicap Naturel i.e. ICHN)* provides an additional subsidy to farmers. Eligibility requires the compliance with area-specific good farming practices. Farmers who benefit measure 'e' are also eligible.

Operators that are enrolled in the CTE scheme receive 30% of total amount (or 40% in disadvantaged areas). Under the 'economic and relating to employment' section, the subsidy can be increased by 5% for young farmers and by 10% for job creation as well as for co-ordinated contacts. Under the 'agroenvironmental' section, the subsidy can be increased by 15% for young farmers and by 10% for job creation as well as for co-ordinated contacts.

A 20% top premium is available to farmers whose land belongs to the NATURA 2000 Network. Eligibility requires the application of additional measures defined in a specific report known as the Objective Document (*Document d'Objectifs i.e. DOCOB*). This top premium is financed by the European LIFE fund, while the Natural Area Management Fund (*Fonds de Gestion des Milieux Naturels i.e. FGMN*) is in charge of the payment to operators. This supplementary mechanism did not operate in France; for instance in Basse Normandie where the French case study is located, farmers did not benefit any top premium even their land was integrated in the NATURA 2000 Network. Indeed the DOCOBs were not validated on time, and in addition the CTE scheme and the NATURA 2000 Network were not integrated .

The measure 'c' concerning education can be combined with a CTE but is not financed by the FFCTE. Financial sources includes the EAGGF and national organisations in charge of financing education and extension services.

Table 5. Distribution of public funds according to sources in 2001

Sources of funds	National funds		Total	
	10^6 €	%	10^6 €	%
Public support to farm revenues *(CAP first pillar)*	494.9	20.7	9617	77.8
Structural measures *(DJA , PAM…)*	493.3	20.6	743.6	6.0
Payments for natural handicap compensation *(ICHN)*	235.8	9.8	471.2	3.8
Agro-environmental measures *(Environmental part of CTE)*	344.4	14.4	647	5.2
Natural disasters	303.6	12.7	303.6	2.4
Veterinary and plant measures	508.7	21.3	552.6	4.4
Others	12.1	0.5	17	0.01
Total	2392.8	100.0	12352	100.0

Source: Pech (2004)

The distribution of subsidies according to fund sources is given in Table 5.
Whereas national founds are given to veterinary and plant measures, to CAP first pillar, to structural measures, European funds are mainly targeted towards CAP first pillar (table 5). Some payments under structural and natural handicap headings may indirectly benefit the environment. However agro-environmental payments remain modest slightly over 5 % of the total.

3.4 The 2000-2006 programme

Since the adoption of the 1999 Agricultural Act the CTE scheme has been favoured by the Ministry of Agriculture. The application of agro-environmental measures (measure f) mainly relies on the CTE scheme in which they are integrated. The shift from Regulation 2078/92 to Regulation 1257/99 has been difficult because the CTE implementation was thought to be tedious and complex. Otherwise this new policy proposal was not really appealing for most farmers. Half of farmers (51.4%) were offered the same packages of measures than before with local operations and OGAF environment.

However, it remained possible to keep in line with the Regulation 2078/92 and to implement an agro-environmental menu alone, without any shift towards CTEs. There are only few examples illustrating this path. The *département* of Maine et Loire (NUTS3 level) provides one. In response to a strong opposition of the farm lobby it was accepted to continue the expiring local operation under a specific tailored heading known as Local Agro-environmental Contract (*Contrat Local Agri-Environnement i.e. CLAE*). A second example is found in the *département* of Ille et Vilaine (NUTS3 level) where the regional authorities offered a contractual arrangement to favour the conversion from arable land to grassland in targeted areas. But this offer was contingent and would have been effective only if at least 60% of eligible farmers were willing to accept it. Because the minimum threshold was not reached in most targeted sites, only 45 farmers enrolled.

Some former measures introduced under the Regulation 2078/92 are still available under the Regulation 1257/99 and are not necessarily included in the CTE scheme. It is the case of the rotational measure concerning sunflower crops. Moreover, as mentioned in Section 2, the grassland premium scheme was renewed and remained applied independently of the CTE scheme. It became the Grazing Agro-environmental Scheme (*Prime Herbagère Agro-environnementale i.e. PHAE*) in 2003. The drop in the number of beneficiaries was due to a political artefact. Indeed, in order to boost the number of CTEs this measure could be integrated in the CTE scheme.

The launching of the CTE scheme has not been positively considered by the European Commission. Inconsistency between the Regulation 1257/99 and the freedom initially instituted in the French contracts leads to major disagreements on most of French CTEs with the STAR committee. Most of the financial burden of the first CTEs was therefore borne by the French exchequer . After some negotiation, adjustments were made and the CTE scheme fitted to the European legislation leading to exclusive co-financing. This procedure required a hard job of harmonisation at the NUTS 2 level in order to smooth away the great heterogeneity that had been noticed at the NUTS 3 level.

There is a great flexibility with respect to the agro-environmental section of the CTE contract. The menu of measures offered to farmers is designed at the NUTS 3 level. Some regions select a series of compulsory measures that farmers had to adopt to be accepted in the scheme. While others do not impose such constraints and propose a menu, in which operators select their preferred measures.
Globally the introduction of compulsory measures in the proposed contracts was low (table 6).

Table 6: Compulsory measures in the environmental part of CTE

Compulsory measures lying	NUTS3 repartition
No	20
Yes but in few CTEs	20
Yes but in most of the CTEs	21
No information	34

Source: Lacombe and al, 2003

Nationally, twenty five main categories of measures are available:

Table 7: Twenty-five categories of measures available in France

	Categories	Number of sub-categories
01	Conversion from arable to extensive grassland	4
02	Crop rotation measures, crop diversification and rotation length	5
03	Winter covering of arable land	5
04	Creation of grassland buffer zone	3
05	Introduction of hedges, trees lines, ditches, embankments or ponds	6
06	Maintenance/restoration of hedges, tree lines, ditches embankments or ponds	18
07	Decreasing the size of land parcels by the introduction of hedges or tree lines	3
08	Reduced use of polluting pesticides/ Introduction of integrated crop protection or organic farming	13
09	Reduced use of fertiliser	10
10	Management of livestock polluting effluents	5
11	Decrease farm intake of water	2
12	Introduction or maintenance of flow management areas	2
13	Modifying practices of ploughing and soil preparation	7
14	Introduction of special crops for flora and fauna protection	4
15	Conservation of rare livestock breeds and crop varieties for the protection of biological diversity	5
16	Farming practices adapted to the management of natural species	8
17	Adapted farming practices for the protection of livestock from predators (like wolves and bears)	1
18	Conservation of farm land cover associated with typical landscape and cultural heritage	10
19	Measures against farm land abandonment	6
20	Extensive farming of grassland	4
21	Conversion to organic farming	1
22	Agroforestry	2
23	Reducing negative impact of drainage	2
25	Conservation of farm land endangered by urban development urban outskirts	4
30	Environmental planning	1

Source: Le rapport CTE, 2003

Otherwise some categories have been further specified into a total of 170 sub-categories available to the 22 NUTS2 regions.

Depending on the NUTS 2 region, between 20 and 24 categories are selected; categories and sub-categories are detailed into 50 to more than 200 operational measures actually offered to farmers. This regional specification results in a total of 2650 operational measures in France, but many of them are very similar from a region to another and only differ in the offered premium.

Their implementation is conditioned by the obligation, toward the European Commission, to specify good farming practices at the NUTS 2 level. Specification has to provide:

- regional existing management of fertilisation,
- reasonable stocking rate to avoid over grazing according to the type of field, main rotations, local environmental standards.

Farmers willing to contract have to comply with good farming practices and current regulation. A single plot can entered several contracts or measures. However total subsidy per hectare cannot be over 600 € for annual crops, 900 € for specialised perennial crops and 450 € for other land uses.

The CTEs are submitted to a general scheme of implementation, control and evaluation (Table 6). Governance organisation of CTEs has four main points: diagnostic and design, contracting, enforcement and evaluation. The respect of commitments taken up under a contract are controlled yearly through field controls by CNASEA. 5% of farmers under contracts are selected and are controlled in each department.

AESs implemented independently follow the same scheme. Regarding particularly the measure PHAE and the rotational measure (also called sunflowers measures in area where the rotational crop introduced is sunflower), the general scheme changes only for the payment and control aspects. The ONIC and ONIOL that are institutes managing crops and CAP funding attributed to crops are the competent institutes to implement and pay contracts instead of the CNASEA.

Table 8. Governance organisation for CTEs

Stages	Activities	Organisations	Main institutional level
Diagnostic and design	Survey of targeted elements (problem, area,…)	Ministry of Agriculture (NUTS 2 & 3 branches), Ministry of the Environment (NUTS 2 branches) Farmers' organisations	NUTS2 and NUTS3
	Scheme design	Mainly Chambers of Agriculture	NUTS3
Contracting	Scheme promotion, information, technical support	Mainly Chambers of Agriculture Farmers' organisations Agri-food industry	NUTS3
	Contract administration (including payments to farmers)	ADASEA[2] CNASEA[1] for payments Ministry of Agriculture (NUTS3 branches)	NUTS3
	Decision making	Committee for agricultural orientation (NUTS3 level) Prefect[3]	NUTS3
Enforcement	Monitoring	Project Holders: Mainly Chambers of Agriculture, Agri-food industry, Nature Regional Parks	NUTS3
	Control	Ministry of Agriculture (NUTS 3 branches) for file controls CNASEA for field controls	NUTS3
Evaluation	Evaluation	CNASEA	NUTS1 and NUTS3

1. CNASEA: agency acting on behalf the Ministry of Agriculture with regional branches at the NUTS2 level.
2. ADASEA: non-profit organisation (*association*) whose members are farmers' unions, the body in charge of farm structures, experts (farm accountants, real estate and land value specialists) and the Ministry of Agriculture.
3. Prefect (*Préfet*): the head of a *département* (NUTS3 level).

After the May 2002 election, the new Government firstly suspended the implementation of the CTE scheme. However, several farmers' organisations, including the major union, claimed its continuation on the basis of the committed efforts of many farmers and local institutions. It was finally decided to carry on the scheme application providing some adjustments and a new name. The CTE scheme revived as the Sustainable Farm Contract (*Contrat d'Agriculture Durable i.e. CAD*) which is simpler and focuses on major environmental issues. In addition, the two sections of the former CTE were considered independently each other. Thus farmers have now the opportunity to make an agreement restricted either to the 'economic and relating to employment' section or to the 'territorial and environmental' one. Entering a CAD is compatible with the PHAE scheme. Finally, the modulation of direct payments was dropped (Dupraz *et al.*, 2003)

3.5 CTE uptake

The setting of the CTE scheme involved high transaction costs from both farmers and public administration, especially at the NUTS3 level, for the main following reasons:

- the framework was new,
- the link between environmental and investment aids complicated the compliance with national and European rules of public support,
- the contracts were individualised because each farmer had the opportunity to select his own set of investments and environmental aids within large menus,
- some previous agro-environmental contracts were integrated in the CTE scheme.

De facto, lots of previous contracts were not renewed because the agricultural administration at the NUTS3 level did not have the practical means to face the implementation burden. Moreover, the increase in offered premiums encourage farmers to shift form the former regional programmes to the CTE scheme. A number of operators and environmental associations miss the continuation of previous agro-environmental endeavours and criticize the lack of coherence of the agricultural policy. The European commission stressed the point several times, concerning the French implementation of the rural development regulation.

The principal advantage of the CTE scheme is that it is based on encouraging farm-based approaches without interfering on the market or on agricultural production. After a difficult launching, due to the complexity of the scheme and the mistrust of the main farmers' union, the CTEs gained a certain success. By January 2003, the number of contracts signed was 44 700. If we consider the percentage of eligible farmers who submitted an acceptable dossier in order to conclude a farming territorial contract the national average rate reached 10%.

Spatial distribution at the NUTS3 level shows the weight of these contracts on the East side of the country, as well as in the West and South-West which are classified as more intermediate than less favoured areas (Maps). In some areas, about one third of farmers entered the scheme. It must be noticed that the modulation scheme of the horizontal regulation of the Agenda 2000 reform was used to finance CTEs. The cut in subsidies for large cereal farms of the wide Parisian basin, where CTE uptake was relatively low, allowed to transfer money to more diversified types of farming in intermediate favoured areas. Even if such a transfer was limited (less than 2% of direct payments) it had a symbolic character.

The five-year aid amounted 44 000 € per farmer, the share of the 'territorial and environmental' payments being about 75% of this total. A comparison of this component of the CTE scheme, after three years of application, with the former regional programmes (local operations and zonal schemes) indicate:

- a similar number of participants,
- a three to four times increase in payments per farmer,
- a similar failure to spend the European budget devoted to the implementation of the RDR.

Farms participating in the CTE are 49000.
Farms participating in the CTE scheme contrast with the French average. Economic size is higher while area is two times greater. Operators are younger both than participants in the former regional programmes and than the average French farmer. Over representation of

largest farms and youngest operators might be attributed to the requirements of the CTE scheme, specially related to an investment project, and also to high private transaction costs needed to prepare and conclude a contract.

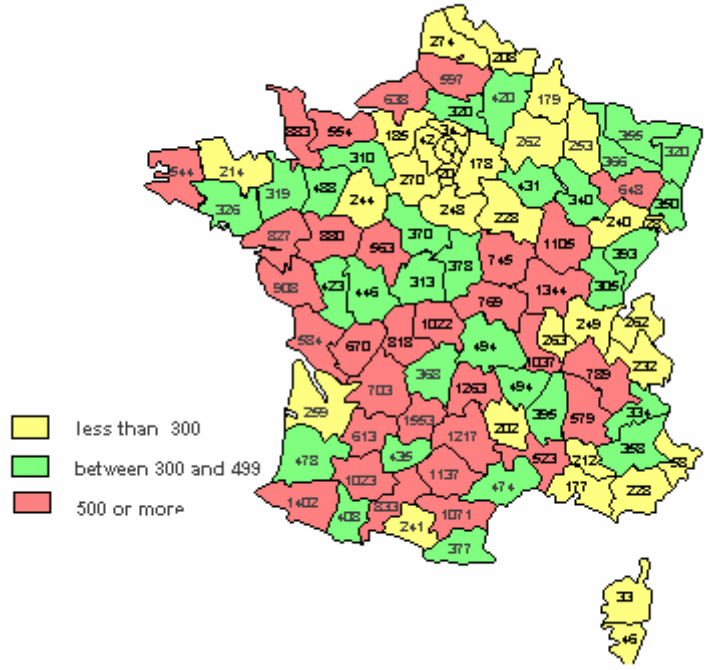
Regarding the localisation of CTE uptake, the monetary amount given to farmers is higher in less favoured areas than elsewhere. This can be explained by the fact that in such areas, the grazing system is mainly represented.

A limited number of measures have attracted the major part of the budget during the recent past period (Table 9). First of all significant compensations have been paid for the continuation of both the former grassland premium scheme (PHAE) and the AESs under Regulation 2078/92. The distribution of funds within the agro-environmental section of the CTE scheme shows the weight of 'extensive farming of grassland' which received 30% of the total. This measure being close to the PHAE, this shows that past policy is maintained.

Measures encouraging the reduction of negative externalities through the reduced use of pesticides and fertilisers were also significantly granted since they received about 17% of the total. Thus a significant share of public funding is used to remunerate farmers in exchange for a limitation of inputs. The central question is whether it is an efficient means for reducing pollution from agriculture.

Otherwise, 'conversion to organic farming' which favours the environment received 18% of the total. But, measures purely oriented towards the provision of public goods, such as measures related to the introduction and maintenance of hedges, or buffering amounted about 11%, while the preservation of typical landscape and cultural heritage was marginally granted. The shift from Regulation 2078/92 to the CTE scheme did not led to a significant change in budget distribution according to the different categories of measures.

Map 1 - Number of concluded CTEs (NUTS3 level, 31/01/03)



Map 2 - Percentage of participants in the CTE scheme (NUTS3 level, 31/0103)

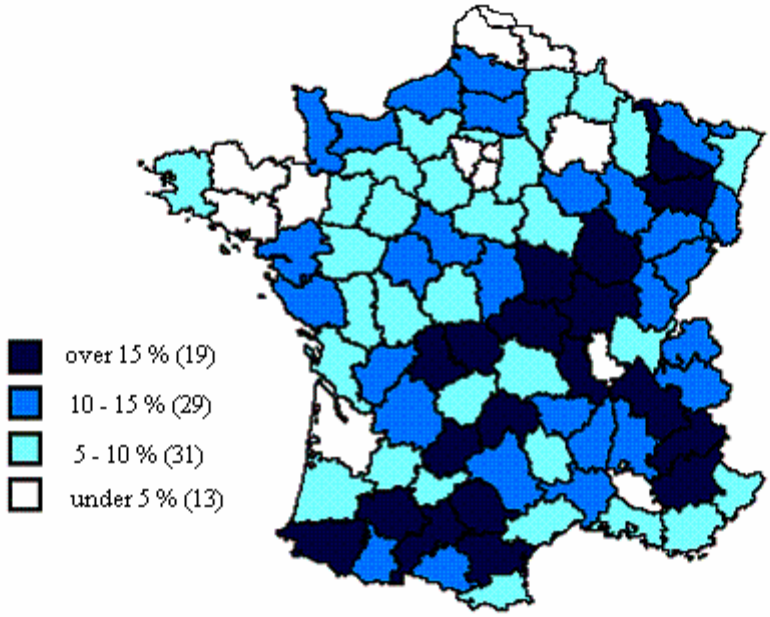


Table 9. Budget distribution according to the different measures

	Budget (€)
Agro-environmental section of CTE	***82 126 000***
Conversion from arable to extensive grassland	*2 816 834*
Crop rotation measures, crop diversification and rotation length	*1 755 460*
Winter covering of arable land	*4 166 452*
Creation of grassland buffer zone	*802 755*
Introduction of hedges, trees lines, ditches, embankments or ponds	*1 066 417*
Maintenance/restoration of hedges, tree lines, ditches embankments or ponds	*7 309 519*
Decreasing the size of land parcels by the introduction of hedges or tree lines	*42 303*
Reduced use of polluting pesticides/ Introduction of integrated crop protection or organic farming	*8 174 265*
Reduced use of fertiliser	*6 173 233*
Management of livestock polluting effluents	*833 227*
Decrease farm intake of water	*675 206*
Introduction or maintenance of flow management areas	*44 924*
Modifying practices of ploughing and soil preparation	*841 547*
Introduction of special crops for flora and fauna protection	*407 965*
Conservation of rare livestock breeds and crop varieties for the protection of biological diversity	*34 817*
Farming practices adapted to the management of natural species	*1 598 628*
Adapted farming practices for the protection of livestock from predators (like wolves and bears)	*12 108*
Conservation of farm land cover associated with typical landscape and cultural heritage	*1 358 040*
Measures against farm land abandonment	*4 766 078*
Extensive farming of grassland	*24 523 809*
Conversion to organic farming	*14 626 738*
Agroforestry	-
Reducing negative impact of drainage	-
Conservation of farm land endangered by urban development urban outskirts	*95 465*
Environmental planning	-
PHAE	***30 610 000***
Measures outside CTE	***2 605 753***
AES 2078/92	***22 536 374***
Rotational measure	***2 630 000***

Source. Ministry of Agriculture and ASCA (firm participating in the evaluation of the rural development plan)
Figures refer to the average of committed funds for the period 2001-2003, except for the PHAE for which 2003 data are reported.

3.6 CTE evaluation

After much debate, the 1999 Agricultural Act acknowledged the multifunctional character of agriculture and proposed a comprehensive framework to accommodate several concerns about:

- agricultural diversification,
- quality food production,
- high added-value production systems,
- rural development,
- environmental protection,

and promoted the CTE scheme. Farming was seen less than an element of the food chain, and more as an horizontal component of the local territory providing economic, social and environmental services. From a political point of view, it restored farming as a component of rural policy making, bringing local political and civic actors into the agricultural policy arena.

The CTE was therefore a multipurpose policy instrument rooted in a global approach of the farm enterprise. Its implementation has been based on individualised contracts combining investment aids with agro-environmental payments. Hence, to benefit investment aids operators had to comply with minimal environmental commitments, and to benefit agro-environmental payments they had to design a global farm-investment project.

To a large extent, subsidiarity applied since the menus of agro-environmental actions and investment aids were elaborated at the regional level. Menus have been designed according to the framework of regional priorities concerning environmental aspects. Farmers' representatives and chambers of Agriculture in particular, actively participated in the design of these menus of agro-environmental actions. Nevertheless, the most specific measures clearly adapted to a particular local context, have been abandoned during the harmonisation. Only the most general measures adapted to a regional context have been maintained. Despite this point, CTEs which can be considered as being made farm by farm, were well adapted to the local agricultural context since the content of the contracts depended on regionally decided demand for public goods and farmers' willingness to enter the scheme.

In the context of Regulation 2078/92, positive cost complementarities between different environmental outputs have been estimated (Bonnieux *et al.*, 2001). This supports the integration of several environmental measures within a single contract. Indeed, for an individual farmer, cost complementarities may make it profitable to select several agro-environmental actions simultaneously. For a given action, the difference between the premium offered and the marginal cost of compliance, depends upon participation in other actions. Cost complementarities may therefore lead to an increase in participation rates, encouraging the provision of environmental goods. Enabling farmers to participate in all available actions may result in an increase in both private and public benefits. The CTE framework went further since it associated agro-environmental actions with investment aids.

The committee in charge of the CTE evaluation on behalf the Ministry of Agriculture reached quite negative conclusions with respect to the number of participants and the cost of the scheme (COPERCI, 2002). Uptake remained far below the policy objective of 100 000 contracts in 2002, while the average payment largely exceeds the objective of 23 000 € per contract.

The relatively low rate of enrolment is partly due to high transaction costs. The level of fixed private costs resulted in the setting up of entry barriers that limited enrolment rates. Participation was profitable for the youngest farmers on the largest farms only.
Moreover few national and regional institutions, especially agricultural organizations and administration, were able to benefit from previous experience gained with the implementation of regional programmes. Administrative bottlenecks related to the design and administration of these individualized contracts were observed in most regions. The allocated administrative resources were revealed to be inadequate and did not take into account the complexity of the CTE implementation. There was no *ex ante* evaluation of public administrative costs so the various issues related to the design, implementation, control and enforcement of the scheme were not anticipated.

The objective of the promoters of the CTE scheme was to embed economic and environmental aspects of a group of farms into an integrated territorial project. The underlying philosophy was to initiate endogenous growth on local projects such as product labelling, green tourism.
In every NUTS3 regions, the local branch of the Ministry of Agriculture must design a regional CTE framework according to which every farmer may build his own contract, denoted "individual CTE". In addition, economic, environmental and territorial organisations may elaborate the so called "collective CTEs" whose measures focus on particular interests (product oriented CTE) and/or particular areas (territory oriented CTE). These collective CTEs reveal the strength and the dynamism of the different networks in the region. In June 2002, there were 1129 of such collective project of CTEs. More than half were initiated by economic organisations such as dairy cooperatives and farmers' commercial consortiums. The chambers of agriculture participate in the design of a third of collective CTEs, the associations in 15% and local governments, including the Regional Natural Parks, in 10% only. These figures show the prevalence of economic organisations in the implementation of the CTE scheme.

In addition, an other main failure concerns the compliance of the CTE prescriptions with the agricultural framework law: most contracts are not connected with any territorial project or even with the main environmental issues. Many CTE prescriptions are reckoned to be impossible to control and therefore to enforce. Last but not least, the congestion of the local administrations by the CTE implementation prevents the continuation of the former local operations in some environmentally sensitive areas. This congestion is due to the CTE complexity and the associated administrative costs.

At the infra regional level the geographical distribution of the uptake of CTE environmental measures usually reveals a poor targeting of environmentally interesting areas, for two reasons. Firstly the RDR mid-term review reveals that the design of environmental measures did not take into account the existing data on the seriousness and the location of environmental problems in most cases. Secondly, the uptake of CTEs mainly depends on the involvement of their beneficiaries in the farmers' professional networks which provide information and assistance to build and conclude the contracts.

In contrast with the grassland premium scheme, the CTEs illustrated a trade-off in favour of precision but leading to unbearable transaction costs. The CTE scheme ambitioned a better targeting to better coincide with the problems identified and to improve economic, social and environmental outcomes. In fact its environmental effectiveness as well as its economic

efficiency are questionable. This in combination with the 2002 change in the political majority led to the shift towards the less ambitious CAD scheme.

4 Glossary

ADASEA : "Association départementale d'aménagement des structures des exploitations agricoles"
non-profit organisation (association) whose members are farmers' unions, the body in charge of farm structures, experts (farm accountants, real estate and land value specialists) and the Ministry of Agriculture.

CAD: "Contrats d'agriculture durable"
Sustainable Farm Contract which replace CTE scheme and which is simpler and focuses on major environmental issues

CLAE: Contrat local d'agro-environnement
It is Local Agro-environmental contract.

CNASEA: "Centre National d'aménagement des structures des exploitations agricoles"
agency acting on behalf the Ministry of Agriculture with regional branches at the NUTS2 level

CTE: "Contrat territorial d'Exploitation"
farming territorial contracts

DDA: "direction départementale de l'agriculture"
Represenatnt of the Ministry of Agriculture at the NUTS3 level

DJA: "Dotation Jeune agriculteur"
The Young Farmer Grant

DOCUP: "document unique de programmation"
The DOCUP have three main objectives. Documents concerning aim 1 and 2 of European legislation and financed by AEGGF. Those documents are designed and implemented at a regional level.

ESA: "environmentally sensitive areas"

FFCTE: "Fond de financement des CTE"
The CTE financinf fund is a specific fund financing CTE

FGMN: "Fond de gestion des milieux naturels"
Natural Area Management Fund in charge of the payment to operators in NATURA 2000 frame.

FNSEA: "Fédération Nationale des Syndicats d'Exploitants Agricoles"
National Farmers' Unions

ICHN: "Indemnité compensatrice de l'handicap naturel"
Natural Handicap Compensatory Allowance provides an additional subsidy to farmers. Eligibility requires the compliance with area-specific good farming practices.

OGAF: "Operation Groupée d'Amenagement Foncier"

Equivalent to an integrated land management operation)

OLAE: “Opérations Locales agri-environnementales”
Agri-environmental local operations

ONIC/ONIOL: “Office national interprofessionnel des Céréales/ Des Oléoprotéagineux”
Those institutes manage crops and CAP funding attributed to crops. They are the competent institutes to implement and pay rotationel measure instead of the CNASEA.

PAM: “Plan d’Amélioration Matérielle”
Investment measures with preferential rate for farmers with productive or environmental objectives

PDD: “Plan de développement durable”
farm-based sustainable development scheme

PDRN: “Plan de développement rural national”
National Rural Development Programme

PHAE: “Prime herbagère Agro-environnementale”
The Grazing Agro-environmental Scheme replaced in 2003 the grassland premium scheme

STAR: comité des “structures agricoles et du développement rural”
committee at the EU level which study the consistency of measures adopted for co-financing.

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Annex1
Reports dealing with specific regional or local operations

'Bilan de la prime au maintien des systemes d'elevage extensifs conduite depuis 1993'
Ministère de l'Agriculture et de la Pêche 1997

Etude sur l'évaluation de l'impact de la prime au maintien des systèmes d'élevage extensifs sur la gestion du territoire: environnement et exploitations agricoles
Cemagref 1997

Bilan 1997 de la mesure "aide aux races domestiques menacées"
Institut de l'elevage, Institut National Agronomique Paris Grignon 1997

Rapport d'évaluation de la mesure "formation"
Conseil général de l'agronomie, 'Ministère de l'Agriculture et de la Pêche, juin 95

Centre: Rapport d'audit des mesures "article 19" du Reglement CEE 797/85 mises en oeuvre dans la Brenne (Indre)
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Ministère de l'Agriculture et de la Pêche 1997

Franche-Comté: Rapport d'audit sur la Reconduction eventuelle au titre du Reglement N° 2078/92 de l'operation groupee d'amenagement foncier agriculture-environnement des trois vallees sud du Jura engagee au titre de l'article 19 du Reglement CEE 797/85
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Languedoc Roussilon: Rapport d'audit sur la Reconduction eventuelle au titre du Reglement N° 2078/92 de l'operation groupee d'amenagement foncier agriculture-environnement dfci des Pyrenees orient. engagee au titre de l'article 19 du Reglement CEE 797/85
Ministère de l'Agriculture et de la Pêche 1996

Pays de la Loire: Rapport d'audit sur la Reconduction eventuelle au titre du Reglement N° 2078/92 des operations groupees d'amenagement foncier agriculture-envir. des marais Bretons et Poitevins engagee au titre de l'art. 19 du Reglement CEE 797/85
Ministère de l'Agriculture et de la Pêche 1997

Evaluation des mesures agri-environnementales en Région Rhône Alpes: Rapport d'audit de l'operation groupée d'amenagement foncier Agriculture - Environnement Val de Saône engagee au titre de l'article 21 du Reglement CEE 2328-91
Ministère de l'Agriculture et de laPêche 1997

Rhône Alpes: Rapport d'audit sur la Reconduction eventuelle au titre du Reglement N° 2078/92 de l'operation groupee d'amenagement foncier agriculture-environnement de Retord-

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Ministère de l'Agriculture et de la Pêche 1996

DRAF Poitou Charentes, Evaluation des opérations locales en marais, Opération locale de Marennes (engagee au titre de l'article 19 du Reglement CEE 797/85)
Ministère de l'Agriculture et de la Pêche 1997

DRAF Poitou Charentes, Evaluation des opérations locales en marais, Opération locale de Tonnay Charente (engagee au titre de l'article 19 du Reglement CEE 797/85)
Ministère de l'Agriculture et de la Pêche 1997

Evaluation des mesures agri-environnementales en Région Alsace
Ministère de l'agriculture et de la pêche 1998

Evaluation des mesures agri-environnementales en RégionAquitaine
Cemagref 1997

Evaluation des mesures agri-environnementales en Région Auvergne
Cemagref 1997

Evaluation des mesures agri-environnementales en Région Basse Normandie
Direction régionale de l'agriculture et de la forêt 1997

Evaluation des mesures agri-environnementales en Région Bourgogne
Ministère de l'agriculture et de la pêche 1998

Evaluation des mesures agri-environnementales en Région Bretagne
Direction régionale de l'agriculture et de la forêt 1997

Evaluation des mesures agri-environnementales en Région Centre
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Evaluation des mesures agri-environnementales en Région Champagne-Ardenne
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Evaluation des mesures agri-environnementales en Région Provence-Alpes-Côte d'Azur
Direction régionale de l'agriculture et de la forêt Cemage 1997

Evaluation des mesures agri-environnementales en Région Rhône-Alpes
Préfecture de Région Rhône-Alpes 1997

Synthèse des évaluations régionales
Ministère de l'Agriculture et de la pêche 1998

Résumé de la synthèse des évaluations régionales
Ministère de l'Agriculture et de la pêche 1998