

# ESPON Project 2.1.3

## The Territorial Impact of CAP and Rural Development Policy

### First Interim Report

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#### **Trans National Project Team:**

Arkleton Centre for Rural Development Research, University of Aberdeen, Scotland, UK  
(Project Co-ordinators)<sup>1</sup>

Bundesanstalt für Bergbauernfragen (Federal Institute for Less-Favoured and Mountainous  
Areas), Austria

Institute of Spatial Planning, University of Dortmund, Germany

National Institute for Regional and Spatial Analysis, Ireland

#### **Special Advisors:**

The Nordic Centre for Spatial Development, Nordregio, Sweden

Departamento de Economía y Ciencias Sociales Agrarias, City University of Madrid, Spain

Department of Agricultural Economics and Rural Development, Budapest University of  
Economic Sciences and Public Administration, Hungary

<sup>1</sup>Arkleton Centre for Rural Development Research University of Aberdeen, St Mary's, Elphinstone  
Road, Old Aberdeen, AB24 3UF, UK. Tel: +44 1224 273901; Fax: +44 1224 273902  
[www.abdn.ac.uk/arkleton](http://www.abdn.ac.uk/arkleton)

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## **ESPON Project 2.1.3: The Territorial Impact of the CAP**

First Interim Report, October 2002

### **1. Introduction**

#### ***1.1 Background***

The Second Report on Economic and Social Cohesion (January 2001) called for cohesion policy to promote a more balanced and more sustainable development of the European territory, in line with the European Spatial Development Perspective (ESDP). As part of this, it identified the need for further work on the territorial impacts of sectoral and structural policies, of which one of the most important (in budgetary, economic, environmental, social, political and cultural terms) is agricultural and rural development policy. ESPON Project 2.1.3 sets out to help fulfil this research requirement through an analysis of the territorial impacts of the Common Agricultural Policy (CAP) and rural development policy.

Below national level, the territorial impact of the CAP has largely been neglected by researchers. Somewhat more attention has been given to variability in the level of CAP expenditures across space, but even this has been largely restricted to considering differences at the national or, at best, NUTS II level. With the CAP currently undergoing reform, and facing a number of internal and external challenges, the lack of understanding of the impact of agricultural policy is particularly noticeable.

According to the EU Commission (1998) internal challenges facing the CAP include: the risks of growing surpluses returning; budgetary constraints; consumer interests (including food quality and information on the origin of products); the need to revitalise rural economies; environmental concerns; and the need to simplify and decentralise decision-making. The external challenges include: EU enlargement; the new round of World Trade Organisation (WTO) negotiations; and the need to compete in global markets without damage to some less developed country economies; and the EU's commitments under the Kyoto Agreement on greenhouse gases.

Within this context, the Agenda 2000 reforms further reduced support prices compensating farmers through higher direct payments. To accompany the reforms, a new Rural Development Regulation 1257/99 was agreed as the second pillar of the CAP. This consolidated a number of older regulations, and represented a further shift in agricultural policy from market support towards structural spending so as to strengthen the scope and impact of multifunctional agriculture and rural development. The regulation provides for spending for three main purposes: the creation of a stronger, more competitive agriculture and forestry industry; creating a living countryside, through increased competitiveness and an improved quality of life; and maintaining the environment and preserving Europe's unique rural heritage.

The recent Mid Term Review of the CAP (from July 2002), together with the prospect of these or more far-reaching reforms to follow as the WTO negotiations proceed, forms the context for farmers' actions over the next few years.

The ESDP noted that recent reforms may have served to promote a more diversified approach to agriculture and a more integrated policy approach to rural areas in general. Certainly, in relation to the Rural Development Regulation, it is for member states to propose the breakdown of expenditure between these various headings and measures, and considerable discretion is given to member states in implementation. The key issue is that the trends influencing agricultural production and policy do not affect all regions in the same way and detailed analysis remains to be done. A territorial impact analysis is therefore required to identify territorial patterns of those regions most at risk and those with best potentials. This will need to consider all the aspects of multifunctionality, including landscape conservation and environmental management.

The ESPON Programme as a whole has been structured into four strands comprising

1. Thematic projects
2. Policy impact projects
3. Co-ordinating and territorial cross-thematic projects, and finally
4. Scientific briefing and networking.

This project fits within the second strand of the work programme. Through co-ordination and networking with other transnational projects in the programme, (particularly, those also focussing on policy impacts, the thematic project considering urban-rural relations (1.1.2), and cross-thematic project 3.1) the project will add to the programme's aim of providing a strong scientific basis on which to base future EU policy developments.

## ***1.2 Aims of project***

The overall aim of the project is to deepen the understanding of territorial impacts of CAP through the provision of a standardised data base and an analysis of territorial trends covering all the EU territory (and differentiating developments according to thematic requirements).

Within this overall aim, the following specific objectives have been set:

- a) To develop a method for the territorial impact of the CAP and Rural Development Policy.
- b) To establish a set of indicators, typologies and concepts along with a database and the map-making facilities necessary to implement the territorial impact assessment (TIA) method.
- c) To provide a structured presentation of the CAP identifying the relevant parameters for an assessment of its potentially differential impact across the EU.
- d) To apply the TIA method to show the impact of the CAP on spatial development across the EU and accession countries at the NUTS III or equivalent scale.
- e) To investigate the interplay between the CAP and national agriculture/land use – related policies and best examples of implementation.

- f) To recommend further policy developments for the CAP in support of territorial cohesion and a polycentric and better balanced EU territory.

### ***1.3 Method of approach***

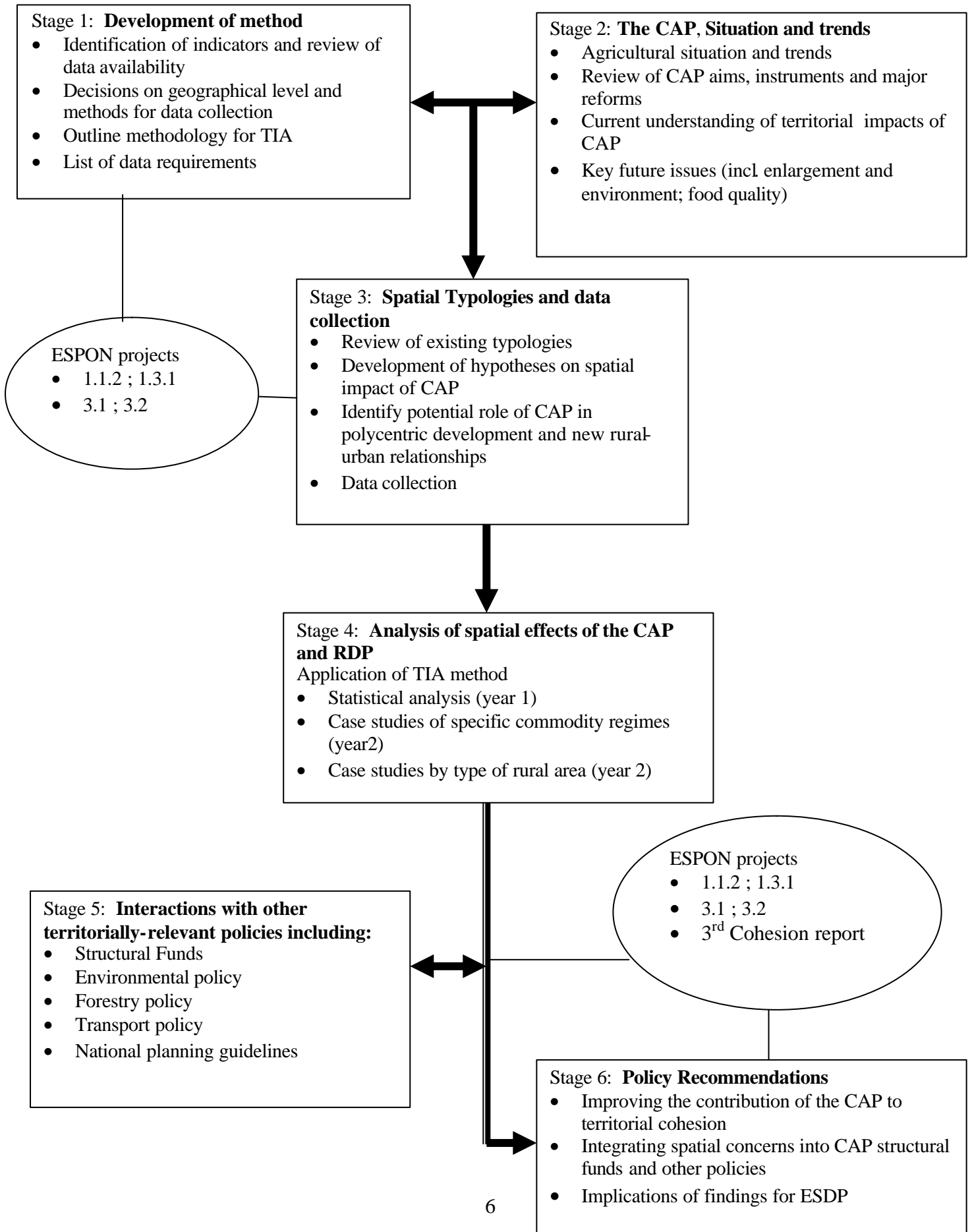
The overall framework for the methodological approach was largely specified by the tender documentation for the project. In particular, the terms of reference set out the thematic scope and context for the project, the general objectives to be addressed, an organisational framework for the project (timetable and milestones) which should lead to the input for the 3rd Cohesion Report in autumn 2003, and a basic description on the required quantification of indicators and differentiation of areas.

Diagram 1 on the following page summarises the various stages and overall framework for the project. It addresses also the interactions with other territorial-relevant policies, and leads in the last stage of the project to the provision of policy recommendations.

The project team is made up of four core partners who will undertake the bulk of the work in the six phases of the project. Each partner has a clear role within the project. In addition, the project team includes three special advisors selected so as to ensure the work takes into account the very different situations and key issues associated with the CAP and spatial development from across the EU.

The structure of this report is as follows. In section 2, some initial hypotheses on the territorial impact of the CAP and Rural Development Policy are outlined. These are followed, in section 3, by an outline of the proposed territorial impact assessment (TIA) method. Section 4 gives an overview of certain key data collection issues and also provides the first list of data requirements for the project while the final section details a proposed structure for the description of the CAP, required in the next project report. It also provides important information in relation to the context of the analysis and defines what is considered to be the policy scope of the project.

Diagram 1. Stages of the project

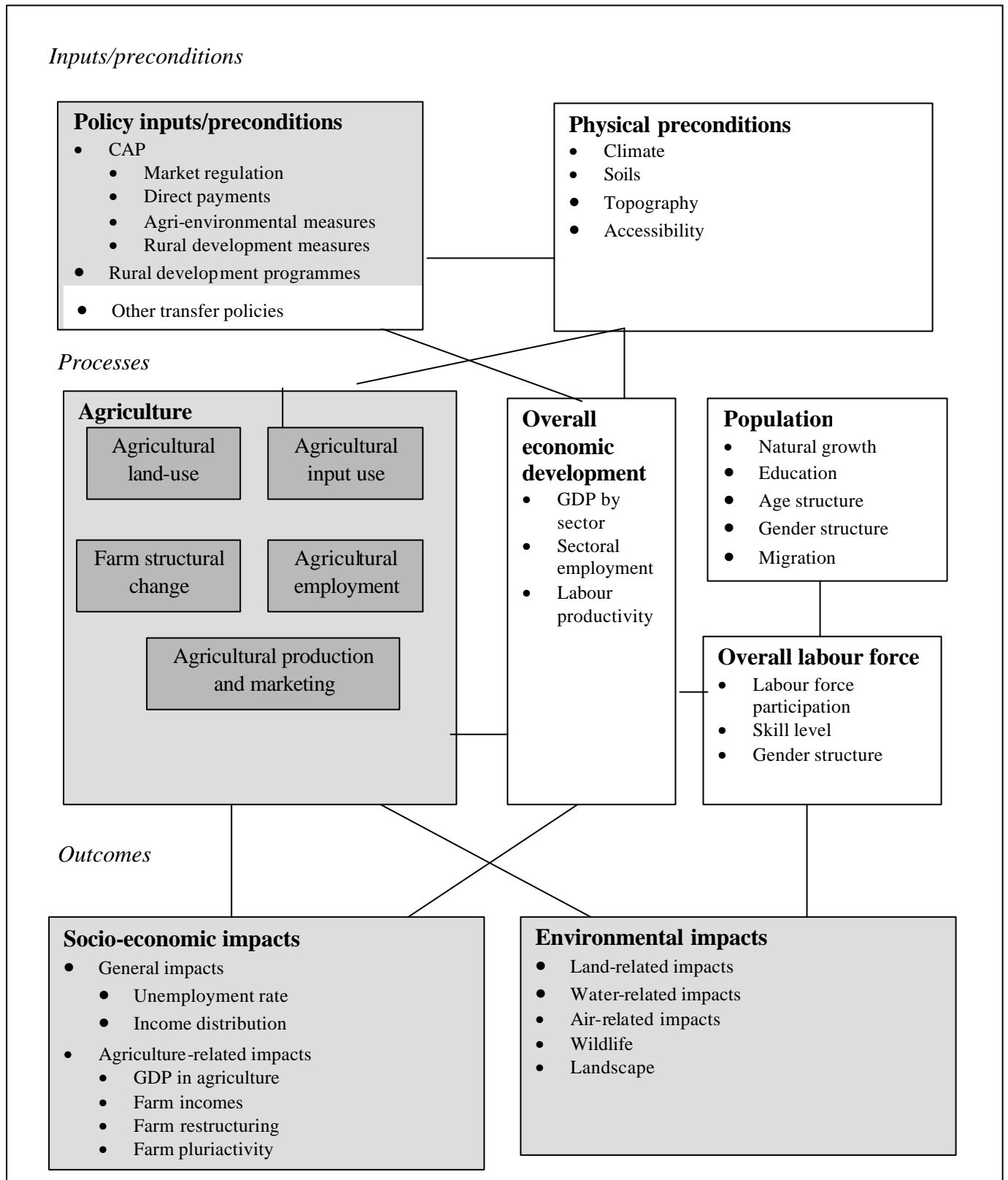


## **2. Initial Hypotheses on the Territorial Impact of the CAP**

In this section initial project hypotheses regarding the impact of CAP and RDP are presented. Diagram 2 on the following page gives a rough overview of the main inputs, intermediate processes, impacts and the hypothesised main interrelations that determine CAP/RDP impacts in a specific region. The core elements are shaded in grey.

The diagram will be amended and refined as the search for indicator proceeds. Eventually the hypotheses implicit in the diagram will be spelled out and operationalised for hypothesis-testing.

Diagram 2. Main inputs and impacts of the CAP and RDP in a specific region





What follows is a first list of more detailed hypotheses that will finally cover the major relations of Diagram 1. At this point, the list is not complete and only contains a first set of hypotheses relating to grey shaded parts of the diagram. Therefore they refer only to CAP/RDP policy and their respective measures. In some cases, the territorial implications of the hypotheses are more easily identified than in others. Further development of these hypotheses, and the identification of additional hypotheses, will be a priority in the coming months.

## ***2.1 CAP/RDP in general***

- 2.1.1 The CAP impacts on different farm types tend to be more distinct than between different regions. In other words, the territorial impact of CAP is mainly determined by the different farm structures of the regions (e.g. different size, management, production orientation of farms)
- 2.1.2 The CAP has the effect of slowing down changes in agricultural structures, e.g. farm numbers, sizes and type patterns. This stabilising effect has to be assessed within the context of ongoing technological change and adjustments in farm management methods.
- 2.1.3 Because the CAP does not generally differentiate between the natural production conditions of regions, structural adjustment is relatively faster in areas of high agricultural potential because of technical bias and the greater market orientation of agriculture in more favoured regions.
- 2.1.4 The CAP has unintended side-effects, including ecological threats in certain areas (e.g. water quality, erosion), decrease of biodiversity and landscape quality, and out-migration from intensively farmed areas etc. These negative effects have a significant territorial dimension.
- 2.1.5 Changes in the levels of farm household pluriactivity are more strongly associated with variables reflecting the strength of the local economy than the level of CAP support.
- 2.1.6 Changes in the CAP have had less immediate impacts on farm incomes and farm production methods than other shocks to the agricultural sector such as weather, livestock disease and exchange rate fluctuations.
- 2.1.7 The incidence of the CAP on NUTS III regions is not consistent with the cohesion objectives of the EU with the least prosperous regions receiving less CAP support than their more prosperous counterparts.
- 2.1.8 The relative impact of the CAP in remoter rural areas (compared to what would most likely have happened otherwise) may have been more significant than in accessible rural areas due to the fact that the latter are influenced, amongst other things, by contiguous urban developments.

## ***2.2 Direct payments***

- 2.2.1 Decoupling of direct payments (shifting from product-related support to payments made directly to producers) leads to greater farming flexibility and thus increases the market orientation of farmers. This has territorial implications (see 2.1.2 above).
- 2.2.2 The blanket environmental requirements for direct payments have contributed to measurable environmental improvements in the regions.
- 2.2.3 Some specific direct payments, e.g. area payments for tobacco and LFA payments for sheep and cattle, have had differential territorial effects by retaining in some areas farming sectors which would otherwise have diminished in size. Similarly, dairy quotas have been critical in maintaining dairy production in some Less Favoured Areas, particularly mountain areas.

## ***2.3 Agri-environmental measures***

- 2.3.1 The impact of agri-environmental measures, even though directed towards extensive land use systems, varies mainly in regard to farm types and regional production conditions.
- 2.3.2 The impact of agri-environmental measures is greater in regions with relatively free land markets than in those with less mobile land ownership.

## ***2.4 Market regulations and support***

- 2.4.1 CAP expenditures on market support contribute to the intensification processes of agricultural production. In territorial terms, more favoured regions are able to take greater advantage of these CAP support measures.
- 2.4.2 The shift of CAP support towards direct payments and targeted measures has decreased the rate of capital investment in the sector, particularly in regions of high agricultural production potential.
- 2.4.3 The shift of CAP support towards direct payments has reduced the extent of risk faced by farmers and may have been most beneficial in regions where climatic conditions and/or growing conditions are highly variable.

## ***2.5 Rural development measures***

- 2.5.1 Rural development measures improve the quality of life in rural areas and thus have helped to reduce the rate of out-migration, particularly in Less Favoured Areas.

- 2.5.2 Rural development measures create additional non-agricultural employment, making farm households and rural areas more multifunctional. These have, in turn, helped to stabilise regional incomes and employment.
- 2.5.3 Most agricultural structural expenditures are not territorially focussed, and thus their territorial impacts are more variable than those of the more spatially oriented rural development programmes such as Objective 5b and LEADER.

### **3. First outline of methodology for Territorial Impact Assessment**

#### ***3.1 Introduction***

The aim of this section is to provide an initial outline of how the territorial impacts of the CAP will be assessed.

The backdrop to the analysis is the wide range of economic, social and environmental contexts within which farmers operate across Europe, including the ten candidate countries in Central Europe. Of particular note in this context is the relatively high dependence of these ten countries on agriculture as a source of employment, and the relatively low productivity of the sector in these same countries. In addition, there is considerable heterogeneity in the nature of agricultural production across the European Union (EU-15). This is due, amongst other things, to natural production differences, high variation in agricultural structures and differences in the application of CAP in different areas. In every area, the CAP is but one of many external factors that are influencing farm-level, agricultural and rural development. It is essential that the TIA method adopted is capable of both accommodating the wide range of contexts and is able to separate out, from all of the other factors, those changes which can be attributed to the CAP and rural development policy alone.

A number of other issues have influenced the choice of method. These include the need to identify a range of different types of CAP effects, encompassing not only its direct effects on agriculture and on farm households, but also the indirect effects on other sectors either associated with or competing with agriculture for resources and/or consumer expenditure. The effects on consumers and taxpayers also need to be accommodated in the analysis, recognising that these are not only associated with the process of food production but also with the positive and negative externalities of agricultural production activity, especially environmental effects and cultural/community effects.

A significant issue is the fact that CAP does not constitute one uniform policy but can be separated into various strands of policy measures which might show quite different (and sometimes opposing) spatial effects. As noted in the project tender, the policy mix in different areas is very different and the way in which the CAP is described within the method has to be such that it can be associated with different policy outcomes at the territorial level. Within this general context, the shifting importance of the various policy strands that has occurred as a result of reforms will provide an important insight into the shift in territorial impact of CAP.

Finally, the absence of a realistic counterfactual or “without CAP” scenario means that the method has to focus on the way in which changes in the CAP have impacted on areas across Europe, taking into account the particular features of the sector (e.g. length of the production cycle for livestock products, the influence of succession on farming methods) and the multi-functional role fulfilled by the sector. These functions attributed to sector activities might differ substantially by regions, and particularly by types of regions, and farm types.

Against this background, and, given the time span available for the project, a two-stage method is proposed. In the first stage (year 1 of the project), analysis will take the form of advanced statistical analysis to assess the extent to which changes in the CAP are associated with observable changes in the economic, social and environmental conditions in areas at the NUTS III level or equivalent. The second stage (year 2 of the project) will use, primarily, case-study methods to explore in more depth the causal relationships between CAP and rural development policy and certain apparent outcomes of policy, focussing, in particular, on how these are differentiated across space. Both phases of research are briefly elaborated below.

### 3.2 Stage 1 Statistical analysis

Based on data reported for the period 1990 onwards, this stage of the analysis will use statistical methods to test certain key hypotheses on the territorial impact of the CAP. Clearly the type of analysis that is possible will be conditioned by the amount of data that is available and, at this stage in the project, it is difficult to predict exactly what type of analysis will be possible, particularly in relation to the ten Central Europe candidate countries. The following description of methods should be read in this context.

As discussed further in section 4 below, data will be collected for each individual NUTS III for the period 1990 to 2002. Even this limited time-frame means that the analysis will not necessarily be restricted to viewing data cross-sectionally. In particular, it may be possible to use the panel nature of the dataset to allow for unobserved heterogeneity across regions (that is, differences between regions which are not captured by the variables incorporated in the analysis).

Within this context, the general model will ideally take the form of a Vector Auto-Regressive (VAR) model. Gilchrist and Himmelberg (1995) and Bierlen and Featherstone (1998) are examples of previous studies which have estimated a VAR using panel data. The form of such a model is as follows:

$$y_{it}^k = A^k y_{it-1}^k + X_{it}^k \beta^k + \mu_{it}^k + v_{it}^k$$

where  $y$  is a vector of dependent variables representing alternative possible outcomes of the CAP, for NUTS3 area  $i$ , year  $t$ . Depending on the hypotheses being tested, outcomes might include, for example, the intensity of agricultural production in an area, farm income levels or the extent of farm household pluriactivity. The lagged vector,  $y_{it-1}$ , is included to take account of the relative immobility of farming activity with matrix  $A$  also reflecting the extent of inter-dependency between dependent variables.  $X$  is a vector of possible explanatory variables: these will include variable such as, on the agricultural side, land type, climate, farm type and size, land prices, and more generally, per capita GDP in the area, population density and environmental quality indicators etc. Critically, if available, this vector will also include variables representing the incidence of CAP and rural development policy in the area  $i$ , as well as variables reflecting national policies associated with agriculture and land use. Superscript  $k$  denotes different types of regions or groups of NUTS III areas  $i$ , where the latter are classified, for example, on the basis of a rural typology or by farm type

etc. The key aim is to test whether the influence of the CAP-related variables is the same across all types of regions, as reflected in the coefficients  $\beta^k$ . The vector  $\mu_i$  in the model represents individual area effects reflecting unobserved heterogeneity between areas, whilst  $v^k$  captures remaining error terms.

Clearly, before the analysis can proceed, it will be necessary to identify the regional incidence of CAP support at NUTS III level. In this respect, a number of previous studies serve as a useful starting point. In particular, the analysis carried out as part of the Second Cohesion Report<sup>1</sup> is useful in that it developed a methodology for measuring different types of support to agriculture at the regional level. Similarly, the recent paper by Anders *et al.* (2002) develops and applies a method based on the concept of the PSE for measuring the incidence of CAP support for regions in Germany. This paper confirms that CAP support is not evenly distributed across regions within a particular country. Even more significantly, the Second Cohesion Report suggests (p84) that the least prosperous regions of the EU, which account for around 20% of the EU population, get the least budgetary support from the CAP. The regions benefiting the most are those between the 2<sup>nd</sup> and 6<sup>th</sup> deciles in terms of GDP per head.

Although the precise methods for disaggregating the total CAP support to an area have yet to be finalised, the aim is to be able to differentiate between the following types of support:

- market price support
- direct income payments associated with agri-environmental schemes,
- rural development schemes, and finally
- all other types of CAP-related payments to farmers.

Each of these four types of support have played a distinct role within the recent CAP reform process. Moreover, as discussed in section 2 above, they each may have give rise to territorially distinct effects. By differentiating between them in the analysis, it will be possible to add significantly to existing understanding of how the CAP has, over time, impacted regions across Europe.

The reasons for differentiating between the four types of support are discussed further in section 5 below while the precise definition of each type of support will be elaborated over the coming months.

The method is restricted to assessing the impacts of EU funds and associated matched funding in the case of partial-contribution rural development awards administered directly or indirectly (e.g. via approved national programmes within an EU framework) by DG Agri, including non-spending aspects of the CAP such as supply control measures. Supply control measures would include particular reference to the dairy quota system (and other similar measures) which can be assumed to have strong territorial implications, particularly on milk production and the general economy in mountain regions. The method will not however attempt to examine the impacts of

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<sup>1</sup> [http://europa.eu.int/comm/regional\\_policy/sources/docgener/studies/pac\\_en.htm](http://europa.eu.int/comm/regional_policy/sources/docgener/studies/pac_en.htm)

other EU policies which may relate to agriculture, for example non-FEOGA structural funds.

By re-investigating the incidence of support at a NUTS III level , the study will provide useful inputs into the formulation of the Third Cohesion Report. In addition, by disaggregating policy into distinct different types, the study will add significantly to understanding how the various different elements of agricultural and rural development support can lead to differentiated impacts across space.

### **3.3 Stage 2 Case studies of the territorial impact of the CAP**

Based on the findings from Stage 1, this part of the study will use a case study approach to explore, in more depth, the processes by which the CAP and rural development policy can lead to territorially differentiated effects. In addition to validating the ex-post analysis carried out in Stage 1, this part of the study also aims to explore the possible implications of proposed future changes in the CAP and how these might differ across space.

Two sets of case studies are proposed. The first will compare the territorial impacts of different CAP commodity regimes, while the second will concentrate on the processes by which the CAP leads to differential effects in different types of rural areas.

The commodity-based case studies will be selected so as to contrast commodities with high levels of market or direct income CAP support with those with low levels of such support. Possible alternative commodities are given in Table 1. In addition to the level of CAP support, case studies will be chosen so as to explore the specific spatial aspects of the CAP such as changes in the geographical range of input supply and food processing chains in different areas.

Table 1 Possible framework for choice of commodity case studies

	<b>High CAP support</b>	<b>Low or no CAP support</b>
Crops	Cereals Sugar	Potatoes Vegetables
Livestock	Dairy Beef	Pigs Poultry

The area-based analyses will be based on a number of specific case study areas selected to reflect for instance differing degrees of peripherality, differing population dynamics and differing dependence on agriculture and/or differing dynamics of regional economies. This part of the project will test explicitly the extent to which the CAP serves to promote or hinder territorial development at the local level and a special focus on rural development measures will be useful to test hypotheses on the shift of policy towards rural development measures.

Attention will be paid to both to areas where the CAP has attempted to maintain a viable agriculture in default of other alternatives, and to areas where agriculture is under “modern” pressures such as the construction developments of houses, roads,

commercial buildings and/or tourism facilities. It will be necessary to evaluate these pressures by use of appropriate studies and data, e.g. those on land allocation (planning) decisions, and on environmental issues such as the balance of agricultural and urban pollution. A specific focus will be on the spatial impacts going beyond agriculture but heavily influenced by CAP and agricultural activities. This linkage to the development of rural economy and local context development is important to reflect the increasing social demand on agriculture which, in turn, is linked to regional characteristics.

One possible framework for the choice of area case studies is given in Table 2 below:

Table 2 Possible framework for choice of area case studies

		<b>Spatial typology</b>		
		<b>Remote Rural</b>	<b>Peri-Urban</b>	<b>Urban</b>
<b>Contribution of Agric. to regional GDP</b>	<b>High</b>	<i>Case study a</i>	<i>Case study b</i>	<i>Case study c</i>
	<b>Low</b>	<i>Case study d</i>	<i>Case study e</i>	<i>Case study f</i>

Both sets of case studies will be used to explore the extent to which CAP either complements or conflicts with other EU policy instruments in relation to Cohesion and will explore how the CAP interfaces with the concept of polycentric development being promoted through the ESPD.

A number of different alternative methods are still being considered for the case studies, including an application of the FACT method (Focussed Assessment through Cause-effect Tracing) applied in a recent EU study of the effectiveness of partnerships approaches to rural development (Lückenkötter, J., and G. Kroes, 2002). This concentrates on identifying and investigating “cause-effect chains” which lead from specific outcomes to their impacts at a local level. The possibility of adopting inter-regional Social Accounting Matrix (SAM) methods to explore changes in the flows of commodities and people associated (directly and indirectly) with agriculture across rural-urban divides is also being considered. However, the final choice of methods will only be made as the findings from stage 1 of the TIA emerge since these will guide which hypotheses need further investigation.



## 4. Data and Indicators

The purpose of this section is to identify the data and indicators that are needed to analyse the spatial impact of the Common Agricultural Policy (CAP) and Rural Development Policy (RDP) of the European Union (EU). It is subdivided into three subsections: Substantive issues, choice of indicators, and initial list of data requirements.

### 4.1 Substantive issues

This subsection provides information about geographical level, time period and other basic conditions, and technology for data collection.

#### Geographical level:

The 1998 revision of the NUTS regional system (including the ARNE data for CEEC and EFTA countries) will form the basic geography of the analysis. The default level of analysis will be NUTS III. Where it is necessary to fill gaps in the published data at NUTS III, if possible, apportionment by appropriate proxy variables will be carried out. Similarly, where it becomes necessary to aggregate ratio variables to higher NUTS levels, weighted average methods will be developed.

After basic analysis – with raw data – at NUTS III level, more complex econometrics can be carried out on data aggregated according to a regional NUTS III typology (Figure 1) and if necessary by other land-use or socio-economic classifications. This may require additional data. Note that this typology is not used with the raw data collection but with data derived by initial analysis.

Figure 1: Geographical levels

#### Typology of NUTS III:

- general types of space (types of rural areas differentiated according to general, quantitative issues) and
- special types of space (types of rural areas differentiated according to the soil and land use).

This categorisation of regions into geographical levels allows more detailed and meaningful comparison with regard to specific conditions in respective regions.

#### Time period and other basic conditions:

Statistical data will be collected for the time period 1990-2002, this will provide an adequate basis for analysis for the next Cohesion Report without going back too far before the CAP reform decided in 1992.

As noted in section 3, not only CAP and RDP have an impact on rural areas. There are a lot of other issues which must be borne in mind: different political changes in

respective countries of the EU have happened (i.e. Germany reunification in 1990). Besides political changes and their influence on processes in agriculture and rural development, national programmes and climatic or environmental aspects have an influence on the analysis. Therefore, special consideration must be given to each indicator.

#### Technology for data collection

Data collection will be developed by several partners in the research group, with overall co-ordination being provided by SAC and IRPUD. The former will provide and maintain a password protected web-page from which contributed data may be downloaded by partners only. A distinction between raw data, variables, and indicators will be maintained, the latter relating specifically to project hypotheses and being derived by combination or manipulation of the former.

#### **4.2 Choice of indicators**

The following section outlines the choice of variables that can serve as indicators for this project. Indicators will be differentiated into input, intermediate and impact indicators. The former relate to data that describe the conditions in the regions under examination and the financial input of EU agriculture policy. The intermediate indicators relate to agricultural and non-agricultural economic processes that in combination lead to the economic and environmental impacts of the CAP and RDP.

The following list has been developed mainly on the basis of the project's terms of reference, recent publications of DG Regio and DG Agri and the REGIO database of EUROSTAT. It is a first preliminary list, i.e. further indicators will be added and others will be dropped in the next phase of the project.

<i>Concept</i>	<i>Indicator</i>
<b>A. Inputs/preconditions</b>	
<u>A.1. Physical preconditions</u>	
A.1.1. <i>Climate</i>	Climate zones; length of growing season
A.1.2. <i>Soils</i>	Soil measurement/soil fertility indicators
A.1.3. <i>Relief</i>	Share of mountains; share of slopes not workable by common machinery equipment
A.1.4. <i>Accessibility</i>	Peripherality index; Accessibility measures (to regional centres)
<u>A.2. Policy inputs</u>	
A.2.1 <i>CAP expenditures</i>	
A.2.1.1 <i>Direct payments</i>	a) Area payments (in €)

<p>A.2.1.2 indirect payments/market regulations</p> <p>A.2.1.3 Agri-environmental measures</p> <p>A.2.1.4 Rural development measures (excluding agri-environment measures)</p> <p>A.2.2. <i>Rural development programmes</i></p> <p>A.2.3. <i>Other transfer policies</i></p>	<p>b) Set-aside payments (in €)</p> <p>c) Rare products aids (in €)</p> <p>d) Headage payments (in €)</p> <p>e) Withdrawals (in €)</p> <p>c) Other measures</p> <p>a) Price guarantees (in €)</p> <p>b) Regional aid (in €)</p> <p>c) (Export) refunds</p> <p>a) Percentage of UAA covered by regulation 2078/92</p> <p>b) Percentage of farm benefiting under regulation 2078/92</p> <p>Payment received by farmers (in €)</p> <p>Role of SAPARD for candidate countries</p> <p>LEADER+</p> <p>Part of Objective 1 /2 for EAGGF measures</p> <p>Other structural funds measures/programmes</p>
<p><b>B. Processes</b></p> <p><u>B.1. Agriculture</u></p> <p><i>B.1.1. Agricultural land use</i></p> <p><i>B.1.2. Agricultural inputs</i></p>	<p>a) UAA as % of total area</p> <p>b) proportion of arable land for permanent grassland and pastures, permanent cultures and fallow land</p> <p>c) UAA per holding</p> <p>d) Number of heads of LSU per holding</p> <p>Intensity of land use for agricultural production</p> <p>Area of irrigated land (ha)</p> <p>Afforested land (by previous use of land: permanent pastures and meadows, permanent crops (vines, orchards, arable land)</p> <p>Organic farming area by crop type (arable crops, horticulture, grassland, other)</p> <p>a) Water use for agriculture</p> <p>a) Chemical inputs</p> <p>i) Nitrogen inputs in agriculture by source</p> <p>ii) Nitrogen inputs from livestock manure by livestock type</p>

*B.1.3 Farm structures*

- iii) Nitrogen uptake from crops
- iv) Chemical fertilizer inputs in tons of fertilising element
- a) Average economic size of holding ratio SGM, expressed in ESU, by number of holdings
- b) Agricultural Income: FNVA per AWU
- c) Productivity : ratio of SGM expressed in ESU, related to total labour force expressed in AWU
- d) Average number of AWU by 100ha
- e) Average number of AWU per holding
- f) number of holdings by farm type (field crops, grazing livestock, granivores, mixed cropping)
- g) number of holdings by livestock type (cattle, dairy cows, pigs, goats, sheep, other grazing livestock, laying hens, table fowls)
- h) number of organic farms
- i) holdings by management type (owner-occupation, owner-management, tenant)

*B.1.4 Agricultural employment*

- a) Absolute agricultural employment and share of agricultural employment (if available, by gender of main farm operator)
- b) Evolution of the share of agricultural employment
- c) Proportion of young farmers in the agricultural sector (<35)  
Evolution of the proportion of young farmers
- d) Proportion of old farmers in the agricultural sector (>65)  
Evolution of the proportion of old farmers
- e) Employment in agri-food industries
- f) part-time farming jobs
- g) farming jobs combined with non-agricultural gainful employment
- h) non-family agricultural labour force
- i) Share of farm income from agricultural sector

	<p>j) Agri-tourism employment and share of agri-tourism employment Evolution of the share of tourism employment</p> <p>k) Evolution of employment in the environmental sector and landscape protection</p>
<i>B.1.5. Agricultural outputs</i>	<p>a) Crop production by crop type (tons)</p> <p>b) Number of livestock by livestock type (cattle, dairy cows, pigs, goats, sheep, other grazing livestock, laying hens, table fowls)</p> <p>c) Number of certified livestock by livestock type (cattle, dairy cows, pigs, sheep, poultry)</p>
<u>B.2. Overall economic development</u>	
<i>B.2.1 Overall employment</i>	Employment by sector
<i>B.2.2 Overall economic output</i>	<p>a) GDP by sector (in €)</p> <p>c) Labour productivity</p>
<u>B.3. Overall labour force</u>	
<i>B.3.1. Labour force participation</i>	Overall labour force participation
<i>B.3.2. Labour force characteristics</i>	<p>a) Labour force by skill level</p> <p>b) Labour force by gender</p>
<u>B.4. Population</u>	
<i>B.4.1. Total population</i>	<p>a) Total population (including gender structure)</p> <p>b) Evolution of the population (average annual change over previous x (5 to 10) years)</p> <p>d) Population density</p> <p>e) Natural population growth/decline</p>
<i>B.4.2. Age structure</i>	<p>a) Share of population younger than 20 years</p> <p>b) Share of population older than 60 years</p>
<i>B.4.3 Education</i>	a) Population by education attainment levels
<i>B.4.4. Migration</i>	<p>In-migration</p> <p>Out-migration</p>

<b>C. Outcomes</b>	
<u>C. 1. Socio-economic impacts</u>	
<i>C.1.1 General economic impacts</i>	<ul style="list-style-type: none"> <li>a) GDP per inhabitant in PPP Evolution of GDP per inhabitant</li> <li>b) Unemployment rate Evolution of unemployment rate</li> <li>c) GDP / occupied person (productivity)</li> <li>d) Distribution of incomes: ration income received by the highest earning 20% and the lowest 20%</li> </ul>
<i>C.1.2 Agriculture related impacts</i>	<ul style="list-style-type: none"> <li>a) Changes of average farm incomes</li> <li>b) Changes of GDP in agriculture and agri- food sector</li> <li>c) farm closures</li> <li>d) Change of employment in agriculture sector</li> </ul>
<u>C.2 Environmental impacts</u>	
<i>C.2.1 Land and water-related impacts</i>	<ul style="list-style-type: none"> <li>a) Soil degradation, quality and soil change</li> <li>b) Degradation of landscape quality (and, if possible, landscape diversity)</li> <li>c) Water quality</li> </ul>
<i>C.2.2. Air-related impacts</i>	<ul style="list-style-type: none"> <li>a) Gross emission of greenhouse gases from agriculture</li> <li>b) NH3 emissions from agriculture (for crops with fertilizers, for crops with manure management)</li> <li>c) CH4 emissions from agriculture</li> </ul>

### **4.3 Initial list of data requirements**

Since this list of indicators was developed primarily on the basis of existing EUROSTAT databases and recent statistical publications of DG Agri and DG Regio, data should be available for most indicators. However we recognise that there may be problems with regard to data provision at NUTS III level and that Eurostat databases include some gaps.

The attached Excel file lists the indicators and, where possible, relates them to existing databases (mainly the REGIO database). Where this is not possible, the data should be received from other EUROSTAT databases than REGIO - or from DG Agri. Indeed, getting early access to CAP and RDP expenditure data from DG Agri

will be crucial for a meaningful analysis of CAP impacts. The project will seek help from the ESPON Coordinating Unit on how to approach DG Agri in this regard.

For all listed indicators data will be needed on the lowest geographical level, ideally NUTS III. Where this is not the case, data on (the next) higher NUTS level will have to be taken. In terms of time requirements, where available, annual data for all years from 1990 onwards will be needed.

## 5. Structure of the description of the CAP

This section outlines how the Common Agricultural Policy (CAP) and Rural Development Policy (RDP) of the EU will be described for the purposes of later work on the project, i.e. TIA (territorial impact assessment). Each general section will be briefly presented, and followed by material on its territorial aspects which will inform the later TIA work.

1. Policy scope: i.e. EU interventions covered by EAGGF expenditure and CAP regulations, and the relationship of these interventions to other Community policies, e.g. Regional and Social Funds, environmental policies.
2. Policy objectives and financing mechanisms: description of overall objectives and their development since 1957; the EAGGF budget Sections and main Chapters; budget rebates related to agriculture, agricultural levies, etc.
3. Policy measures: classification of Pillar 1 market price support and compensatory direct payments, and Pillar 2 rural development measures including the accompanying (and mainly agri-environmental) measures.
4. Specific territorial components of CAP and RDP measures, e.g. national/regional quotas and other differentiation (e.g. base areas, average arable crop yields), LFAs, modulation (differential national uptakes, implementations and fund applications), environmentally designated areas, LEADER+.
5. Non-legislative territorial aspects of the CAP/RDP, e.g. farming in peri-urban, “normal” and difficult (e.g. mountain) areas, agriculture in more vs. less accessible regions, agriculture in Cohesion countries/regions, areas of more or less habitat value.
6. Enlargement aspects of the CAP/RDP: application of the CAP in new Member States (as agreed in autumn 2002?), and including pre-accession aid related to agriculture and rural development, e.g. SAPARD.
7. Territorial aspects of current CAP/RDP proposals, e.g. in COM (2002) 394 (Mid-Term Review) and arising from WTO Doha Agenda pressures.

### 5.1 Policy Scope

The scope of the CAP/RDP for this project is taken to be the interventions in farming and farming-related sectors via the expenditures from the European Agricultural Guidance and Guarantee Fund EAGGF, and/or via relevant EU Regulations and Directives. These legislative instruments represent the activities and concerns of the Commission’s DG Agri, for the purposes of pursuing Community objectives as set out in the various EU Treaties (see 2. below).

This definition of policy scope excludes a number of Commission activities, e.g. structural expenditure from the Regional and Social Funds, the operation of EU competition policy and non-agricultural environmental policy (i.e. not agri-



environmental measures), non-farm food safety regulations, etc. However, the descriptions below will where necessary refer to these latter policies, and to national and regional policies outside the framework of EU Directives, e.g. fiscal and land-tenure legislation.

The following relationships between included and excluded policy areas are worth mention:

- CAP/RDP and other structural fund policies: Regional and Social Funds are now partly “integrated” with EAGGF funding in Objective area “Programmes” etc.
- CAP/RDP and LEADER: farming and farmers were involved to a greater or lesser extent in the previous LEADER and LEADER II Community Instruments (CIs) of the previous two budget periods (1987-93 and 1994-99); the current (2000-06) LEADER+ scheme is funded entirely (except for national contributions) from within the EAGGF.
- CAP/RDP and EU environmental policy: environmental conservation and promotion (and sustainable development) are now over-arching EU policy objectives, and, in principle, all CAP initiatives must now carry environmental statements. In addition to the environmental effects of core CAP measures, e.g. intensification and farm/region specialisation, agri-environmental CAP instruments, introduced as “accompanying” measures in the MacSharry reforms and expanded subsequently, have explicit environmental effects as their objective. However, with more “cross-compliance” (so far limited in uptake by Member States), this distinction between the two may erode in the future, and analysis will have to take account of the different objectives and levels involved.
- CAP/RDP and EU competition policy: the Single Market is enforced with a set of regulations to control state (national and regional) aids; but some such aids (which are inherently territorial) have persisted for special reasons. In the downstream (and upstream?) food chain, including farmer marketing agencies (e.g. the UK milk boards), the regulation of mergers and monopolies can fall under EU as well as national auspices.
- Food policy: there is increasing EU interest and active policy involvement in this area, largely through the Consumer Affairs DG. Regulations extend from farm (e.g. livestock welfare) through distribution and processing (livestock transport, slaughterhouse hygiene) to food retailing (e.g. traceability, labelling), including (e.g.) the regulation of organic food supply.
- National legislation: each Member State has its own set of laws regarding (e.g.) farm business taxation and land tenure/transfers

## 5.2 Policy Objectives and Financing Mechanisms

The original objectives of the CAP were laid down in Article 39 of the 1957 Treaty of Rome and in the conclusions of the 1958 Stresa conference. The Article 39 objectives were (and are, since the Treaty remains in force, though subject to re-interpretation):

- increasing agricultural productivity
- ensuring a fair standard of living for farmers
- stabilising markets
- guaranteeing food security
- ensuring reasonable prices for consumers.

The Final Resolution at Stresa maintained that agriculture should be regarded as an integral part of the economy and as an essential factor in social life (Fennell, p.20). These objectives had few immediate and direct territorial implications, although obviously the original CAP was designed to support the rural population of the Community of Six relative to the urban population, which at that time was enjoying unprecedented economic growth and prosperity. However, the underlying philosophy of the Common Market as a whole was to exploit comparative advantages. These include spatial differences in farming productivity.

As problems in operating the original CAP emerged – primarily surpluses of certain farm products, and escalating expenditures – additions and modifications were made to the above objectives, via new CAP measures or via formal Treaty commitments. These included:

- countryside protection and population maintenance (Directive 75/268 on compensatory measures for farming in less favoured areas)
- environmental protection (Single European Act, 1987, covering all EU policies)
- competitiveness (Agenda 2000)
- strengthened rural development (Mid-Term Review, 2002)

The CAP/RDP (as defined in 1. above) is financed by the European Agricultural Guidance and Guarantee Fund (EAGGF, or FEOGA) which accounts for about 50% of the total EU budget. That budget is financed mainly through national GDP-linked contributions from Member States, with the addition of sugar import levies and of customs duties, some of which are imposed on food imports. Following the 1984 Fontainebleau agreement, the UK's contribution is reduced by means of a rebate.

The two Sections of the EAGGF are each subject to separate financial guidelines, or upper limits, determined at the Berlin Summit as for the period 2000-2006.

**Table A: Agricultural Expenditure agreed at Berlin European Council, March 1999**

(billion Euro, at 1999 prices)

	2000	2001	2002	2003	2004	2005	2006	Total
Markets	36.62	38.48	39.75	39.43	38.41	37.57	37.29	267.37
Rural Devt.	4.30	4.32	4.33	4.34	4.35	4.36	4.37	30.37
Total	40.92	42.80	43.90	43.77	42.76	41.93	41.66	297.74

Note: Veterinary and plant health measures are included in "Markets", and accompanying measures in "Rural Devt." The latter figures exclude measures financed by the EAGGF Guidance section outside Objective 1 programmes.

The Commission breaks down EAGGF expenditure (totalling Euro 40.5 billion in 2000) into the following main categories:

- a) intervention expenditure (Euro 30.5 billion), mainly direct aid (Euro 25.6 billion) which includes area payments, set-aside payments, area or production aid for olive oil, flax, rice, tobacco etc., and headage payments for cattle, sheep and goats, but also storage (Euro 0.95 billion), withdrawals (Euro 0.5 billion), and “other measures” such as some sugar intervention, special aids, financial adjustments, etc. (Euro 3.5 billion).
- b) (export) refunds (Euro 5.6 billion).
- c) rural development payments (Euro 4.2 billion from the Guarantee Section, and more from the Guidance Section), i.e. Reg. 1257/99 measures, which distinguish between Objective 1 measures and those applied elsewhere.

There are also expenditures on veterinary and plant health measures, information measures, fisheries etc. (each relatively minor), and also some small “negative” expenditure items, such as gains made on selling public stocks.

Because of the general nature of EU financing, national (or regional) “agricultural budget” balances of CAP/RDP funding flows, as well as more sophisticated measures such as OECD-type Producer Support Estimates (PSEs), are not directly obtainable from official figures. However, estimates are available from various non-official sources.

### **5.3 Policy Measures**

The Commission now conceives of the CAP as having two “pillars”. Pillar 1 consists of production-linked support, mainly border measures and direct payments mostly introduced as compensation for past cuts in market support prices, while Pillar 2 comprises agri-environmental and other “rural development” measures of increasing variety (e.g. farm audits and animal welfare in the Mid-Term Review proposals). In both pillars there are regulatory measures such as quotas, eligibility criteria, etc., as well as expenditure commitments.

For the purposes of this project, it is proposed to group CAP/RDP measures into four categories, i.e.

- a) market regulation
- b) direct payments
- c) agri-environmental measures
- d) rural development measures

The first of these comprises the “traditional” CAP instruments of market support for most (but not all) farm commodities via import taxes, export subsidies and intervention purchasing, together with secondary measures such as marketing quotas. The second includes all CAP payments made directly (or nearly so, e.g. to

cooperatives etc.) to farmers linked to production, e.g. area and headage payments. Various constraints, such as set-aside for commercial arable farmers, and stocking densities for grazing livestock payments, are attached to these payments. Under Agenda 2000, these payments may be “modulated”, i.e. reduced for individual farmers in order to finance Pillar 2 activities, but this has not yet been widely undertaken.

Agri-environmental measures comprise payments made to farmers under Regulation 1257/1999; these are part-financed (in differing proportions from region to region) by the EU, the rest being made up of national-government funds. Other rural development measures comprise the fourth category above, and consist mainly of grants and loans (again, co-financed) to processing and marketing investments, training and diversification schemes, and the broader “Article 33” measures. LFA measures are both environmental and developmental in objective, and their categorisation requires further consideration.

"Accompanying measures" comprise four sets of measures (agri-environmental schemes, early retirement, afforestation, and LFA measures). Originally (at the time of the 1992 CAP reforms), only the first three instruments were subsumed under this term, but LFAs were included as accompanying measures within Agenda 2000. The four measures account for about 50% of the funding of Rural Development Programmes in all EU countries. However, the situation in the member countries differs substantially; the Netherlands have the lowest share (13%) and Ireland more than 90%.

In current Commission parlance, the term “rural development” is used very widely, to include both agri-environmental and “true” development in rural areas, whether on-farm or off-farm (e.g. diversification). In the recent Mid-Term Review proposals, it has been used to encompass even food quality and animal welfare, which are likely to become of increasing importance.

#### ***5.4 Territorial Components of CAP/RDP Measures***

Of course, any CAP measure may have differential effects over the Community space, depending on the presence and nature of agricultural activity. However, this section examines the territorial character of the instruments themselves, i.e. where and how they apply differentially across the extent of the EU. By definition, market support in the Single European Market, without intra-EU border controls and measures such as the previous agri-monetary or “green” exchange rates, are largely non-territorial, except insofar as some of these instruments, which operate at EU borders and at intervention purchasing points, may relatively favour EU producers near these locations due to transport costs.

As indicated above, several CAP/RDP measures have strong territorial characteristics, in being applicable, at different rates, or at all, in various parts of the Community. In some cases (e.g. sugar quotas), the spatial element is restricted to Member State level, with complete freedom of action within national borders; in others, such as Less Favoured Areas (LFAs) or Objective 1 areas, there are more detailed geographical specifications.

National and regional (“ring-fenced”) quotas for milk and sugar have obvious territorial characteristics, being based on historical levels of production in the various areas defined in the regulations. In some countries, the growth of a relatively free market in such quotas will have minimised the territorial “quota effect” when compared to the spatial pattern which would have emerged without quotas (but with price support); in others, the lack of such a market will have enhanced it by “freezing” production patterns down to farm level. Similar effects can be expected with eligibility “quotas” for farm grazing livestock numbers, and with some “maximum guarantee quantities” (tobacco, etc.).

The current arable regime includes regionally specified “reference” crop yields as the basis for rates of direct payments, and hence has a territorial character, though one that offsets regional agronomic differences that would otherwise have meant a “biased” application of the direct payment system. The impact of this feature will depend on the “coarseness” of the regions defined by Member States when this regime was introduced, and possibly the interpretation for the purposes of policy implementation of “good farming practice” criteria.

The Less Favoured Area system was the first explicitly regional or territorial element of the CAP, introduced in 1975 to allocate additional payments to farmers in certain regions in the Community. LFA classification affects direct payments and rural development measures. Similarly, the boundaries defined for the old Objective 1 and 5b areas, and new Objective 1 areas have territorial implications for the effects of EU Rural Development Policy, including the LEADER schemes.

### ***5.5 Non-Legislative Territorial Aspects of the CAP/RDP***

Agriculture (and specifically agricultural and rural development policy) can be assessed within a spatial context in a number of alternative dimensions, including:

- Degree of “rurality”: for example, the OECD has proposed the following classification of regions:
  - mainly rural regions: more than 50% of the region's population lives in rural communities;
  - relatively rural regions: between 15% and 50% of the population lives in rural communities;
  - mainly urban regions: less than 15% of the region's population lives in rural communities.

The EU Commission has taken up this typology, and a similar classification (with a lower threshold of population density, 100 inhabitants instead of 150 per km<sup>2</sup>) has been calculated for the EU countries.

- Accessibility: farming regions may be classified according to their distance or travel time from major conurbations or collection/processing points such as slaughterhouses or milling plants. This dimension is relevant both from a European perspective as well as at the national level, in terms of location factors for up- and down-stream industries

- Cohesion: certain EU countries and regions have been designated as eligible for extra assistance from the Cohesion structural fund, and the accession states of Central Europe (currently receiving SAPARD funds for agricultural and rural development support) may be considered an additional zone. More detailed (though non-official) classes of “cohesion” might be defined for NUTS III regions, e.g. by GDP per head indicators. (This dimension of analysis might follow the lead of that at the national level in the 2<sup>nd</sup> Cohesion Report, on different economic regional performances achieved across the EU-26.)
- Areas of more or less habitat value: the NATURA 2000 scheme seeks to establish sites throughout the EU subject to protection at Community level. Regions might be classified according to the share of their area so classified.

### ***5.6 Enlargement Aspects of the CAP/RDP***

At time of writing (October 2002), it is expected that the terms of accession of ten new Member States will be agreed by the end of the year, in time for accession in January 2004. In the meantime, most accession states have been preparing their agricultural sectors and policies for EU entry and CAP adoption, e.g. by instituting CAP-like support systems, and seeking liberalised trade with the EU-15. The territorial aspects of agricultural and rural development policies in the CEECs (two of the ten, Malta and Cyprus, are outwith the scope of this project) are therefore complex, with significant differences between conditions in the early 1990s shortly after the start of transition to those expected in (say) the mid-2000s.

In preparation for EU entry, CEEC applicants have set up regional authorities for the development of rural development programmes, and these are being used to implement the current pre-accession SAPARD funding. These regions are natural groupings for the purposes of spatial impact analysis, although they may well suffer some of the same drawbacks (e.g. based on urban centres, with a variety of agro-ecological conditions in the hinterlands) as EU regions. A similar differentiation of regional types as suggested above might allow more in-depth analysis on diverging territorial impacts within CEECs. This applies in particular to the situation of rural types, LFA situation and high nature value farming areas in these countries.

Current and future investment in rural infrastructure such as transport and water facilities part-funded by the ISPA pre-accession scheme may well have additional spatial implications for agricultural and rural areas in the CEECs, since it is to be expected that improved communications, and the reliability of better water supplies will soon affect food chain as it develops nationally and internationally.

### ***5.7 Territorial Aspects of CAP/RDP proposals***

A number of proposals for further reform of the EU’s CAP and RDP have been made, most noticeable

- the recommendations of the 1996 Cork Conference, which have not been fully implemented since then

- the initial proposals by the Commission and others (e.g. certain Member States) for Agenda 2000, which were considerably altered in negotiations and thus only partly applied
- the recent Mid-Term Review proposals of the Commission (COM (2002) 394), notably the proposal to consolidate direct payments into a single decoupled farm income payment,
- the integration strategy for the new Member States, concerning the gradual increase of direct payments and the production quota levels for the new member countries once they join the EU in 2004 (SEC(2002)95 of 31.1.2002), and the current negotiations on EU enlargement; and
- the proposals made by EU trading partners within the WTO framework, and on a bilateral basis (e.g. ACP and Mediterranean countries).

If implemented, any of these proposals might have significant territorial impacts, which deserve consideration, and possibly adaptation, in later stages of the ESPON project.

## 6. References

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