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Multifunctionality of activities, plurality of identities and new institutional arrangements. Synthesis report.(final report)

Henk Renting, Henk Oostindie, Catherine E. Laurent, Gianluca Brunori, Ada Rossi, Myriam Charollais, Dominique Barjolle, Sjur Prestegard, Anne Jervell, Leo Granberg, et al.

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Sixth Framework
Research
Programme
**Global Change
and Ecosystems**



Multagri Project

Capitalisation of research results on the multifunctionality of agriculture and rural areas

Multifunctionality of activities, plurality of identities and new institutional arrangements

Work package: WP4 Multifunctionality of activities, plurality of identities and new institutional arrangements

Deliverable: D4.5 Synthesis report

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The Multagri Project

Multagri : an overview on the multifunctionality of agriculture and rural areas

Multagri is a Specific Support Action undertaken within the 6th Framework Research Programme of the European Commission. With a partnership of **26 research organisations** from **15 countries** this project will provide a comprehensive overview of existing research, particularly in Europe, on different aspects of the multifunctionality of agriculture and rural areas. The approach adopted in this initiative is based on the premise that the multifunctional character of agriculture must be acknowledged and promoted so that agriculture can fulfill its potential as a central pillar of sustainable development.

From a state-of-the-art to recommendations for future research

Although the notion of multifunctionality only recently appeared on international political agendas, numerous social, cultural, technical and research practices already refer to it, either explicitly or implicitly. It is important to structure, assess and interpret these works to enable the identification of relevant questions for future research. This will be the role of Multagri, in six stages :

1. Evaluating the **state-of-the-art of current research**.
2. Further analysis and **understanding of ongoing research work**.
3. Identifying the **main institutions and networks** involved in this type of research, both inside and outside Europe, and paying special attention to new EU member countries.
4. Identifying the different **disciplines and scientific approaches** that are generating knowledge and conceptual backgrounds in this area.
5. Providing a **conceptual and analytical framework** that allows for the identification of approaches and topics for further research.
6. Formulating **recommendations for a future research agenda** concerning the multifunctionality of agriculture and rural areas.

Six research issues

Six thematic axes of research have been identified in order to structure the analysis and guide the development of recommendations for promising lines of future research:

1. Definitions and interpretations of **the concept of multifunctionality**, and its contribution to sustainable development.
2. **Consumer and societal demands**.
3. **Models, techniques, tools and indicators** that are of value in examining the multifunctionality of agriculture.
4. **Multifunctionality of activities**, plurality of identities, and new institutional arrangements.
5. Establishment and **management of public policies** aimed at promoting multifunctionality : connecting agriculture with new markets and services and rural SMEs.
6. **Evaluation of the effects of policies** on the multifunctionality of agriculture: observation tools and support for policy formulation and evaluation.

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Executive summary

The state-of-the-art review of research that was effectuated for Work Package 4 of the MULTAGRI project focused in particular on the conceptualization of multifunctional agriculture (MFA) from a supply-side perspective. This covered research questions related to the multifunctionality of agricultural activities, their degree of dissemination amongst farm households and other categories of rural actors, evidence of their socio-economic and other impacts, the relation with changing rural identities, and the relevance of new territorial and institutional linkages for the study of the multifunctionality of agriculture and rural areas. The analysis was based on a review of relevant research for a selected number of European countries that was laid down in national reports for Italy, France, Switzerland, the Netherlands and regional reports for the Nordic countries and for new EU member states in Central and Eastern Europe.

An important conclusion that emerged from the state-of-the-art review is that current research on the multifunctionality of activities is *highly fragmented*, that much of the relevant research is published under other headings than the term 'multifunctionality', and that consistent conceptual frameworks are (still?) largely lacking. The concept of MFA has a strong *heuristic value* for describing and understanding the current changes of EU agriculture, but these transformations are tackled through very different theoretical standpoints and research networks which are often relatively unconnected and insufficiently formalized. Also the different theoretical conceptualizations that are applied in the literature on MFA appear to be important for the degree of attention that is given to multifunctionality at farm (household) level. A distinction is made between 'narrow' approaches to MFA, which largely focus on non-agricultural services and public goods provided by agriculture, and 'wider' approaches that situate the turn to MFA in the framework of a more general redefinition of the wider relations between agriculture, rural society and society at large. It is concluded that such 'broader' conceptualizations generally pay more attention to the importance and recognition of MFA at farm level and appear to be more appropriate to analyze MFA from a supply-side perspective.

A second conclusion of the state-of-the-art review is that the study of MFA should pay due attention to the importance of *diversity and contextual specificity*. It is concluded that expressions of multifunctionality are always specific in time and place, and only get meaning within their specific contextual setting. This is not only the case for particular multifunctional activities that are taken up by farm households, but also with respect to consumer demands for MFA, market arrangements and relevant political and institutional frameworks. The review of relevant literature for different countries clearly illustrates the different degrees in which MFA is recognized in policy and research, the differences in priority that are given to various functions of agriculture, and the differences in importance addressed to specific multifunctional activities in debates on the future of agriculture and rural areas.

Diversity and heterogeneity are also keywords for studying the (potential) contribution of different farm development strategies to MFA. Recognition of the multifunctionality of agriculture implies adopting new ways of analysing existing forms of practising agricultural activity and in many respects challenges the boundaries of what is traditionally considered as "agriculture". It is argued that studying the multifunctionality of agricultural activities does not allow for simple dichotomies as professional versus non-professional farm enterprises in the identification of relevant farm populations. In contrast, the analysis of MFA requires the inclusion of a *broad range of relevant farm categories* - amongst others farm models that build on pluriactivity, farm diversification, subsistence farming - as well as the need to differentiate between family-based and non family-based farm enterprises. In addition, it is

concluded that also sectoral boundaries might become increasingly blurred in view of the contribution of SMEs and new forms of rural entrepreneurship to rural development. As a whole this diversity in relevant farm / firm populations presents strong evidence for the need to contextualize MFA at lower aggregation levels, with the region or the locality as the most appropriate level of analysis. Also there is a need for more attention to the role of *changing and diversifying professional identities* in agriculture. This is underlined by growing evidence from research in various countries that agricultural activities, at least partly, are to be understood as the outcome of non-economic driving forces such as the wish to regain societal appreciation, the internalization of environmental concerns, and the changing role of rural areas as consumption spaces.

A third central topic of the state-of-the-art review concerns the suitability of available European and national statistical data systems to assess MFA. It is concluded that available data-systems provide a growing evidence of the relevance of MFA, in particular in socio-economic terms. Yet, it also concluded that available data-systems still are characterized by major shortcomings. In particular there is a need for more integrative and longitudinal approaches to assess and monitor ongoing dynamics and transformation processes in European agriculture more adequately from the perspective of MFA.

Fourth, it is concluded that the interfaces between the farm, the territory and the institutional environment are of crucial importance to the analysis of MFA. MFA potentials appear to be strongly influenced by the collective capacity to create new *territorially based networks*, including new links between farm enterprises, between farm enterprises and other rural SME's, as well as between rural stakeholders in general. This is further illustrated by research on the need for new territorially based institutional arrangements and by newly emerging concepts as territorial identities and territorial capital.

A fifth issue concerns the question of appropriate learning models for MFA. In general it has been concluded that MFA should be approached as a multi-level transition process, in which the character of agriculture is undergoing structural transformations. Learning models to support this multi-level transition process, first of all, have to be related to the creation of coherence between different processes and actors at stake. MFA supportive learning models, therefore, should be primarily characterized as multiple stakeholder learning processes. Although there is little research that explicitly deals with multiple stakeholder learning processes in relation to MFA, a growing literature exists that addresses the specific characteristics of collective learning processes and available support tools for agricultural and rural innovation processes.

Finally, this state-of-the-art review contains a range of suggestions for future research lines on MFA. These suggestions are initially structured and presented according to their relevance for the main topics that have been studied (conceptual and methodological issues; changing rural identities; the relevance of the interfaces between farm households, the territory and institutional networks, and MFA supportive learning models). In the concluding section these different research suggestions are restructured and summarized into a limited number of key research issues for science, policy and practice.

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1) Introduction

This report makes part of the European research project MultAgri, which aims to provide a comprehensive state-of-the-art review of existing research on the multifunctionality of agriculture and rural areas and, on the basis of this, define a future agenda of relevant research. Within the overall MultAgri framework the research has been broken down in 6 thematic axes and corresponding work packages. Of these, Work package 4 largely covers the 'supply-side' of multifunctional agriculture, which means that it addresses research questions related to the multifunctionality of activities, their degree of dissemination amongst farm households and other categories of rural actors, evidence of their socio-economic and other impacts, the relation with changing rural identities, and the relevance of new territorial and institutional linkages for the study of the multifunctionality of agriculture and rural areas (referred to as MFA from here onwards).

The aim of this report is to present a comparative synthesis of current research about the topics outlined above. As for the methodology applied, the main source of data for this synthesis report consists of an analysis of relevant research material that was made in the first phase of the project by WP4 members from different European countries for their home countries. This has resulted in national state-of-the-art reports for Italy, Switzerland, France and the Netherlands and a regional report for the Nordic countries (Norway, Sweden, Denmark, Finland). Additionally, the relevance of the MFA concept in the context of CEE countries was analysed by means of an extensive literature survey for all 8 new EU member states (Latvia, Estonia, Lithuania, Poland, Czech Republic, Slovak Republic and Slovenia), a feedback seminar with researchers from CEE countries involved in this task, and a regional report that was elaborated on the basis of these. Lastly, three meetings with all WP4 members and one expert workshop with 7 external experts were organised to formulate the overall framework of the state-of-the-art analysis, to review intermediary results, to identify research gaps and to define relevant areas of future research.

One of the main conclusions that emerged from the state-of-the-art review applied in WP4 is that current research on the multifunctionality of activities is highly fragmented, that much of the relevant research is published under other headings than the term 'multifunctionality', and that consistent conceptual frameworks are (still?) largely lacking. The concept of MFA has a strong heuristic value for describing and understanding the current changes of EU agriculture, but these transformations are tackled through very different theoretical standpoints and research networks which are often relatively unconnected and insufficiently formalized. Also in this synthesis report therefore no attempt will be made to develop an all-embracing framework for the conceptualisation of MFA. Rather, the outcomes of the state-of-the-art review in a range of European countries / regions will be used to review relevant bodies of research, evaluate their strengths and weaknesses in analyzing aspects of MFA, and identify a number of relevant critical questions for future research that arise from ongoing scientific debates.

2) Conceptual and methodological issues

2.1 *Emergence of the multifunctionality concept and different positions in the debate*

Over the last decade multifunctionality has increasingly become a central concept in discussions on agricultural and rural development. While the use of the concept was initially mainly driven by debates in international policy arenas, especially concerning the legitimacy of public support to

agriculture (WTO, OECD) and the potential role of agriculture in attaining environmentally and economically sustainable development (FAO, EU), the concept has increasingly also received attention from a range of natural and social-scientific disciplines. To what extent have new research works and approaches based on the MFA-concept actually contributed to a better understanding of topics related to the role of agriculture in sustainable rural development? Did the introduction of the MFA-concept result in new insights and a better definition of relevant research questions, or are we rather witnessing the continuation and repetition of 'old' debates under a new, 'catchy' heading?

In this synthesis report we will try to shed some light on these questions, by reviewing different strands of research that have been developed under the heading of 'multifunctionality'. From the outset, however, it is important to acknowledge that the scientific and political debate on MFA is by no means homogenic and unequivocal. Rather, the broad heading of multifunctionality has provided an umbrella (or 'shared concept') for the parallel development of a variety of different conceptions and discourses on the multifunctionality of agriculture and rural areas. It is important to acknowledge the existence of different conceptions / discourses within the overall debate on MFA, because these have implications for e.g. the level of analysis, the delimitation of activities that are to be considered as multifunctional, and for the nature of recommendations in the sphere of policy and governance.

While several definitions of multifunctionality have been proposed, a broad definition that might be given is the following: "Multifunctionality refers to the fact that an activity may have multiple outputs and, by virtue of this, may contribute to several societal objectives at once." (OECD, 2001,p.11). In spite of its general nature this particular definition is instructive, because it clarifies some key characteristics of multifunctionality and also points at a number of topics on which different definitions of MFA diverge.

- Multifunctionality does not necessarily refer only to agriculture; it is rather a general concept that applies to any (economic) activity, even though it appears to be of particular relevance to the analysis of land-based activities such as agriculture and forestry.
- Multifunctionality is an activity-oriented concept, which refers to specific properties of the production process and its multiple functions and outputs.
- Multifunctionality follows an integrated or holistic point of view, by analysing the simultaneous joint or co-production of different functions / outputs by the same activity.
- Multifunctionality does not analyse the outputs and / or properties of the production process as such, but in relation to the degree in which these meet wider societal objectives.

2.2 'Narrow' and 'wider' approaches to MFA

Different definitions and conceptions of multifunctionality were analysed in more detail in WP1 of the MultAgri project (Aumand et al 2005). It was demonstrated that within the wider debate on MFA different epistemic communities or 'Concept Oriented Research Clusters' (CORCs) can be distinguished, which differ according to e.g. their conceptions of MFA, the main contributing disciplines, research topics that are addressed, functions that are taken into account within MFA, and their use in policy making. For the research on MFA that is reviewed within the framework of WP4, it is especially important to emphasise the differences between more 'narrow' conceptual approaches to MFA, which largely focus on non-agricultural services and public goods produced by agriculture, and 'wider' approaches that situate the turn to MFA in the framework of a more general redefinition of the wider relations between agriculture and society.

Amongst the more 'narrow' approaches to MFA we can classify the OECD analytical framework

and related contributions from neo-classical and welfare economics, which largely analyse MFA from the perspective of market regulation and define multifunctionality by: (i) the existence of multiple commodity and non-commodity outputs that are jointly produced by agriculture; and (ii) the fact that non-commodity outputs exhibit the characteristics of externalities or public goods, for which markets do not exist or function poorly (OECD 2001). Within this perspective relevant functions that are addressed in the analysis mainly concern public goods that are (jointly) produced by agriculture as positive externalities (biodiversity, landscape, water management, etc.) and / or negative externalities (e.g. environmental pollution, soil erosion, etc.) that are insufficiently taken into account in agricultural commodity market regulations. As far as recommendations in the sphere of policy and governance are concerned, attention mainly goes to possibilities for the creation of new 'markets' for the remuneration of public goods - preferably decoupled from agricultural commodity markets and thereby in line with the WTO regime of market liberalisation - as well as the definition of criteria that might justify the legitimacy of public support to agriculture for the provisioning of public goods.

Other approaches apply a much 'wider' perspective, and essentially position the shift towards MFA against the background of more general transformation processes in the relations between agriculture, rural society, and society at large (see e.g. Huylenbroeck and Durand, 2003). Within these 'wider' approaches the growing attention for multifunctional agriculture, rather than a direct response to market failure, is considered as a consequence of the changing needs and demands of consumers and society at large in combination with the failure of conventional, productivist farm development models in sufficiently meeting these. Also the increased integration between rural and urban areas in an increasingly globalised world, and the changing institutional and market environment of farm households as a result of these processes, are considered an important driving force for the growing importance of activities of farm households that go 'beyond food'.

Within such 'wider' approaches to MFA the relevant functions of agriculture that are taken into account are not restricted to public goods, but cover a considerably larger scope of goods, services and 'functions' that cannot be strictly derived from the production of food and fibre while at the same time being jointly produced with these. In addition to public goods (biodiversity, landscape, environmental quality, water management, etc.), this e.g. also includes private goods and services produced for non-food markets (energy, care, tourism, educational services, etc.) and 'functions' that are provided by agriculture as distinctive product attributes on niche food markets (food quality, animal welfare, environment-friendly production methods, etc.). Moreover, also a number of other functions of agriculture that can not be directly reduced to and associated with goods, services and / or product attributes, but rather are to be considered as public benefits or public policy goals, are considered relevant within wider approaches to MFA. This involves functions of agriculture such as the contribution to rural viability, quality of life, food security and / or the maintainance of dispersed settlement patterns in remote rural areas.

Not only the relevant functions of agriculture to be included within MFA, but also the main levels of analysis applied by 'wider' approaches are different from the more 'narrow' market regulation approaches described above. While in the OECD framework and related economic approaches the main focus is on the analytical level of markets and the nature of goods produced by agriculture, in 'wider' approaches to MFA the level of analysis is rather that of the farm enterprise / household and social and institutional processes underlying their behaviour and development trajectories. This may concern internal (decision-making) processes within the farm household and motivations of its members to explain the take-up and performance of specific activities relevant to MFA, but also the wider institutional relations of the farm with social networks, markets, consumer groups and policy frameworks. This analytical focus is also reflected in the nature of recommendations in the sphere

of policy and governance that are most commonly expressed in ‘wider’ approaches to MFA. These often focus on constraining / enabling factors for the take-up and performance of MFA activities at farm level, but also point at the importance of institutional linkages and the facilitation of social and policy networks at the territorial level. Issues of market regulation and the need to redefine the basis for public support to agriculture more generally also receive attention, but play a much less central role and within this perspective are rather conceived as one of the possible strategies to facilitate a re-embedding of agriculture in wider society and to strengthen its capacity to respond adequately to changing societal and consumer demands.

While market regulation approaches as e.g. elaborated by OECD are certainly useful for studying specific aspects of MFA, such as e.g. the legitimacy of policy support to agriculture, their usefulness for a better understanding of the topics under study in MULTAGRI WP4 is generally speaking rather limited. The main reasons for this are the following:

- The study of MFA from a ‘supply-side’ perspective requires a broad focus on the range of functions, goods and services that are, and potentially can be, integrated with agriculture at the farm and territory level. A restriction to functions with a public goods nature is too limited for this.
- A central focus on markets and the nature of goods as main level of analysis gives insufficient insight in relevant transformation processes at the farm household and territory level, and underlying motivations of involved actors for these. A focus on markets for particular, singular (public) goods gives insufficient attention to the importance of interrelations between multiple functions of agriculture (incl. primary production), and potential synergies and spin-offs that might arise from these.
- The strong focus of many studies on the quantification and valuation of outputs of non-commodity production by agriculture, insufficiently addresses the role of contextuality, social networks, transformation processes and dynamics in time in the construction of MFA.

Generally speaking, the ‘wider’ approaches to MFA outlined above due to their focus on wider transformation processes in the relations between agriculture and society are more promising for the analysis of questions related to the supply-side of MFA. Nevertheless, it should be noted that also these ‘wider’ approaches are still relatively poorly developed, and a general conclusion of the literature review for MultAgri WP4 should therefore be that a consistent and satisfactory conceptual framework for analysing MFA at farm and territorial level is still largely lacking. The literature review for WP4, however, also makes clear that a considerable body of relevant literature for analysing MFA from a supply-side perspective has not been published under the explicit heading of ‘multifunctional agriculture’ and takes other scientific debates on the future of agriculture and rural areas as point of reference. Some of the points of entry for relevant scientific literature include: farm diversification, pluriactivity, and changing farm household strategies in general; rural entrepreneurship and the changing role of rural enterprises; rural development and territorial development approaches; and, changing rural and professional identities.

2.3 Central elements in the conceptualisation of MFA

In the foregoing it was concluded that a consistent and satisfactory conceptual framework for analysing MFA at farm and territorial level is still largely lacking. Relevant contributions originate from different approaches to multifunctionality, are fairly incomplete and / or focus on specific elements of MFA, and much of the relevant literature is scattered and fragmented over different other research topics. In the following we will therefore not limit our state-of-the-art review to the available literature on MFA, but cover a wider range of research works that are relevant for the

topics that are central to WP4.

Additionally, the lack of a consistent conceptual framework makes it difficult to evaluate the changes that are needed in the study of agricultural activities when applying their multifunctional character as the central focus of the analysis. In the following we therefore outline some of the central elements that are essential for the conceptualisation of agricultural activities from a MFA-perspective.

The importance of contextual specificity

An important starting point of the analysis of MFA is that expressions of multifunctionality, not only in terms of supply but also with respect to consumer demand, market arrangements and relevant political and institutional frameworks, are *always specific in time and place*, and only get meaning within their specific contextual setting. In several countries and different contributions to the MFA-debate attempts have been made to define positive listings of different actual and potential functions of agriculture (see also section 3). While such attempts are certainly useful, e.g. to identify potential functions of agriculture that have been overlooked and insufficiently valorised, the relevance of such listings remains dependent on the specific context to which they are applied. Different (potential) functions only get meaning in relation to the characteristics of such specific contexts, including natural possibilities and limitations, socio-cultural factors, the possibilities to integrate particular functions in existing farming systems, the willingness of farmers to do so, the demand of relevant consumers, and the degree in which potential markets and remuneration systems for particular functions are actually articulated.

Within a specific context MFA can be defined as the capacity of farm households and other rural actors involved in agricultural activity to respond adequately to societal and consumers demands through the provisioning of a variety of goods, services and non-market functions. As for the nature of goods, services and functions provided by agriculture, relevant categories to be included in the analysis of MFA include the following:

- Private goods for food markets (primary production)
- Public goods (biodiversity, landscape, water management, rural amenities etc.)
- Private goods for non-food markets (tourism, care, energy, educational services etc.)
- Food with distinctive product attributes (quality food, local specialties etc.)
- Cultural functions (identity, heritage etc)
- Social functions (food security, social cohesion, disperses settlement patterns, rural employment etc.)
- Ethical functions (fair trade, animal welfare etc.)
-

The relative importance of different goods, service and non-market functions again depends on the specific contextual setting.

The need to redefine agricultural activities

One of the strong points of the multifunctionality concept is that it is an activity-oriented concept, which allows to analyse in an integrated way the nature of agricultural production processes and their multiple effects. Recognition of the multifunctionality of agriculture also implies adopting new ways of analysing existing forms of practising agricultural activity. In itself, acknowledging that a single activity may simultaneously fulfil several functions appears trivial. However, if this property of the activity is consistently taken as point of departure in the analyses, it profoundly challenges the way activities are observed, analysed, and their effects assessed. New scientific objects must be built to overcome the disciplinary barriers that hinder understanding different functions of an activity

and their interlinkages. For this reason the debate on MFA does not only concern a discussion on alternative policy models, but it also introduces a new element into theoretical debates in social sciences on how to analyse, describe and model activities and behaviours of involved actors.

The need to redefine agricultural activities from the perspective of MFA has a number of important consequences. First, it needs to be acknowledged that the debate on the multifunctionality of activities has implications that go way beyond the field of agriculture, and that in many respects it challenges the boundaries of what is traditionally considered as “agriculture”. On the one hand, the discussion on multifunctionality is part of a wider debate on the transformation of labour forms and associated lifestyles, multiple forms of income generation and combination of services, which is in particular relevant for land-based activities like agriculture and forestry but also for the provisioning of services such as e.g. postal services in remote areas. On the other hand, when the focus is put on agricultural activities, it is important to acknowledge that the whole range of existing forms of agricultural activity should be addressed in debates on MFA, ranging from “professional” farms in conformity with what is referred to as the productivist model to forms of agricultural activity that can be considered as “heterodox” (pluriactivity, farm diversification, etc.) and forms of agricultural activity for non-commercial reasons (hobby farming, subsistence farming, agriculture as secondary land-use, etc).

Also it is important that the relevance of different categories of agricultural activity within the context of MFA critically depends on the perspective of (combinations of) functions under study. Traditionally, agricultural activities have mainly been studied from the perspective of their contribution to economic and productive functions, implying that the physical and economic size of farm holdings often has been an important criterion of delimitation. However, from the perspective of other functions this limitation is often no longer valid and other criteria of delimitation of relevant farm populations need to be applied. E.g. from the perspective of biodiversity and landscape conservation, it will often be relevant to include all land-users within a ecological or landscape unit, including part-time and hobby farms which often may work a substantial share of land and also potentially make specific qualitative contributions to conservation measures at territorial scale. Also from the perspective of social functions such as social cohesion and employment it will often be relevant to include smaller farm holdings, part-time farms, and / or subsistence farms which especially in new CEE member states absorb important shares of rural employment and also otherwise may have an important role in maintaining social cohesion (socio-cultural networks, land and labour exchange, etc.)

The need to acknowledge the relevance of changing identities

Studying agricultural activity from an MFA perspective does not only imply an extension of the types of farm categories to be taken into account beyond “commercial farming”, it also requires an acknowledgement of the role of different motivations and identities of actors involved as driving force for multifunctional agriculture. Sociological and economic studies of agriculture have traditionally mainly studied agricultural activity as a profit-seeking activity and / or as a strategy of farm households to guarantee their livelihoods in economic and financial terms. While such motivations also from the perspective of MFA continue to be important, various studies in the last decades have indicated that agricultural activity is driven by a range of other non-commercial motivations including the maintenance of cultural patrimony, risk avoidance and spreading, family considerations, etc. (see e.g Van der Ploeg 1994; Laurent et al. 1994). The study of MFA further extends the range of boundaries of relevant motivations of rural actors to be taken into account in the analysis of agricultural activity.

Agricultural activity may assume a diversity of meanings for people practising that activity. Its sole purpose may be the generation of income, or it may be an activity designed primarily for family consumption, or a leisure activity. Thus certain forms of agricultural activities are occupational activities while others are rather influenced by 'non-professional' and lifestyle considerations (e.g. hobby farms, subsistence farms). The role of changing identities in the shaping of agricultural activity on the one hand has been influenced by transformation processes within the agricultural sector, such as the gradual disappearance of "agriculture as a lifestyle" in most parts of the EU countryside and the growing engagement of farm household in new, non-productive activities. However, also the role of newcomers in many rural areas which sometimes also have taken up agricultural activity and the changing role of rural areas as consumption spaces more generally has had important impacts on the transformation of rural identities.

The role of changing identities and different motivations of actors engaged in agricultural activities also has implications for the study of professional and occupational identities. Different institutionalised forms of agricultural activity (diversification, pluriactivity, etc.) extend the boundaries beyond what is traditionally known as farming and require the reorganisation of skills and occupational identities within the farming community. E.g. the effectuation of tourism, nature and landscape management, and or care activities in combination with agricultural production requires new types of knowledge and skills which are mostly not readily provided by traditional support systems in agriculture. Also changing identities may result in new tensions and conflicts between different member of rural and farming communities: while some may view them as promotion, others may consider them as a step backwards in comparison with their traditional role of "good" farmer in productivist terms. Lastly, changing (occupational) identities may result in specific difficulties when designing, implementing and assessing support measures aiming to promote MFA and for the agricultural sector in general. This is e.g. the case in countries like France, where the occupational status indirectly gives access to a series of associated social rights and benefits (social protection, right to certain agricultural subsidies, etc.).

The relevance of networks and institutional arrangements

The multifunctionality of activities cannot be analysed at the farm and household levels only: practising an activity embeds people into social relations that need to be considered in the analysis of MFA. While social relations and collectivities have always been important in understanding the functioning and transformation of agriculture, the shift to MFA has given another meaning to the relevance of network processes. The interaction of agricultural activity with wider networks, not only of a social nature but also ecological and landscape networks, appears to be a key factor in the successful development of MFA.

That is to say, MFA supposes new forms and mechanisms of co-ordination and co-operation between farming interests and non-agricultural concerns, especially at the territorial level but also with society at large. Such co-ordination mechanisms appear to depend strongly on horizontal, lateral and territory based networks as opposed to the vertical, sectoral networks characteristic for the agricultural modernisation era (see e.g. Murdoch 2000). This is expressed in a growing attention in research for the role of social networks and (new) institutional arrangement as potential carriers for the recognition and development of MFA.

This concerns, first of all, new kinds of co-operation that are required between farmers, but also between farmers and other citizens. For example when shifting from production objectives to a combination of environmental and production goals, in many cases the relevant level of management is no longer the farm, but rather a small territory, watershed, landscape unit etc. where all types of farmers should agree on common rules and to adjust their practices to these. The other way around, when recognizing the multifunctional character of agriculture the question of

the combination of different scales of management (farm, different zonings, different groups of stakeholders according to the priority goals) is taking an increased importance for regional administrations. This results into two new fields of research related to MFA: (i) on collective action and institutional change to understand the emergence and the stakes of these new levels of co-operation, or of conflicts that might arise from the recognition of non-production goals of agriculture, (ii) on institutional organisation and management to analyse the difficulties met by different sorts of institutions to deal with multiple goal / scale situations and to assess the solutions they have found for these.

MFA as an outcome of processes and the importance of dynamics in time

Another key issue to be addressed in broader conceptualizations of MFA departs from the assumption that MFA should be approached as the *outcome of processes* that are taking place within society at large, rural areas, the agricultural sector, the farm household and the broader institutional environment (policies, technology development, etc.). The necessity to analyze MFA as the outcome of such multi-level and multi-facetted processes makes it a dynamic concept, that is to say: MFA might be in expansion as well as in contraction over time. Empirical expressions of MFA are the outcome of different relevant processes of continuity and change, and at specific moments and periods in time agriculture's functions might be more or less recognized by society, be lost out of sight for some time or, at the contrary, be rediscovered and revalued again.

By looking at MFA as an outcome of processes and dynamics in time multifunctionality is conceived as a state of being or becoming, rather than as a set of outputs to be measured and evaluated. Expressions of MFA are historically rooted in the practices and strategies of farm households (and other rural actors), that often date back to times when the concept of multifunctionality was never heard of and not an issue on political agenda's, and that correspond to the longer term agency and motivations of actors involved. The recognition and construction of MFA also takes place within networks and institutions that are often not designed for doing so, that respond to their own rationales and dynamics, and as a consequence to differing degrees will be suited and capable of meeting these new political challenges. Hence, in the analysis greater focus should be placed upon the longer-term dynamics of practices, strategies, networks and institutions, and on the enabling and constraining effects of these on agricultural activities, rather than only upon functionally specific goals and outcomes as defined by present-day policies.

Alltogether, these general considerations on the need for broader conceptual approaches to MFA from a supply-side perspective resulted in the identification of a number of research gaps and relevant research lines for future research with regard to conceptual and methodological issues (see box 1).

Box 1: Relevant lines for future research on concepts and methodologies

Conceptual issues:

- *What functions, goods and services should be taken into account or excluded from MFA?*
- *How do multiple outputs of agriculture relate to analytical categories like public goods, private goods and services with distinctive product attributes and non-marketable functions?*
- *The concept of multifunctionality has mainly been applied to land-based activities like agriculture and forestry. How does multifunctionality relate to conventional categories used in the analysis of human activities more generally ("activity", "work", etc)?*
- *How can the specificity of agriculture in relation to multifunctionality be more clearly*

defined? What is the importance of characteristics like e.g. the multiple use of resources within co-production, the combination of work-residence, jointness of production-consumption, the specific nature of family labour and other family-owned resources, etc?

Methodological issues:

- *What is the most appropriate analytical level for addressing questions of MFA: activity, farm household, farm, territory, sector, market?*
- *How to operationalize the integrated and holistic nature of MFA? (multi-level, multi-sectoral, multi-disciplinary, multiple goals, etc.)*
- *MFA is strongly embedded in EU societies, and therefore priorities may differ from one national situation to another. How can this contextual diversity be taken into account in the analysis?*
- *More attention for the role of processes and networks in (the construction of) MFA instead of a strict focus on goals and outcomes, which is limited due to lack of insight in underlying factors of input / output relations.*

3) Diversity in the use of the MFA concept between countries

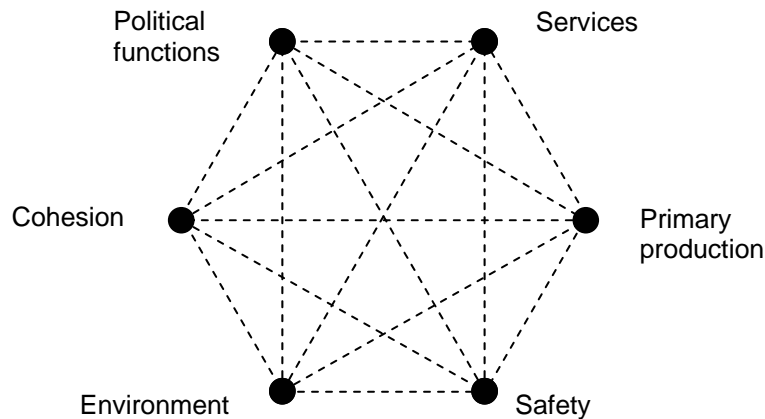
The state-of-the-art review of relevant research also revealed a significant diversity in MFA approaches between the different countries represented in the project. This geographical diversity on the one hand concerns the degree in which the concept is actually used in scientific and policy debates on the future development of agriculture and rural areas, and on the other hand the magnitude of scientific research that addresses questions of multifunctionality. However, also the specific research approaches applied, the importance that is addressed to different dimensions of MFA, and the type of MFA activities that receive most attention in scientific and policy debates are characterised by considerable variations between different national contexts. Research positions regarding MFA therefore are not only differentiated according to theoretical standpoints (see section 2 and MultAgri WP1) but also according to the priorities that are set in each specific national setting, reflecting the specificities of the situations in which agriculture is embedded, the problems and opportunities perceived by different relevant actors, and the specific projects that are articulated in each national social formation.

France

France is without doubt the country where MFA has received the most attention in scientific, policy and public debates, and where the concept has developed into an important frame of reference for agricultural and rural development policies. This is reflected in an impressive body of research that addresses questions of multifunctionality. In the French context multifunctionality is predominantly conceived as a general characteristic that applies to any type of agricultural activity / farm household (Laurent 2005a). It is also important to note that the French debate on the multifunctionality of activities extends way beyond the field of agriculture. It is part of a wider debate on the transformation of labour forms and associated lifestyles, fed by wider reflections from disciplines like anthropology, law and philosophy, which in turn has helped to structure and extend the debate on multifunctionality in the context of agriculture. As a result the debate on multifunctionality in France does not only concern agriculture but also other activity sectors such as forestry, services in rural areas, etc.

Different available definitions in the existing literature are accompanied with positive lists of fairly disparate elements which correspond to the range of functions that society might expect from agriculture (for an example see Figure 1)

Figure 1: A French schematization of MFA



Source: AIDDA UMR SAD-APT (2005)

The figure indicates that besides primary production, agricultural activity according to different policy documents is expected to play a positive role in:

- food safety and health,
- social and economic cohesion in rural areas (through part-time and full-time employment, subsistence farming, etc),
- the development of new services for households or local authorities in rural areas (environmental services, agro-tourism, etc.),
- contributing to sustainable natural resource management,
- occupying the national territory and contributing to the food security of the EU (political functions).

Switzerland

Also in Switzerland the multifunctionality of agriculture has received a strong degree of recognition in rural and agricultural policy, and multifunctionality (and sustainability) are even inscribed in the Swiss constitution as key principles around which current agricultural policy is organised (Charollais et al. 2005). The new Federal Constitution of 18 April 1999 states that "the Confederation shall ensure that agriculture contributes substantially by way of a sustainable and market-oriented production: a) to the secure provisioning of the population; b) to the conservation of national resources and the upkeep of rural scenery; c) to a decentralised inhabitation of the country." (Article 104). Moreover, it is stated that "The Confederation shall conceive policy measures in such a way that agriculture may fulfil its multiple functions—this is, to accomplish its multifunctional tasks. This is at the same time a manifestation of changes in agricultural policy goals since World War II and an expression of the future orientation of agricultural policy reforms in the country for which the concepts of multifunctionality and sustainability will continue to serve as guiding principles".

The importance given to MFA in Switzerland can be seen as a reflection of the specific characteristics of Swiss agriculture, which always has been a "mountain" agriculture in comparison

to most other European countries. Since the Second World War and the rise of the Swiss economy, the possibilities of economic development for farmers have been severely limited. There is very little room for manoeuvre in terms of enterprise: agricultural space is under heavy urban pressure and land use policy is rigorous (little freedom for diversification of agricultural production activities in agricultural areas). Production costs (soil, labour, construction, inputs) are very high due to the standard of living in Switzerland, competition for land, and direct payments linked to surface area and uncoupled from production. At the same time, the cartelisation of upstream and downstream markets makes price maintenance difficult and liberalisation through free exchange agreements has introduced strong competition from foreign products.

The strong role of multifunctionality in Swiss agricultural policy is also related to the status of the country as non-EU member, which brings with it the need to clearly define its position in international negotiations on agricultural trade liberalization in the context of the WTO. Since 1992, Switzerland has been a pioneer in terms of decoupling agricultural support, and income support has been tied to strict and carefully controlled requirements in the field of protection of natural resources and respect for animal welfare ('Proof of Ecological Performance', PEP). This is reflected in the type of research on MFA that is effectuated in Switzerland, which has a strong focus on the implementation of PEP-rules by providing technical references and evaluation methods. Research on conceptual issues and contributions from agricultural economics and sociology to the study of MFA are much less developed.

Italy

Research on MFA in Italy distinguishes a broad range of functions of agriculture that on the one hand builds on the well-known (economic, social, environmental) dimensions of sustainability, but also gives explicit attention to cultural functions (with food quality as a main focus of attention) and ethical functions of agriculture (animal welfare, fair trade, etc.) (see also Table 1). In Italian research the multifunctionality concept is mainly used to refer to farm development trajectories that differentiate itself from the productivist model, and in alternative ways contribute to sustainable agriculture and rural development. It is furthermore stressed that, although largely hidden until the 1990's, multifunctional activities are not new in Italy, and that farming practices currently considered as part of the 'new' multifunctional trajectory have been responsible for the survival of many Italian farm households and rural regions (Brunori et al. 2005). The practice of region-specific quality food production, which for long time survived by means of direct sales circuits and in recent years experienced a strong revival a.o. due to legal protection by Protected Denomination of Origin (PDO) and Protected Geographical Indication (PGI) labels, is often referred to as an example in case. It shows that, unlike some other European countries, Italian agriculture has not undergone a wholesale conversion to productive specialisation and externalisation of farm functions; rather modernisation has been adopted to a different extent in various regions in co-existence with farm development patterns which nowadays would be labelled as multifunctional.

Table 1: Different functions of agriculture distinguished in Italian research

<p>Environmental functions</p> <ul style="list-style-type: none"> • Landscape conservation • Conservation and valorisation of natural resources • Gene pool preservation • Hydrogeological balance conservation • Soil conservation • Subterranean water conservation • Sustainable use of water • Contribution to gaseous emissions balance • General environmental functions
<p>Economic functions (supporting rural development)</p> <ul style="list-style-type: none"> • Keeping people in rural areas • Integrating incomes • Labour forces valorisation • Contribution to conservation / revitalisation of rural economies • Supporting employment • Improvement of tourist resources • Contribution to conservation / creation of aesthetic/recreational values of territory • Contribution to improvement of interaction among rural enterprises (co-operation, synergies)
<p>Social functions (supporting rural development and general)</p> <ul style="list-style-type: none"> • Contribution to supply of social services (therapeutic, rehabilitative, of social re-integration) • Assuring food safety and quality • Contribution to environmental / food education and training • Contribution to preservation of rural communities • Contribution to conservation / improvement of social cohesion in rural areas • Contribution to conservation / improvement of social networks • Conservation of life quality of rural areas (for residents and external people)
<p>Cultural functions (supporting rural development and general)</p> <ul style="list-style-type: none"> • Contribution to conservation / transformation / transmission of values • Conservation of rural traditions • Conservation / transformation cultural heritage • Conservation / transformation knowledge heritage • Strengthening of local identity • Conservation of rural manufactures
<p>Ethical functions</p> <ul style="list-style-type: none"> • Assuring adequate working conditions and salaries • Assuring animal welfare • Creation / strengthening of networks of solidarity and reciprocity, of conditions of social inclusion

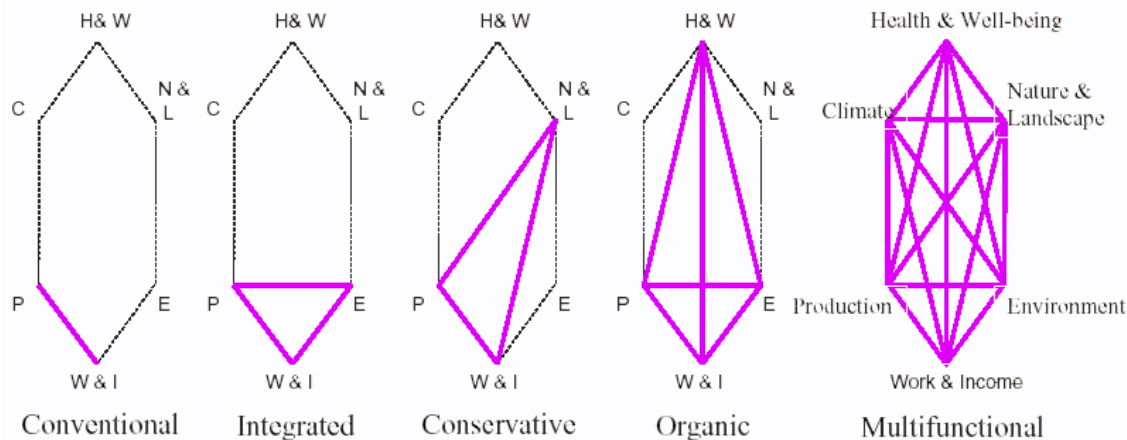
Source: Brunori et al (2005)

The Netherlands

In research in the Netherlands MFA is mainly perceived as a set of specific (new) farm activities that express the active response of farm households to changing societal demands with regard to agricultural production methods and the development of rural areas. These farm activities, which more often are referred to as “rural innovation” practices or “broadening” activities than under the explicit heading of MFA, are generally considered as a reaction to the crisis of modernized agriculture, its detrimental effects for the rural environment, and the strongly deteriorated public image of farming due to a.o. a range of food scandals and animal health crises.

Whereas throughout the modernization period food production (at low costs), rural employment and economic development were the agricultural functions that attracted most attention from research and policy, since the end of the 1970’s gradually different new concepts emerged that implied an expansion of the range of functions considered relevant for agriculture and its role in wider rural development. Figure 2 (below) schematically visualizes the historical development of these concepts and the importance given to different functions of agriculture: integrated agriculture (environmental issues), conservation agriculture (nature & landscape management), organic agriculture (also health & well-being) and MFA (integration of all functions).

Figure 2: Development of relevant functions in Dutch agriculture



Source: Vereijcken (2002)

The Netherlands is furthermore characterized by the co-existence of two strongly opposed discourses on the future role of agriculture in rural development (Oostindie & Renting 2005). In the first discourse, which might be called the neo-modernisation perspective, agriculture is primarily conceived as a monofunctional activity that follows (and ought to respond to) the logic of globalising food supply chains. The contribution of the agricultural activity to other rural functions than food production and economic development within this perspective is seen as highly limited. The rural development perspective, by contrast, perceives agriculture as an inherently multifunctional activity with strong (and to a considerable extent still unused) potentials to integrate multiple functions of diverse nature that contribute to wider societal and consumer demands (see also section 4.1).

As for different dimensions of MFA, it can be noted that the environmental functions of agriculture

and its potential contribution to the provisioning of 'green and blue services' (nature and water management) received considerable attention in science and policy. As far back as 1975, i.e. much earlier than many other EU countries, important national agri-environmental policies were implemented and ever since the potential contribution of agriculture to rural nature and landscape as well as the amelioration of environmental problems have continued to play a crucial role in debates on the role of agriculture in wider rural development.

It should also be noted that a number of other elements of multifunctionality are much less present in Dutch debates. This is especially the case for the social functions of agriculture (employment, sustaining populations in remote areas, etc.) which in some other countries are very important issues in debates on multifunctionality, but which in the Netherlands hardly receive any attention. This can be understood when we keep in mind that the Netherlands is a small and densely populated country, where remote areas hardly exist and where agriculture generally only makes a modest contribution to total regional employment. Also issues related to food quality only have started to receive more attention in recent years, mainly in response to food scares.

Nordic countries

Also in Nordic countries research on MFA has developed in specific ways, with considerable differences between the various countries in the Nordic region (Jervell et al. 2005). These reflect the very different natural conditions for agriculture, ranging from intensive farming in parts of Denmark in the South to more typical sparsely populated areas dominated by mountainous non-agricultural land in the North, as well as differences with respect to economic conditions such as the importance of agricultural land, food self-sufficiency and the economic importance of agricultural employment and / or exports.

For Denmark, agriculture and especially animal production have traditionally been important export industries, resulting in a focus on productive efficiency but in recent years also increasingly on the possible negative environmental effects of an intensive agriculture. The term multifunctionality (of agriculture and of landscapes) is mostly used with reference to the preservation of rural nature and landscape, while also organic production methods receive considerable attention in research. In Norway, where agriculture is more extensive and farms are relatively dispersed over the country, many issues that are now discussed under the heading of multifunctional agriculture (e.g. food security and viable rural areas) have been part of the agricultural policy debate since the 1950s – 1960s, even though only since the late 1990s under the actual heading multifunctional agriculture. The focus on the cultural landscape and biodiversity probably can be traced back to the 1980s. Also the status of non-EU member and its membership of the 'Friends of Multifunctionality' group in the context of WTO negotiations has been important for the political use of the multifunctionality concept in the case of Norway. The main consumer and societal demands for non-productive functions discussed in scientific and policy debates in Norway, according to recent polls, are agriculture's contribution to viable rural areas / rural settlement (a living countryside) and the cultural landscape created by agriculture (especially the open landscape which is scarce in Norway). Biodiversity and cultural heritage are also mentioned as important, while food security concerns are less focussed in later years. The Finnish debate is also concerned with the contribution of agriculture to food security and rural welfare. Food security in Finland has served mainly as a precautionary measure against supply shocks by means of adequate domestic production and public security storage. The significance of agriculture in rural areas is still substantial, even if employment opportunities in agriculture have declined and other lines of business offer better prospects for growth than agriculture. Diversifying structural policy and the promotion of other sources of living than agriculture is seen as an important strategy for sustaining

rural areas.

Central & Eastern European countries

The different country reports that were made for the MULTAGRI project make clear that MFA is a relatively new concept in the EU member states of Central and Eastern Europe (Heinonen & Granberg 2005). Since the accession process to the EU, ideas of multifunctionality of agriculture and rural areas are well incorporated into the relevant governmental documents, even though the notion of multifunctionality is not widely used and remains largely restricted to government circles. Often in debates on the future of agriculture and rural areas related concepts are used, such as alternative economic activities, agricultural diversification, and non-agricultural production (see also Table 2).

Generally speaking the EU accession has been the most important driving force for the use of the MFA concept. An exception is Poland, where already since the early 1990s there have been academic and political discussions on “multifunctional villages”, and especially on promoting rural entrepreneurship as a means for economic diversification. Also for the Czech republic the existence of an independent tradition of ideas on the multifunctionality of agriculture from the socialist era is mentioned (although not explicitly applying the concept), where large-scale co-operative farms in the period 1960-90 were encouraged to diversify into food processing, construction, transport or even industry, and these diversified farms were attributed an important role in the provision of services and employment to rural people.

As Table 2 illustrates the concept of MFA in the context of CEE countries is mostly used to refer to the economic and social functions of agriculture, which is a reflection of the strong need to generate alternative income and employment opportunities in economies of rural areas that are characterized by strong transition processes. Generally speaking the environmental functions of agriculture receive less attention, which is also the case for new social functions of agriculture in response to consumption interests in rural areas. The exceptions here are Latvia and the Czech republic, where especially the attention for environmental and landscape issues appears to be more strongly developed.

Research on multifunctional activities of farms is still relatively new, although increasing in recent years. Studies mostly concentrate on a specific activity (especially organic farming) with not much links to general and conceptual discussions of multifunctionality. Although the emphasis on specific forms of multifunctional activities on farms differs from country to country, there are some common characteristics. The most crucial, compared to the ‘old’ EU member states, is the need to address the dual (and even triple) farm structure with large-scale farm units operating side by side with (often part-time oriented) family farms, and the sometimes widespread existence of household plots for subsistence farming. Multifunctionality is occurring differently among these farm units. Family farms have off-farm income from another occupation or different social transfers (mainly pension), provide services with own farm equipment and practice forestry. A number of family farms are also involved in organic farming and agri-tourism. However, also considerable numbers of large-scale, enterprise farms appear to be involved in specific multifunctional activities, especially related to food processing and organic farming.

Table 2: The use of the MFA concept in Central & Eastern European countries

	Estonia	Latvia	Lithuania	Poland	Czech Republic	Slovak Republic	Hungary	Slovenia
Is the concept MF used explicitly?	No	No	Yes	Yes	Yes	Yes	No	Yes
Is MFA acknowledged?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Since when / driving forces?	EU Accession	1998, EU Accession	EU Accession	Early 1990s, Employment	1998, EU Accession	2000, EU Accession	Late 1990s	2000, EU Accession
Which functions receive most attention?	Economic Social	Environmental Economic	Economic Social	Economic Social	Economic Environmental Social	Economic Social Environmental	Economic Social Environmental	Economic Social Environmental
Is MFA addressed in research?	Very little	Indirectly, not very well	Yes, but ambiguous	Yes	Yes, but too general	Little, mostly technical	Little, fragmented	Little, indirectly & fragmented
Alternative concepts	Economic diversification Sustainable development Alternative economic activities	Rural development Sustainable development	Agricultural diversification Farm restructuring Alternative activities	Multifunction. countryside Employment generation Entrepreneurship	Landscape maintenance Sustainability Non-market functions	Agricultural diversification Non-commodity outputs Regional viability	Eco-social agriculture Rural Development Territorial balance	Rural Development Supplementary activities Local community initiatives

Source: Heinonen & Granberg (2005)

Conclusions

The previous examples make clear that there is a strong need to address the geographical diversity across EU countries in the use of the MFA concept. There are important differences between countries in the degree in which the multifunctionality concept is actually used and acknowledged in policy discourses, ranging from a central role in agricultural and rural policies (Switzerland, also France and Norway) to a rather marginal use that is subordinate to other concepts (Netherlands). Also there are important differences in the range of functions of agriculture that are taken into consideration and the relative importance given to these (Table 3). While in some countries combinations of social, economic, environmental and cultural functions of agriculture are addressed in national discourses (Norway, Switzerland, France, Italy), in other countries debates focus much more the integration of economic and environmental functions (The Netherlands). In CEE member states, while acknowledging the existence of important differences between countries, social and economic functions of agriculture appear to attract the most attention in debates.

Table 3: Relative importance of different functions of agriculture in study countries

	France	Italy	Switzerland	Norway	Netherlands	CEE countries
Economic functions	++	+	-	-	++	++
Social functions	++	++	++	++	--	++
Environmental functions	++	+	++	++	++	-
Cultural functions	++	++	+	++	-	-

Lastly, there are also important differences between countries in the types of agricultural activities and farms that are considered relevant for questions of MFA. While in some countries (France, but also Norway) multifunctionality is considered as a general characteristic that applies to any farm and agricultural activity, in other countries (Netherlands, Italy) multifunctionality is rather used to denominate a specific category of farms that are involved in (new or revived) activities that are different from dominant, conventional farm development trajectories. Previously, we already pointed at the importance of dual farm structures for understanding MFA topics in the specific context of CEE countries. Also, there are significant differences between countries in the type of multifunctional activities of farms that are considered important within MFA and promising for meeting changing societal and consumer demands. E.g. in the Netherlands there is a strong focus in policy and research on the provisioning of environmental services by agriculture, while in Italy rather regional quality food production functions as a key issue for discussions on the future of agricultural development.

The indicated differences between study countries once more underline the need to address contextual specificity as a central element in the analysis of MFA. As was indicated earlier (see 2.3) expressions of multifunctionality are always specific in time and place, depending on a variety of factors such as natural conditions, farming systems, motivations of farmers, consumer concerns and demands, and political and institutional frameworks. These contextual differences are also reflected in the attention that is given to topics of MFA in research, the specific research approaches that are applied, and the attention that is given to different dimensions of

multifunctionality, and therefore need to be fully taken into account in this state-of-the-art review of research on MFA.

4) Literature review on critical questions

As was stated before, research on MFA is still highly fragmented, much of the relevant research is published under other headings than the term 'multifunctionality', and a consistent conceptual framework on MFA from a supply-side perspective is (still) largely lacking. Moreover, there is an important diversity in theoretical approaches and national contexts which influence the ways in which the multifunctionality of agricultural activities are studied and priorities that are set in research. Also in this synthesis report therefore no attempt is made to develop an all-embracing framework for the conceptualisation of MFA. Rather, it was decided to review a range of relevant research fields, to evaluate their strengths and weaknesses in analyzing aspects of MFA, and identify a number of relevant questions for future research that arise from ongoing scientific debates.

In order to structure the state-of-the-art review of research on the multifunctionality of activities the following *critical questions* were formulated to serve as a framework for the review of relevant bodies of research:

- What are relevant farm populations and other rural actors (e.g. SMEs) for studying the multifunctionality of agriculture?
- How to deal with changing rural and professional identities?
- How suitable are existing statistical data and information systems to address the multifunctionality of agriculture, and how can these be improved?
- What is the role of interfaces between the farm, the territory and institutional networks in the construction of multifunctionality?
- What are appropriate models of farm advice and learning support to make better use of the multifunctional character of agriculture at farm and regional level?

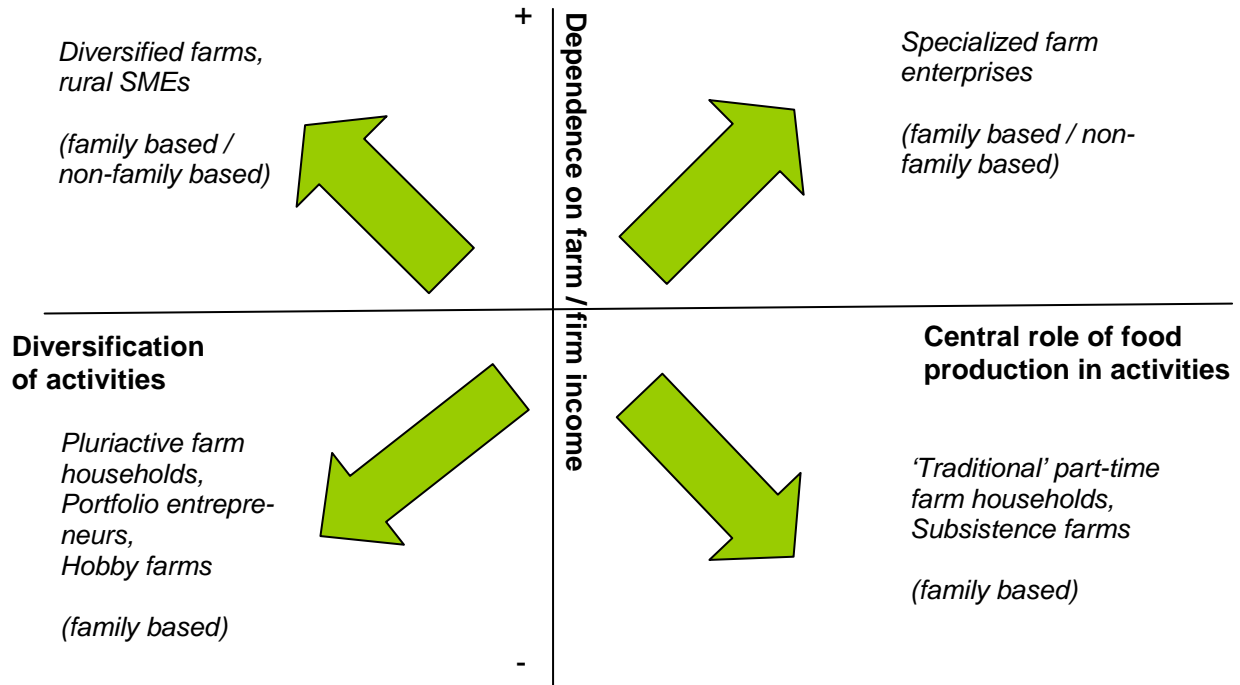
4.1 What are relevant farm populations and how to deal with the diversity in farm development trajectories?

The state-of-the-art review of relevant research indicates, first of all, that the analysis of agricultural activity from the perspective of MFA makes the selection of relevant farm populations a rather complex issue. The productivist, modernization approach, that dominated scientific and political debates on agricultural and rural development in recent decades, has been associated with the definition of specific farm populations and farm development models as 'viable' and promising for the future. Especially criteria associated with farm size (acreage, economic size units), scale, and the proportion of income derived from agricultural activities ('professional' farms) have become important in the delimitation of 'viable' and 'vanguard' farms from those that were considered predestined to disappear. It is widely agreed among researchers that when applying a perspective of MFA such a limitation to large and 'professional' farms is no longer sufficient, and that a revaluation is needed of the criteria for what are relevant categories of farm households and enterprises.

Figure 3 below attempts to visualize the much broader range of policy relevant farm / firm categories that needs to be addressed when taking into account the redefinition and extension of

functions of agriculture that is occurring as part of the development of MFA. The figure distinguishes relevant policy target groups according to two dimensions: 1) the centrality of food production in farm activities versus the diversification of farm / firm activities into other activities than food production (horizontal axis), and 2) the dependence of household members on income generated by farm / farm activities versus the existence of off-firm income generated by other activities of household members (vertical axis).

Figure 3: Relevant categories of farm households / enterprises for the study of MFA



As a whole both dimensions allow for the distinction of a range of categories of farm households and enterprises that are to be considered as relevant for the analysis of MFA. This ranges on the one hand from specialized farm enterprises (upper right quadrant), who continue to obtain their income solely from specialized food production, to farm households that combine food production with family income from sources off the farm (lower right quadrant). Food production might still be an important source of family income (part-time farming), but in other cases is mainly oriented at home consumption (subsistence farming, household plots). A third relevant category covers enterprises that have diversified into activities other than food production and to a considerable degree depend on the income generated by these (upperleft quadrant). This on the one hand concerns diversified farm enterprises that combine food production with other activities on the farm, while in other cases non-food activities constitute the main income generating activity and the link with agriculture is of a secondary nature (rural SMEs). The fourth category (lower left quadrant) involves households and enterprises that build their livelihoods on a mix of activities, some of these for income generating purposes while others might be taken up for other non-financial motives. This last category includes family households and enterprises that obtain their income from a 'portfolio' of agricultural and non-agricultural activities on and off the farm, but also hobby farms that are engaged in agriculture for non-commercial motives other than food production (e.g. leisure).

Figure 3 makes clear that a wide range of farm households and enterprises are relevant when studying agricultural activity from the perspective of MFA. Also their actual and potential

contribution to different (economic, environmental, social) functions of agriculture are likely to be highly differentiated, as are the bottlenecks and needs for support associated with different categories. In the social scientific literature a vast body of research is available about the different farm / firm categories distinguished above, even though often not under the explicit heading of multifunctionality. In the following paragraphs the relevant literature for a number of categories will be reviewed.

Pluriactivity & part-time farming

The combination of agricultural activities with other income generating activities off the farm appeared on the research agenda in the late 1970s, and especially in the 1980s and early 90s was studied under a variety of headings (part-time farming, pluriactivity, other gainful activities). While initially mainly seen as a temporary farm household adjustment, by now part-time farming / pluriactivity is widely accepted as a structural phenomenon of late industrial society and one that is prevalent throughout the European countryside. Especially the research carried out for the 'Rural Change in Europe' project in 12 European countries from 1987 to 1991 has been highly influential in the acceptance of pluriactivity as a relevant topic for policy and research (see Arkleton Trust 1985; Fuller 1990; Mac Kinnon et al. 1991).

The results of the Arkleton study showed that a large proportion of the farming population in every European country combined farming with other income generating activities. The project surveyed twenty-four study areas across Europe and the pattern that emerged was one of a great diversity of income strategies amongst farm households. Also the study suggested that pluriactivity is often of a stable or at least persistent nature. Yet there are very few empirical studies to support the presence of generational continuity on pluriactive farms (for exceptions see Gidarakou 1990 and Jervell 1999). Nevertheless, trends in national statistics leave no doubt that pluriactivity is more than a temporary and transitory phenomenon in the movement towards agricultural modernization. In the context of the rural development debate it remains largely an open question as to whether pluriactivity persists because it is a viable livelihood strategy in itself, or because there is continuously a category of farms 'on its ways out farming'.

The extent to which pluriactivity contributes to the preservation of the landscape and rural nature has also to be looked at more closely. Research by Gasson (1988) already in the late 1980s suggested a positive relationship between part-time farming and the quality of nature and landscape, but the issue has rarely been studied empirically. Munton et al (1989) indicate that the implications of pluriactivity for the rural landscape might be highly differentiated, ranging from a somewhat better performance with respect to hedgerow and shrub maintenance on some farms to other where efforts to intensify production have led to environmentally hazardous results. In addition, the fact that there is less labour available on pluriactive farms can result in the neglect of landscape elements that require active management. Primdahl (1999) makes clear that part-time farms can also contribute to rapid, undesirable changes in the landscape; in this case the extensive planting of hedgerows in a highly valued open landscape. However, there are also several examples where pluriactive farms participate with relatively high rates in conservation schemes. One such example is the nature reserve known as the Drentse Aa in the Netherlands, where more than half of the land is rented out to part-time and hobby farmers (Renting and Van Broekhuizen 1995; Jong 2001).

The question of what motivates a farm household to adopt pluriactive strategies also remains to a large extent unanswered. For a long time, pluriactivity was analyzed as an economic adaptation strategy, adopted by rural households to help them combat increasingly harsh market conditions

and, as such, as an expression of poverty and 'insufficient agriculture' (Etxezarreta 1985). This approach, however, is inadequate to explain the perseverance and rationale of pluriactivity. Other research material emphasizes the significance of socio-cultural motives, and analyzes part-time farming as a lifestyle (Barlett 1986; Laurent et al. 1998). It is only recently that more attention has been paid to the importance of new rural identities in pluriactivity (see for example, Eikeland 1999; Blanchemanche 2000; Blanchemanche et al. 2000). Also Busck (2002) points at the importance of identities, motivations and values of part-time farmers for understanding differences in management practices, and shows that differences in occupational status are related to relevant differences in landscape practices.

Recent studies on the role of pluriactivity in wider rural development (see e.g. Kinsella et al. 2000) suggest that pluriactivity can also strengthen the interrelations between rural areas and urban centres. Pluriactivity can e.g. stimulate new producer-consumer networks, improve mutual understanding and appreciation of values and lifestyles between rural and urban people, and in this way also strengthen the capacity of farm households to actively respond to changing societal demands. Empirical studies that draw specific attention to the impact of pluriactivity on the features and dynamics of rural-urban networks, however, are still scarce.

The state-of-the-art of research in different countries reveals that at national level the attention of research for the phenomenon of pluriactivity varies strongly. In Norway, for example, pluriactivity was already an important theme for agricultural policy related research in the early 1980s. At that time the focus was especially on the role of agriculture in populating rural areas, and less on the possible contribution of agriculture to other functions. Research focused on the differentiated responses of different types of households on policy measures, which resulted in the identification of a varying number of farm household categories and livelihood strategies (Almås & Blekesaune 1992, Vatn & Simonsen 1992). While much of this research focused on the response to policy changes of farmers in business, studies in the 1990s have looked more specifically at the income situation and living standard of farmers (Rødseth 2002).

In contrast with Norway, the Netherlands is much more characterized by a national agricultural expert system that favoured and actively stimulated the modernization model. As a consequence, for a long time little attention has been paid to the role of pluriactive farm household strategies in agricultural and rural development. Part-time farming was at its best considered as a complementary income strategy that could support farm households for a certain period, but which in the long run certainly would imply a move towards a way out of farming. Part-time farming was thus primarily perceived as an obstacle for the expansion opportunities of professional, full-time, farm enterprises, and it was generally considered better that land used by part-time farmers would shift to the hands of farms following a trajectory of scale enlargement and intensification with additional land resources. Only from the early 1990s onwards some studies appeared with more positive conclusions about the contribution of part-time and hobby-farming to rural development. These studies, which were partly effectuated within the framework of the Europe-wide Arkleton project, illustrate that also in the Netherlands pluriactivity can certainly not be perceived as a temporary phenomenon (Spierings 1990; De Vries 1993).

In France, regarding pluriactivity the social debate takes very different features according to regions. For example in areas of intensive agriculture, until recently, monoactivity was encouraged while in other places, in particular in mountainous areas (Alps, Pyrenees, some areas in Central Massif) pluriactivity has a long tradition. Thus, pluriactivity is not seen only as a solution for keeping small scale farms in remote areas but also as a necessary complementary income that makes low salaries in service and industrial sectors in rural areas more acceptable. That is why

right from the beginning of the discussion on MFA in France, pluriactivity was considered as one dimension to be taken into account, as one mechanism through which agriculture contributes to maintain employment and social links in rural areas.

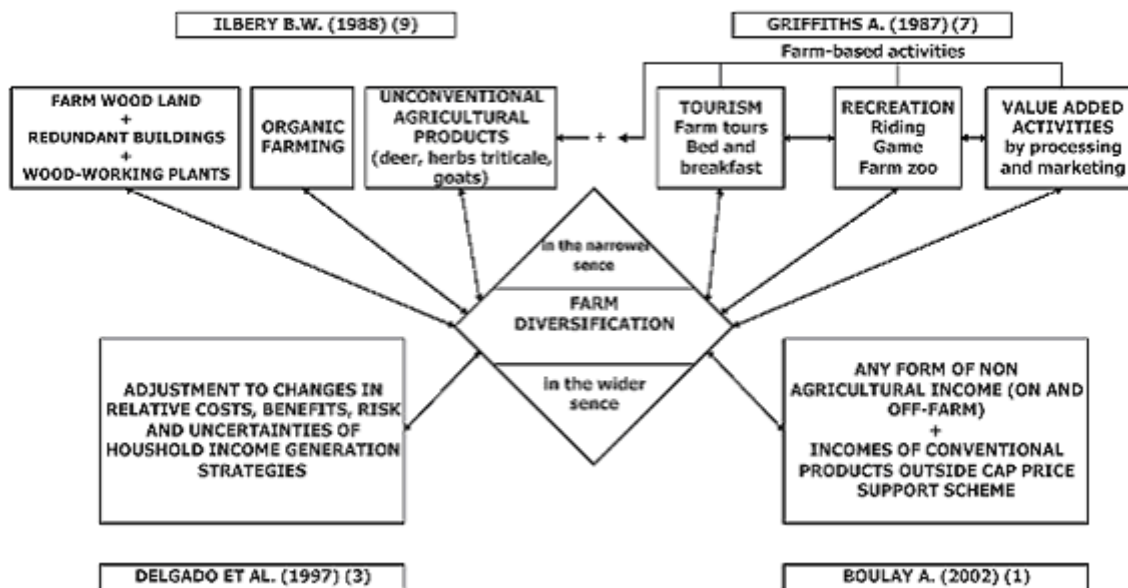
Some of the research works in France aim at measuring the quantitative importance of pluriactivity within the total farm population, which has been a permanent concern in rural economics and sociology (Lacombe 1975 & 1984; Brun et al. 1982; Laurent et al. 1994). Most of these studies are based on agricultural census and structural survey data (Agreste 2001; Rattin 2002; Laurent 2005b), some rely on FADN. Other studies measure the relative proportion of agricultural and non-agricultural sources of income in the total household income, at national level by joining agricultural census data and income tax data (Butault et al. 1999; Butault and Krebs 2001; Butault et al. 2004), or for smaller samples of farms through case studies (e.g Chiffolleau 1999).

Following another line of research, people have tried to highlight the reasons why people opt for or reject pluriactivity, exploring different ranges of explanations such as income needs, the allocation of time (Benjamin and Guyomard 1994; Benjamin 1996), the relevance of social and cultural capital (Blanchemanche 2000) etc. There are also farm-level studies involving both social and bio-technical sciences that have built new methodologies to describe and assess the functioning of pluriactive farms, and have shown the specificities of their organisation in terms of technical systems (Fiorelli 2002), budget, and work organisation (Dedieu et al. 1999).

Farm diversification

Also the term farm diversification already since the end of the 1980s has functioned as a central concept for research on farm development trajectories other than those following the logics of agricultural modernization. Figure 4 (below) gives an overview of definitions applied and the type of activities studied in research on farm diversification.

Figure 4: Farm activities studied in research on farm diversification



Source: Feher & Szepeszy (2003)

The figure illustrates that research under the heading of farm diversification has focused on a variety of economic activities on farms other than food production, ranging from the take-up of agro-forestry and the cultivation of new, unconventional crops to the provisioning of services on the farm for tourism / leisure purposes (agri-tourism) or the generation of extra value added through processing, marketing or the development of specific food qualities (incl. organic farming). Wider definitions of farm diversification might even include any form of non-agricultural income generating activities on and off the farm and therefore overlap with part-time farming / pluriactivity. It is in particular the research with a narrower definition of farm diversification that provides us with extra insights in the existence and relevance of alternative farm development models.

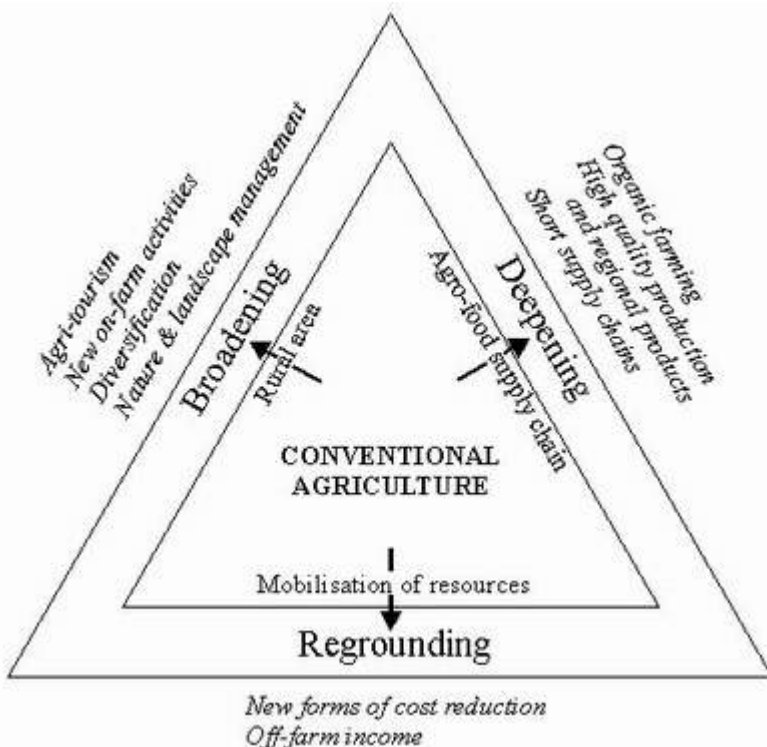
Several of these research works focused on the specific situation of less favoured areas (LFAs), and studied the potential contribution of farm diversification as an alternative strategy for sustaining the livelihoods of (small) farms and rural economies in these disadvantaged rural areas (e.g Ilbery 1988 and 1991; Benjamin 1994). Another range of studies focused on the range of explanatory factors that impact on the success and / or failure of farm diversification activities, including decision making processes within the farm household (Slee 1987; Evans & Ilbery 1993; Capt 1993; Giraud 2001; Winter & Turner 2003). Also it should be mentioned that several studies were effectuated in the context of transnational EU research projects, such as the IDEAS project on 'Innovation, Diversification and Agricultural European Agricultural Situations' (Pelli 2002; Layton and Rislund 2002; Viladomiu & Rosell 2002; Revel et al. 2002) and the IDARA project on 'Integrated Development of Agriculture and Rural Areas' with a specific focus on farm diversification in CEE countries (Chaplin 2000; Chaplin et al. 2000 and 2004; Davidova & Chaplin 2004). These projects provide interesting material for a comparative assessment of the phenomenon of farm diversification.

The forementioned national and European research works on farm diversification have certainly contributed to a better understanding of the driving forces and motivations of farm households for taking up diversification activities and their capacities to respond to changing socio-economic conditions. Also it has provided better insight in the variety of diversification activities that are taken up in different contextual settings across Europe. A shortcoming of the research is that it has remained largely case-study based, and that only rarely information is provided on the socio-economic impact of these alternative farm activities in terms of contribution to income and rural employment. Another shortcoming of the research is that studies often focus on individual diversification activities, and thereby insufficiently take into account the potential of synergies and spin-off effects as a result of the combined take-up of different activities.

Rural development practices

As far as we know, the European IMPACT project on the 'Socio-Economic Impact of Rural Development Policies' is the first transnational research attempt to make a systematic assessment of the socio-economic impact of alternative farm development strategies at more aggregate levels. Within the IMPACT research alternative farm development strategies (referred to as 'rural development practices') are conceptualized as active (new or revived) responses of farm households, which on the one hand reinforce the socio-economic base of farming and rural economies while simultaneously strengthening the linkages between agriculture and wider society and reconfiguring the (social, economic, ecological) networks in which farming is embedded (Ploeg and Renting 2000; Ploeg et al. 2000 and 2002a; Knickel et al. 2004). As indicated in Figure 5 (below) three main strategies of rural development practices by farm households are distinguished within the IMPACT research, each referring to different key dimensions of the farm enterprise.

Figure 5: Three main strategies of farm-based rural development practices



Source: Van der Ploeg and Roep (2003)

A first strategy of rural development practices refers to the relation of the farm enterprise with agro-food supply chains, which may be transformed, expanded and / or relinked to other actors and networks in order to deliver products that provide more value-added per unit because they fit better with changing consumer demands. Activities such as organic farming, the production of high quality products, on-farm processing and the creation of new short producer-consumer chains are typical expressions of this strategy of *deepening*. Also the relation of the farm with the wider rural area may be re-organised and developed by taking up activities that go beyond food production. This strategy of *broadening* can involve different activities such as agri-tourism, the management of nature and landscape, the development of new on-farm services (e.g. care activities) and product diversification for non-food purposes (e.g. energy production). A third strategy of farm-based rural development involves reorganizing the ways in which resources are mobilised and allocated within the farm household. This strategy of *regrounding* may e.g. take the form of pluriactivity, when household's labour resources are used for taking up off-farm employment. Another expression involves new forms of cost reduction, whereby purchases of external inputs are strategically reduced with the aim of increasing the efficiency in the use of available internal inputs ('low external input agriculture').

On the basis of this theoretical framework and classification of activities the IMPACT research succeeded in making an overview of the socio-economic impact of alternative farm development strategies for 7 EU countries (Germany, UK, Italy, Spain, Ireland, the Netherlands and France). The data which formed the basis for this socio-economic assessment was collected means of an extensive review of available statistical and empirical data on the dissemination of activities among

professional farm enterprises and their value added / income effects at farm level (Van der Ploeg et al. 2002b; O'Connor et al. forthcoming).

Tables 4 and 5 (below) present the main results of the socio-economic impact assessment that was made for the IMPACT programme for different deepening and broadening activities. First, table 4 shows the numbers of farms involved and the additional net value added (NVA) generated by these alternative farm development activities at aggregate level for the 7 studied EU countries. The figures indicate that, in spite of large differences between types of activity, deepening and broadening activities are certainly not marginal activities, and that especially quality production (11%), short supply chains (20%) and nature and landscape management (7%) are fairly common among European farm households. Also the overall share of involved farm enterprises (34%) demonstrates that deepening and broadening have become important development strategies for a considerable category of European farms.

Table 4 also gives an overview of the additional NVA generated by different deepening and broadening activities as an indicator for their socio-economic impact (indirectly resulting in income and employment effects). It is estimated that the additional NVA generated amounts to 7,955 million Euros or 8.6% of the total NVA of the agricultural sectors in the 7 studied EU countries, thereby representing an important contribution to rural economies and the livelihoods of involved farm household.

Table 4: Dissemination and socio-economic impact of deepening and broadening activities in EU-7 (1998)

EU-7 (1998)	Number of farms	% of total N	Extra NVA / farm (euros)	Extra NVA (million euros)	% of total NVA
<i>Deepening</i>					
Organic farming	71 754	1.4	5843	419	0.5
Quality production	595 696	11.4	3789	2 257	2.4
Short supply chains	1 048 487	20.1	2381	2 496	2.7
Subtotal deepening	-	-	-	5 172	5.6
<i>Broadening</i>					
Agri-tourism	109 697	2.1	10887	1 194	1.3
New on-farm activities	28 237	0.5	15333	433	0.5
Diversification	166 372	3.2	2882	480	0.5
Nature and landscape management	379 526	7.3	1781	676	0.7
Subtotal broadening	-	-	-	2 783	3.0
<i>Total</i>	1 799 828 ^a	34.4		7 955	8.6
Reference data total agricultural sector in EU-7 ^b	Total N			Total NVA	
	5 228 380			92 793	

Notes:

^a The total number of farms involved in deepening and broadening activities has been corrected with minus 25 per cent to correct for overlap (based on a transnational survey).

^b Data for the total agricultural sector in EU-7 come from the Eurostat Farm Structure Survey for 1997.

Source: Knickel et al. (2004)

Another relevant conclusion of the IMPACT research is that important differences in the dissemination and impact of different rural development activities occur between countries and regions. This is demonstrated by Table 5 which gives an overview of the dissemination of different deepening and broadening activities for the different study countries. The figures indicate that different countries are each characterised by their own 'national profile' of rural development activities, which is reflected in the relative importance and balance of different activities. In some countries e.g. specific deepening activities (quality production and short supply chains) take the lead role, as is the most notable in Mediterranean countries such as Italy, France and Spain. Here there is a strong tradition of regional specialty and quality foods, while the persistence of traditional marketing circuits (weekly markets, local fairs etc.) has facilitated relatively high levels of direct marketing. A different pattern can be detected in Ireland, where deepening activities are of marginal importance, but some specific broadening activities (especially nature and landscape management) have considerable significance. A third pattern is represented by Germany, the UK and to a lesser extent the Netherlands, where rural development practices are characterised by a combination of activities that cross cut these categories and e.g. the combination of direct sales and agri-tourism are economically important activities. These findings from the IMPACT research again underline the importance of studying MFA activities in their specific contextual setting.

Table 5: Dissemination of deepening and broadening activities in different countries (1998)

	EU-7		DE	ES	F	IRL	IT	NL	UK
	Number of farms	% of total	% of total						
Organic farming	71 754	1.4	0.6	0.6	1.2	0.6	1.9	0.9	0.6
Quality production	595 696	11.4	7.5	18.5	26.8	0.1	6.2	2.8	1.4
Short chains	1 048 487	20.1	6.5	7.4	15.0	0.5	34.6	5.6	6.3
Agri-tourism	109 697	2.1	11.6	0.2	2.4	1.3	0.2	2.3	8.3
New on-farm activities	28 237	0.5	0.8	n.a	0.2	0.2	0.1	4.1	6.9
Diversification	166 372	3.2	3.9	3.2	5.4	11.2	1.2	10.9	4.6
Nature and landscape management	379 526	7.3	18.7	4.6	13.3	23.5	1.8	11.1	19.8

Source: Knickel et al. (2004)

The IMPACT methodology and classification of activities has also formed the basis of the state-of-the-art review of research on MFA activities that was effectuated within MULTAGRI WP4 for CEE countries (Heinonen & Granberg 2005). Initially the idea was to complement the IMPACT data on the significance of farm-based rural development activities with similar data for new CEE member states, but a full comparison turned out to be impossible in view of the lack of sufficient data material. While in many cases available data systems permitted to collect data on the number of farms involved in different farm-based rural development activities, an estimation of the extra income / value added was generally not possible. Apart from lack of data, also the existence of different definitions and classifications between countries proved to be an important complication. Table 6 (next page) summarizes the results of the exploration of deepening, broadening and regrouping activities for CEE countries.

Table 6: Data on deepening and broadening activities in CEE member states

	EE (2001) No of farms	LV (2001) No of farms	LT (2003) No of farms	PL (2003) % of farms	CZ (2000) No of farms	SL (2001) No of farms	HU (2003) No of farms	SI (2001) No of farms
Deepening								
- Organic farming	810 (2004)	219	700	0.1%	810 (2003)	90	1.239	1.451 (2003)
- Food processing	188	425	Exists, no data	2.3%	538	455	Exists, no data	280
- Direct selling	Exists, no data	Exists, no data	Exists, no data	Exists, no data	Data on the sales of organic farms	1.808	Exists, no data	9
Broadening								
- Agri-tourism	251	303	355-400	4.0%	206	62	6.800 (2002)	424
- On-farm activities	1.354	4.059	Exists, no data	18.1%	5.572	872	Some farms	1.078
- Non-food production / product diversification	10.871	6.865	Exists, no data	4.6%	170	9	Several farms	552+ 159
- Nature & environment management	1.878 (2003)	Exists, no data	Exists, no data		Exists, no data	Exists, no data	4.200 (2004)	Exists, no data
Other activities (<i>not classified</i>)	1.741	7.441			7.152			
Total	15.215	17.379		363.700 - 661.600	11.000	3.300		
Estimation of the share of farms involved in MFA activities	<i>Share of operating farms</i> 41 %	<i>Share of economically active farms</i> 10 %		<i>Share of econ. active farms</i> 16-29%	<i>Share of farms (main activity in farming) 20 %</i>	<i>Share of registered farms</i> 47 %		<i>Share of family farms 5 %</i>
Regrounding: Off-farm income	65% with income from off-farm occupation	60-70% with income from other activity		70% have agriculture not as a main source of income	75,5 % of family farms have income from pension and off- farm occupation	96.5% of semi- subsistence farms have other income	43% of people working in agriculture have other income	55,1% of total income from off-farm employment

Source: CEE country reports, own calculations.

All Hungarian village accomodators (6.800) do not necessary have links to farm households.

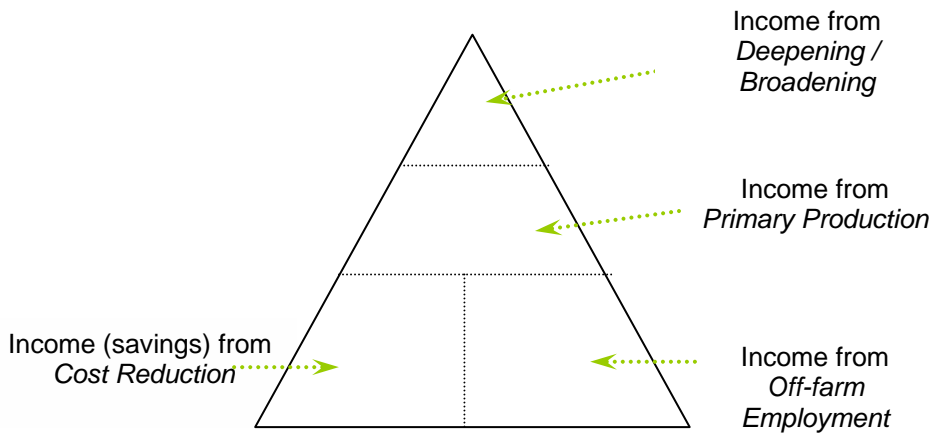
On the basis of the results of this explorative study we can definitely state that a remarkable share of farms in CEE countries is involved in different types of deepening and broadening activities. The shares of farms involved range from 5% (of family farms) in Slovenia to 41% (of operating farms) in Estonia and 47% (of registered farms) in the Slovak republic. Also for new CEE member states the emphasis and relative importance of different categories of activities appears to differ from country to country, and also between regions within countries.

Part-time farming / pluriactivity appears to be the most widespread rural development activity, and off-farm income from another occupation (or state pension) plays a very important role among family farms in all countries. In practice all persons working on household plots have other income sources and additionally 50-75% (depending on the country) of operating family farms receive income from off-farm employment or different social transfers. Generally speaking broadening activities appear to be more common than deepening ones. Especially some on-farm activities, such as contractual services (e.g. services with tractors / machinery for other farmers), construction and transport activities are typical to every country. Different craft activities are also important to some countries (Estonia, Poland, Slovak republic, Slovenia) and some forms of non-food production have great importance, especially forestry and wood processing. Moreover, generating and distributing renewable energy provides income for some farms. Deepening activities appear to be relatively new in most CEE countries, although organic farming is gaining importance in some countries and various Central European countries have long traditions of quality production and direct selling of some products (especially wine in Hungary and Slovenia).

The results of this recent research at aggregate levels demonstrate that alternative farm-based income activities are of growing importance to understand the dynamics of European agriculture. At the same time, it should be concluded that still relatively little is known about the long term economic sustainability of farm development models characterized by multiple income sources. This is a.o. expressed in ongoing research and policy debates on the question to what extent these farm development models can survive from overall globalisation and market liberalisation tendencies, and on the question to what extent these practices by now are structurally rooted among European farm populations or rather ought to be seen as a conjunctural and temporary phenomenon (see a.o. Goodman 2004; Van der Ploeg and Renting 2004; Walford 2003; Evans et al. 2002; Wilson 2001).

Another relevant conclusion from the research is that income effects from rural development activities and conventional primary production should not be seen in isolation from each other (see also O'Connor et al forthcoming). Figure 6 below indicates schematically how different income components are combined by farm households in order to create viable rural livelihoods.

Figure 6: Different Components of Farm Household Income



Incomes from deepening and broadening activities, and certainly also from re-grounding activities, play a key role in 'cushioning' primary production activities from increasing pressure from markets and policies. 'Conventional' agricultural activities therefore remain the heart of income generation by farm households, while at the same time they are a fundament that offers a range of complementary opportunities for valorization by additional income activities. In other words, conventional income activities play a crucial role in safeguarding the capacity of agriculture to contribute to and explore its contribution to other multiple functions of rural areas.

The role of large scale, non-family based farms

The research on farm development patterns that was reviewed until now more or less assumed that European agriculture is predominantly based on family based farm enterprises. Different MFA activities, either by means of the take up of off-farm employment (pluriactivity) or as new income generating activities on the farm (diversification), are considered as adjustments of farm households to changing market and policy conditions and / or as expressions of changing motivations of family household members. In view of the changing structure of European agriculture, however, there is also a need to give explicit attention to the potential role of large scale farming in the provisioning of MFA. To obtain an idea of the importance of large scale farms in European agriculture, table 7 (below) gives an overview of the share of agricultural holdings with an economic size of 100 or more ESU, the share of total land used by these holdings, and their share in total agricultural employment for 2003.

Table 7: The significance of large scale farms (>= 100 ESU) in the EU-25 (2003)

	% of total agricultural holdings >= 100 ESU	% of total land use used by holdings >= 100 ESU	% of total agricultural labour on holdings >= 100 ESU
Austria	0.7	3.0	3.2
Belgium	19.4	41.6	34.8
Cyprus	n.a	n.a	n.a
Czech republic	5.2	81.2	69.1
Denmark	24.5	59.4	56.5
Estonia	0.5	21.9	25.1
Finland	1.8	4.2	7.2
France	12.6	32.5	33.3
Germany	12.0	49.6	33.3
Greece	0.1	1.7	0.8
Hungary	0.2	41.4	14.3
Ireland	2.4	9.0	6.3
Italy	1.4	20.3	9.5
Latvia	0.2	6.3	4.9
Lithuania	0.1	10.8	7.6
Luxembourg	8.3	20.5	12.5
Malta	3.6	13.9	22.2
Netherlands	32.2	60.0	57.1
Poland	0.2	12.4	0.6
Portugal	0.7	18.5	5.0
Slovenia	0.7	4.7	4.5
Slovak republic	1.4	84.7	50.8
Spain	2.1	19.4	15.9
Sweden	6.3	18.9	21.1
UK	10.3	37.6	33.4

Source: EUROSTAT (2005)

There are two main tendencies which lie at the basis of the need to address the role of large scale, often non-family based, farming in MFA. The first, and most important of these, is the enlargement of the EU with CEE countries, where previously state owned, large scale farm units play an important role in the farm structure of most countries. As table 7 demonstrates large scale farms are especially important in Hungary, Estonia, the Czech republic and the Slovak republic. In these countries a small category of very large former state farms uses a large share of the total agricultural land (ranging from 22% in Lithuania to 81% in Czech republic) and provides a large share of total agricultural employment (ranging from 14% in Hungary to 69% in Czech republic).

Moreover, the involvement of such large scale non-family farms in CEE countries in alternative income generating activities often turns out to be surprisingly high. This involvement is probably partly the outcome of historical reasons, since in many countries former state enterprises traditionally also had other functions than just food and fibre production (social welfare functions, processing, etc.). The CEE case suggests that MFA may not be exclusively driven by the logic of family farming, and that large scale, non family based farm units may also have a specific role to play in the provisioning of MFA. From the CEE state-of-the-art review it is also suggested that large

scale farms may have advantages for specific MFA activities, such as on-farm processing and organic farming, where scale advantages might be favourable for making critical investments and for building networks with downstream supply chain parties (Ovhril 2005).

A second relevant tendency concerns the growing role of large scale farm enterprises in 'old' member states due to ongoing processes of scale enlargement and concentration. As table 7 indicates this tendency is relevant in countries like Denmark, Germany, the Netherlands, Belgium, the UK and France, where 10-30% of agricultural holdings have an economic size of 100 ESU or more. The growth of large scale farms has given rise to different sustainability perspectives and debates on the role of large scale farming in sustainable development. E.g. in the Netherlands the agricultural expert system continues to show little confidence in the economic sustainability of alternative farm development models that combine agriculture with other on- and off-farm activities. Instead, much research is done into what might be called 'neo-modernization' models of farm development with specific claims for delivering sustainability and multifunctionality. An example of this involves research in glasshouse horticulture, currently a large energy consumer, to enable combinations of food production with energy production by means of high-tech systems that store surplus solar energy in summertime in sub-soil water reservoirs. Another example concerns scenario studies for the development of agri-business parks with large, multiple store, pig stables ('pig flats') in the vicinity of urban centres. Here the aim is to combine highly cost efficient pig meat production with the recycling of urban organic waste and energy production from biomass, which is considered an adequate technological response to changing societal demands.

The role of other rural SMEs

There is also growing evidence from research that non-agrarian small and medium rural enterprises (SMEs) are of relevance for the analysis of MFA. Perhaps the clearest example of the contribution of SMEs to MFA is the role of small scale food processing and marketing firms in alternative food supply chains that create premium prices in comparison to industrial food supply chains (Brunori 2003; De Roest 2000; Iacoponi 2001; Borch and Iveland 1998). The European SUPPLIERS project on 'Supply Chains Linking Food SMEs in Europe's Lagging Rural Regions' provides a range of empirical evidence on the positive contribution of food related SMEs to rural development (Brannigan & Leat 2003; Leat & Brannigan 2003). An important conclusion of the SUPPLIERS project is that the impact of SMEs on rural development might vary significantly between regions, and is especially influenced by their degree of *territorial embeddedness*. This concept refers to different aspects such as the use of regional imagery in the marketing of products, the integration of SMEs with other rural economic sectors, the positioning in rural networks and the distribution of profits within rural areas (Brannigan 2005). The relevance of territorial embeddedness for MFA will be discussed in more detail in section 4.4.

In addition to the role of SMEs in food supply chains there is also a growing literature that suggests that non-agrarian SMEs more generally are gaining importance in rural economies. Relevant research programmes here include the EU projects DORA ('Dynamics of Rural Areas in Europe') and RUREMPLO ('Agriculture and Employment in the Rural Regions of the EU'). Both research projects illustrate that agriculture's role in rural economies is declining in terms of its contribution to rural employment, in particular in urban and peri-urban rural areas. While it is acknowledged that agricultural activities still play an important role in LFAs, also for these regions it is emphasized that the future of rural employment will depend as much on the diversification of economic activities (tourism, handicrafts, services, etc.) as on future developments in agriculture. Although mostly without explicitly using the concept, these studies often primarily perceive multifunctionality as the need for a diversification of rural economies, which is considered to be the most appropriate

response to negative structural developments in agriculture and opportunities offered by changing societal demands to rural areas (Terluin & Post 2000; Bryden & Bollman 2002; Bryden & Hart 2001). Along similar lines Potter (2004) argues that the conceptualization of multifunctionality from a regional development perspective is probably the most promising theoretical approach, and that the changing role of agriculture in rural economies raises the following fundamental question: *Do agricultural activities contribute to rural economies or vice versa: do rural economies contribute to the maintenance of agricultural activities?*

A more specific research topic related to the role of SMEs in rural development is that of the conversion of redundant farm buildings, which e.g. in the Netherlands has received considerable attention from research in recent years (Vaart 1999; Bosch & Hanemaaijer 1999; DLV 2000; Pilkes & Veeneklaas 2002). Relevant studies, first of all, demonstrate the growing societal demand for residence / work locations in rural areas among people with an agricultural, rural, and to a growing extent also, urban background. There are also studies that, on the basis of an extrapolation of current trends in the decline of farm enterprises, foresee a large number of redundant farm buildings in the coming decades. Again other studies focus on policy relevant questions such as what types of non-agrarian economic activities should be allowed in redundant farm buildings and how this should be regulated in spatial planning procedures. A general conclusion is that these studies question the adequacy of a rigid distinction in spatial planning between agricultural and other economic activities in rural areas. In the context of rural areas that are increasingly characterized by a diversity of activities, there is a need for alternative, more flexible policy instruments that assess the suitability of (agricultural and non-agricultural) activities on the basis of their contribution to wider rural development objectives, e.g. by means of procedures for 'rural proofing' of activities.

The role of subsistence farms

A last category of households / farm units which still has received little attention in research on MFA are subsistence farms. The results of the state-of-the-art review of research for CEE countries suggest that in various new member states farm structures are characterized by large numbers of household plots and / or subsistence farms. These involve extremely small farm holdings in terms of land use and / or farm-size, which together however often are responsible for a significant share of total agricultural land use. This is confirmed by table 8 (below) which gives an overview of the share of farms with an economic size of less than 1 ESU, their share in total land use, and their contribution to total agricultural employment.

The figures show that small-scale farming is especially important in CEE member states like Hungary, Latvia, Lithuania, Estonia and Slovak republic, where their share makes up 59 - 81% of all agricultural holdings. At the same time the contribution of these small farms to total agricultural employment in some cases is significant (upto 51% in Hungary) and also together they use a considerable share of the total agricultural land (upto 48% in Latvia). However, table 8 also makes clear that the phenomenon of small-scale farming is not only confined to new CEE member states, and that also in countries like Italy, Greece, Portugal and the UK holdings smaller than 1 ESU make up more than 20% of the total number of holdings.

Table 8: The significance of small scale farms (< 1 ESU) in the EU-25 (2003)

	% of total agricultural holdings < 1 ESU	% of total land use used by holdings < 1 ESU	% of total agricultural labour on holdings < 1 ESU
Austria	19	5	9
Belgium	4	2	1
Cyprus	38	9	11
Czech Republic	21	1	13
Denmark	0	0	0
Estonia	61	22	26
Finland	<1	<1	<1
France	8	1	1
Germany	5	1	2
Greece	21	1	5
Hungary	79	12	51
Ireland	6	2	3
Italy	28	4	11
Latvia	59	48	32
Lithuania	67	29	46
Luxembourg	4	<1	3
Malta	34	12	11
Netherlands	<1	1	<1
Poland	27	<1	16
Portugal	27	<1	16
Slovenia	23	11	12
Slovak republic	83	2	32
Spain	14	2	5
Sweden	11	6	5
UK	35	4	13

Source: EUROSTAT (2005)

The presented figures raise important questions concerning the potential contribution of the sector of small-scale farming to MFA. It is clear that in some countries the contribution of small farms to rural employment is significant, and subsistence farming in many CEE countries appears to play an important socio-economic role in rural development, amongst others by providing a buffer for social exclusion and poverty in difficult economic conditions. However, in view of the important share of small-scale farms in total agriculture land use there are also important questions unanswered concerning the potential role of this category of farms in the protection of landscape and biodiversity in rural areas.

Synthesis

In the previous paragraphs it has been argued that the classification of farms in 'viable' and 'unviable' farms from the agricultural modernization period is no longer adequate to identify relevant policy target groups from a MFA perspective. Instead of a simple dichotomy between professional and non-professional farms, the analysis of MFA ought to start with including a much broader spectrum of organisational forms in which agricultural activities can be embedded. This has been illustrated by the importance of pluriactivity and farm diversification as alternative farm

development strategies, the specific (and contrasting) opportunities that large scale, non-family based farming offers for the provisioning of MFA , as well as the relevance of small-scale farming activities that are primarily driven by subsistence needs. Additionally, it has been demonstrated that the analysis of MFA requires specific attention for the (differentiated) role of other SMEs in rural development. As a whole, it has been emphasized that the identification of relevant policy target groups within studies of MFA is highly dependent on contextual factors such as the specific features of agricultural structures, the characteristics of rural economies, and the prevailing societal perceptions of agriculture's contribution to different rural functions and sustainability.

Box 2: Relevant lines of future research on farm / firm categories

Farm diversification:

- *Need for more large scale empirical studies, that go beyond individual / localized case studies.*
- *Need for more insight in underlying factors of different patterns of farm adjustment (natural conditions, entrepreneurial skills, farm size/type, farm household strategies, etc.)*
- *Need for more systematic and comprehensive considerations of the non-economic driving forces behind farm household behaviour.*
- *Need for more data on the range of extra NVA generated by MFA activities and research into the underlying enabling/constraining factors of these differences.*
- *Need for data more systematic and comprehensive data on the environmental and social performance of agricultural activities.*

Pluriactivity:

- *How does hobby & part-time farming contribute to sustainable agriculture and rural development?*
- *How does pluriactivity impact on the multifunctional output of agriculture? (e.g. landscape values, biodiversity, etc.)*

Large-scale farming:

- *The double structure of farming in new EU member states is a challenge for MFA studies. Large-scale farming has a great role in many CEE countries and businesses have relatively often adopted multifunctional strategies and practices. How can the potential role of large-scale, non-family based farming in the provisioning of MFA be better understood, and do these enterprises have comparative advantages for specific MFA activities?*

SMEs:

- *How do SMEs contribute to sustainable rural development?*
- *How do SMEs and farm-based MFA activity interact in positive and negative ways? (competition, synergy, spin-off effects, etc.)*
- *What is the most appropriate level of integration between agricultural and non-agricultural activities? (farm / firm, portfolio entrepreneurs, territorial level, etc.)*

4.2 How to deal with changing rural identities?

In the foregoing it has been argued that the conceptualization of agricultural activities from a MFA perspective requires a fundamental reevaluation of the farm / firm categories to be included in the

analysis. It was also concluded that the selection of relevant farm categories will be highly context dependent and might vary according to the specific features of agricultural structures and rural economies, the empirical diversity in farm development models as well as the specific functions that are taken into consideration.

The study of MFA also requires attention for changing identities in rural areas, and among those actors engaged in agricultural activities in particular (see also section 2.3). There is a growing body of research on changing discourses of farmers on the future direction of agricultural development and its role in wider society. Several of these studies suggest that in some countries farmers increasingly take distance from the modernization model and express positive opinions on alternative farm development strategies. An example of this is a transnational survey among a large sample of ca. 3,000 farmers in 6 EU countries (Netherlands, UK, Ireland, Germany, Italy, Spain) that was effectuated for the IMPACT research project (Oostindie & Parrot 2002, Knickel et al. 2004). The responses indicate that a considerable group of farmers is already strongly involved in farm diversification activities, and that additionally a large group of farmers expresses interest in taking up new activities that primarily build on the valorisation of local resources. By contrast, only a relatively small percentage of farmers (42%) prefers specialization, scale enlargement and intensification as the most appealing farm development trajectory. Also farmers' responses to statements on the multifunctionality of agriculture and the development of the countryside (see Table 9 below) indicate that the discourses and attitudes of the farmers in this sample are increasingly inspired by the valorisation of specific territorial resources as guiding principle as opposed to the perspective of further agricultural modernization.

Table 9: Farmers' views on multifunctionality of agriculture and the development of the countryside (6 Member states; N=3,264; 2001)

	All farmers	
	Agree (%)	Disagree (%)
Part-time farmers keep the countryside attractive	64	29
In the coming 10 years the organic food market will grow strongly to a substantial share of the food markets	60	32
Agro-tourism is an excellent way to strengthen the farming sector	60	33
Rural policy budgets should go more to a broad range of other farm-types and less to commercial farming	57	31
There is too much emphasis on the environment at the expense of commercial farming	56	37
I don't mind giving up farming if I can earn my living more easily in an alternative way	39	58
Farming in the region is best served with a concentration of production in a limited number of strong enterprises	38	55

Source: Knickel et al. (2004)

At the same time there are also studies showing that in other specific settings, in spite of a growing attention for alternative farm development models, productivist attitudes within farming communities continue to be strong (if not dominant) and that farmers have certainly not decisively turned away from modernization as main frame of reference (Wilson 2001; Evans et al. 2002). Rather than suggesting a full shift in farmers' discourses from modernization to other development

models, it is therefore important to acknowledge that in many countries there is no longer one dominant discourse on the future direction development of agriculture and its role in wider society and that often different views and discourses compete for attention and support amongst farmers and other relevant actors. The exact nature of these views and discourses and their relative importance will again be differentiated between specific contextual settings.

However, discourses on the future role of agriculture and its contribution to wider society are not only a matter of actors in the farming sector alone. Due to a.o. the changing demographic composition and the growing importance of consumption interests in rural areas (Marsden et al. 1993; Mormont 1987), farming populations are increasingly confronted with claims from other categories of actors. As a result of this, agricultural activity may sometimes take on a social meaning that diverges from – and even conflicts with – the meaning primarily assigned to it by the farmer. An example of such a discrepancy from France (but not uncommon in other countries) is the notion of “landscape gardener” (or elsewhere the image of “nature reserve guide”) which repels many farmers facing environmental demands, as this designation corresponds neither to the idea they have of their occupation, nor to the representation they have of their role in society (Candau & Chabert, 2003; Candau & Deuffic 2004). Similar discrepancies occur around notions concerning the role of animal welfare in agriculture, especially in relation to intensive production systems.

These changes of identities, both of farmers and other categories of rural actors, have profoundly influenced the nature of processes of social and political representation in rural areas (Halfacree 1993 & 1995; Milbourne 1997). On the one hand, they open opportunities for the development of new coalitions and partnerships of rural actors, which potentially go beyond traditional sectoral boundaries (see also sections 4.4 and 4.5). On the other hand, they give rise to new tensions and conflicts and may question the legitimacy of traditional structures of representation (e.g. farmers unions, professional organizations). Policies supporting MFA get intertwined with such processes of identity formation and representation, because by suggesting that the social recognition of farmers could be based on other functions than primary production, they are a source of many discrepancies (and conversely, potential new coalitions) of this kind. That is why the issue of identity emerges - to a greater or lesser extent - from many papers dealing with MFA.

In the research different ways to study processes of identity change and representation can be distinguished. The phenomenon may be studied *per se*, to describe and analyse the changes of identities which occur in EU agriculture. Another set of researches aim at specifying the sources of these discrepancies / convergences in identities and the reasons why, in many situations, farmers seem to behave ‘irrational’ from a strict economic point of view (rejection of farm diversification, of possibilities of pluriactivity, reluctance for environmental tasks, or at the contrary, adoption of diversification strategies which seem very risky according to economic standards). These researches are carried out through different theoretical angles: socio-cognitive analysis, habitus, socio-occupational patterns of the families, gender issues, or from the perspective of communication and extension sciences.

These studies allow to better understand why changes in identity linked to recognition of MFA are sometimes perceived as a social depreciation or advancement. A set of French researches e.g. shows that a key point is linked to the specificity of services. Recognition of MFA rests on the capacity of the agricultural sector to demonstrate that it supplies a range of services (to households, to local authorities, to firms, etc.) (Aznar, Perrier & Cornet 2003; Capt & Dussol 2004). As service activities must be co-produced, they imply the development of many interactions between providers and beneficiaries of these services (Gadrey 1992). A farmer providing services must therefore accept to have many interactions with the beneficiaries (with individuals for agro-

tourism, with communities for landscape management, etc.). However, some farmers experience these new production relations as an entry into new relations of subordination, contrary to what may be observed in other branches (e.g. health, ICT) where co-production of services is part of the occupational ethos. The resulting feeling of social depreciation leads some farmers to refuse to develop and engage in such activities (Guillaumin et al. 2004).

There is also a growing body of research suggesting that agricultural activities at least partly - and perhaps increasingly - are to be understood as the outcome of non-economic driving forces and motivations. On the one hand, this refers to studies on new types of pluriactivity and 'hobby farming', which as much seem to be driven by non-commercial motivations like the appreciation of rural values, the desire to live in attractive, 'green' residential spaces, and the wish to contribute to the preservation of rural landscapes than by concerns of income generation (Jong, 2001; Kinsella et al. 2000; Primdahl 1999; Busck 2002). However, also several studies on the motivations of full-time farms to engage in MFA activities (see e.g. Oostindie & Parrott 2002; Ploeg & Renting 2000) point at the relevance of non-economic driving forces, such as the desire to contribute to an improved 'public image' of farming, increased work satisfaction and the internalization of wider societal concerns by farming population ('farmer as a citizen'). Also changing gender relations within farm households, and especially the desire of many farm women to have their own professional career and labour domain, are reported as important factor for the take up of new on-farm activities (see e.g. Hendrikse & Klaver 1995; Bock 2004). Lastly, there is a growing body of research on the role of rural newcomers, i.e. people migrating from outside into rural areas who engage in agricultural activity, who often appear to play an important role in the establishment of innovative activities in rural areas (Ziel 2003; Buller 2000). Altogether, this literature suggest that identities of actors engaged in agricultural activity increasingly are becoming diverse, and that the boundaries between categories like 'farmers', 'rural residents' and 'rural entrepreneurs' are more and more becoming blurred.

In relation to these analyses of the changes of occupational identities some researches in France put a special emphasis on the question of occupational status. In this country, as is the case in Germany or South-European member states like Greece and Spain, the occupational status of 'farmer' is based both on the belonging to a an occupational field, structured by specific institutions (farmers unions, farmers-state commissions, etc.) and on the insertion into the farmers social protection scheme, which can be joined by people having an agricultural holding of a certain minimum size. Recognition of the multifunctionality of activities causes the community of representations underlying the definition of the occupational status of "farmer" to break up, at least in the early stages. This may result from a crisis of occupational identity as seen above, but also from a difficulty to precisely define the occupation and the criteria for its evaluation. For instance, under which conditions should a salaried person being also a farm holder be considered as a 'farmer'? Should a person whose income consists of environmental subsidies get the occupational status of farmer? If so, what is the nature of such an employment? Do we observe the emergence of new occupations as it was suggested several years ago (Muller 1987; Muller et al. 1989)? Several researches involving lawyers, economists and sociologists have dealt with these questions (Blanchemanche et al. 2000, Couturier 2003). Other researches point at a growing discrepancy between the set of regulations that define the formal occupational status of agricultural activities and the 'real' world of actual activities, and suggest that this discrepancy results in rather persistent patterns of social exclusion (Remy 1987; Butault et al 2002; Laurent et al. 2002).

As a whole, these researches demonstrate that it is impossible to approach the meaning of agricultural activities in one-dimensional ways. Rather, the focus of research should be to better understand the diversity of identities and motivations of actors engaged in agricultural activity,

processes of continuity and change that are occurring in these, and the mechanisms through which these give rise to new tensions and (potential) coalitions. Also more research is needed on relations between identity formation processes and changing policy frameworks, the degree in which these result in the exclusion of specific categories of rural actors (farmers and others), and possibilities to develop more adequate, tailor-made and inclusive support methods for MFA. Moreover, it needs to be acknowledged that these questions are not only relevant for the study of agriculture and rural areas, but in fact refer to a wider and more general problem common to the whole EU and to different sectors of activities, which is the absence of a shared vision on central notions of 'labour', 'activity', 'employment', 'occupational status', etc. (Supiot 1999).

Box 3: Relevant lines of future research on rural identities

- *To what extent do changing identities operate as enabling/constraining factors for MFA?*
- *How important are the dynamics in professional and rural identities for the valuation of different aspects of landscape quality?*
- *What strategies are available to reconstruct locality-specific food qualities in different contextual settings?*
- *How to characterize and identify rural dynamics, innovations and identity processes relevant to MFA?*
- *How can non-economic driving forces underlying farm household behaviour be analysed in more systematic and comprehensive ways?*
- *How to deal with growing discrepancies between professional identity and formal occupational status? (e.g. exclusion from / access to support schemes and political representation structures)*

4.3 How suitable are existing statistical data and information systems?

Already some years ago it was concluded in different policy documents and scientific studies that systematic, reliable and empirically grounded data on the socio-economic impact of new farm development patterns at more aggregate (national and European) level are seriously lacking (see e.g. European Commission 1999; Walford 1999). Since that time this situation unfortunately did not change fundamentally. Within the current statistical systems a massive amount of data is regularly collected on farm structures and agricultural production (Farm Accountancy Data Network, Farm Structure Survey, etc.). However, much of this data and particularly the statistics relating to production were designed at a time when agriculture's primary task was considered to maintain food supplies. Therefore, much of this data is obsolete for the purpose of understanding broader rural development impacts and addressing questions related to the non-productive functions of agriculture (Knickel & Renting 2000). Thus, there continues to be an urgent need to update official information systems, in order to more effectively monitor the social, economic and environmental impacts of changing farm development patterns in different types of rural areas.

Fortunately in recent years important changes have been effectuated in the collection of data for the Structure of agricultural holdings, which is effectuated frequently by Eurostat on the basis of data supplied by member states (Benoist 2005). These changes have contributed to a better coverage of other economic activities of farm households (on and off the farm), and leave room for some interesting lines of comparative analysis. Tables 10, 11 and 12 give an overview of the most recent EUROSTAT data following this new methodology as applied in the Structure of agricultural holdings for all 25 EU member states in 2003 (see <http://epp.eurostat.ec.eu.int>)

Table 10: EUROSTAT data on other economic activities of household members and holdings with rural development activity for EU-25 (2003)

Holdings ≥ 1 ESU	% sole / main holders with another gainful activity	% main holders with another gainful activity as main occupation	% Spouses with another gainful activity	% Spouses with another gainful activity as main occupation	% Holdings with rural development activity
Austria	30.7	18.4	37.9	31.4	20.8
Belgium	17.7	9.3	18.0	12.4	3.8
Cyprus	51.7	50.2	39.1	38.6	8.6
Czech Rep.	36.6	32.0	35.1	32.8	11.9
Denmark	41.9	35.1	67.6	64.6	14.3
Estonia	42.4	38	42	37	13.7
Finland	45.9	27.9	52.1	45.1	25.3
France	24.9	17.4	42.5	41.4	25.6
Germany	48.8	43.7	28.5	25.1	19.9
Greece	20.0	16.4	19.5	18.2	1.6
Hungary	37.6	35.7	38.3	36.9	27.1
Ireland	40.5	26.5	45.9	30.3	4.7
Italy	26.3	21.7	26.6	24.2	5.2
Latvia	28.9	23.7	26.6	22.5	4.5
Lithuania	22.5	16.6	23.6	18.7	2.7
Luxembourg	14.7	8.7	14.3	10.5	11.5
Malta	53.9	52.0	9.1	7.9	5.7
Netherlands	23.2	12.8	29.2	11.9	29.7
Poland	21.5	17.1	18.0	16.7	3.8
Portugal	26.8	24.4	23.6	22.6	11.8
Slovenia	75.8	60.0	90.7	73.8	4.4
Slovak Rep.	36.2	33.9	39.4	38.3	19.6
Spain	32.0	27.6	26.5	24.3	2.4
Sweden	59.8	42.5	73.7	66.7	13.3
UK	37.3	23.1	43.7	33.7	20.1

The structure of agricultural holdings now records two important sets of data on other economic activities of farm households. The first category, which was introduced step by step since 1975, covers 'other gainful activities' of the farm holder, spouse and other family members. It is also recorded if this activity constitutes the main or a subsidiary occupation of the family household member. This category largely coincides with off-farm employment of family household members (on another agricultural holding or in a non-agricultural enterprise), but also covers the remuneration of family labour by means of non-agricultural gainful activities on the holding itself (camping sites, accommodation for tourists, etc.) (Benoist 2005).

The second category, which is recorded since 2000, refers to a variety of different types of 'rural development activities'. For this it is recorded whether the holder and / or the spouse or other family members carry out any gainful activities that do not comprise farm work, but which have an economic impact on the holding. The activity should be directly related to the holding, i.e. resources of the holding (area, buildings, machinery, etc.) or the products of the holding should be used in the activity. If only non-family labour and no other resources of the holding are used, the activity and

the holding are seen as two different set-ups, and the activities are thus not seen as directly related to the holding. Activities where no direct relations exist, e.g. a farm shop where no own products are sold, are not covered. Also forestry activities are excluded (Benoist 2005).

Table 10 (above) gives an overview of the most recent EUROSTAT data for these categories, i.e. the farm structure survey for 2003. The figures confirm that the generation of income from other gainful activities and farm diversification are indeed a widespread phenomenon among European farm holdings. The reported share of farm holders with another gainful activity ranges from ca. 15% in Belgium and Luxemburg to ca. 75% in Slovenia, while the share of spouses with another gainful activity ranges from 10% in Malta to 90% in Slovenia. The reported share of holdings with rural development activities in several countries remains low (below 5% in 7 countries), but reaches levels of 20% or more in Austria, Finland, France, Hungary, the Netherlands and the UK. What is striking is that there is no clear difference between 'old' and 'new' member states, and that differences in participation level appear to cross these boundaries.

Table 11: Share of farm households engaged in different types of rural development activity for EU-25 (2003)

Holdings >= 1 ESU	Tourism	Handicraft	Proces- sing of farm products	Wood process- sing	Aqua- culture	Renewable energy production	Contractual work	Not as earlier
Austria	8.7	0.5	9.0	1.0	0.4	1.2	4.1	0.4
Belgium	0.7	0.3	0.8	0.1	0	0	1.0	1.5
Cyprus	0	0.2	7.6	0	0	0	0.8	0
Czech Rep.	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Denmark	0.7	1.5	0.4	0	0	1.8	6.7	5.5
Estonia	1.1	0.7	1.3	2.0	0.4	0.1	9.3	1.5
Finland	3.0	0.4	1.5	1.7	0.1	1.9	13.6	9.4
France	2.9	0.3	9.0	1.0	0	0	4.3	18.3
Germany	3.5	0.2	8.4	0.5	0.3	2.3	4.9	3.9
Greece	0.1	0	0.9	0	0	0	0.6	0
Hungary	0.3	0	9.6	0.1	0.1	0	n.a	20.8
Ireland	0.9	0.1	0.1	0.1	0.1	0.1	1.4	2.5
Italy	0.9	0.1	4.1	0	0	0	0.2	0.2
Latvia	0.4	0.3	0.4	0.8	0.2	0.1	2.3	0.7
Lithuania	0.1	0.1	0.2	0.4	0.1	0	0.8	1.2
Luxembourg	2.8	0.6	3.6	1.1	0	2.1	2.4	1.2
Malta	0	0	5.5	0	0	0	0.4	0
Netherlands	3.0	0	1.3	0	0.2	2.6	5.8	22.7
Poland	0.2	0.1	3.2	0.3	n.a	n.a	0	n.a
Portugal	0.2	0.1	10.4	0.3	0	0	0.4	0.3
Slovenia	1.1	0.2	0.9	0.7	0	0.1	1.5	0.4
Slovak Rep.	0.9	0.3	4.5	0.5	0	0	3.3	16.9
Spain	1.0	0.1	1.0	0	0	0	0.2	0.2
Sweden	3.0	0.7	1.3	1.0	0.2	0.6	6.4	3.0
UK	8.8	0.2	1.1	0.4	0.1	0.1	7.1	6.4

The EUROSTAT data on holdings with 'rural development activities' are further specified for a number of different types of activity. The following categories of farm-based other gainful activities are distinguished: tourism, accommodation and other leisure activities; handicraft; processing of farm products; wood processing (e.g. sawing etc.); aquaculture, renewable energy production (wind energy, straw burning etc.); contractual work (using equipment of the holding); and a category of other activities 'not as earlier'. Table 11 (above) presents the available data on the involvement of farm households in these types of activities in 2003 for all EU-25 member states.

The figures provide some interesting insights in the dissemination of diversification activities across Europe, and differences occurring between member states. Agri-tourism, for example, is the most developed in Austria, UK and Germany. Processing of farm products is in particular developed in Portugal, France Hungary and again Germany and Austria. Member states like Finland, Denmark, Estonia and the UK are characterized by contractual work as an important additional income activity, whereas renewable energy production is of most relevance in Germany, Denmark, the Netherlands and Luxembourg.

Table 12: Share of farm households engaged in rural development activity according to economic size categories for EU-25 (2003)

ESU	< 1	1-4	4-8	8-16	16-40	40-100	>100
Austria	10.0	16.1	20.3	23.9	25.0	21.5	15.4
Belgium	3.1	3.2	3.5	4.5	4.2	4.0	3.6
Cyprus	1.9	6.7	10.0	13.5	17.6	17.0	n.a
Czech Rep.	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Denmark	58.3	9.3	10.2	13.0	13.9	17.0	17.2
Estonia	3.4	14.6	19.4	23.8	30.9	40.5	38.6
Finland	19.4	23.7	25.2	28.9	26.6	23.4	21.0
France	13.8	22.7	25.2	26.4	23.7	24.7	35.8
Germany	10.1	15.8	19.1	19.4	20.6	22.8	22.1
Greece	0.1	0.7	1.4	2.6	4.3	5.5	10.2
Hungary	7.0	28.3	31.7	32.7	33.2	33.3	51.1
Ireland	3.5	2.6	3.4	4.7	6.0	6.9	11.1
Italy	2.8	4.4	4.4	6.1	8.7	9.1	9.9
Latvia	2.0	5.1	7.9	12.3	16.4	22.2	23.1
Lithuania	1.1	3.3	4.3	7.5	9.2	16.9	35.8
Luxembourg	2.7	6.2	7.7	12.2	9.9	12.8	18.3
Malta	0.4	3.7	5.9	9.4	7.4	12.1	n.a
Netherlands	18.9	15.5	18.6	22.4	30.6	33.3	32.9
Poland	2.8	3.8	3.5	3.3	3.4	4.8	13.9
Portugal	4.8	12.5	12.5	13.0	11.5	15.1	16.8
Slovenia	1.1	3.3	5.1	9.8	12.8	9.8	n.a
Slovak Rep.	0.7	15.6	25.3	33.1	40.6	54.6	69.6
Spain	1.2	1.6	2.6	3.1	3.0	3.5	5.3
Sweden	8.9	10.3	10.2	14.2	17.5	17.1	15.5
UK	8.8	15.5	18.2	19.2	20.4	22.4	27.7

The European statistics also clearly demonstrate that farm diversification is certainly not restricted to smaller farm holdings (see table 12 above). On the contrary, the available data suggests that in most member states the engagement in rural development activities is positively correlated with economic farm size. Rural development activities in many countries are most frequently represented within the farm-size category of 40 - 100 ESU, whereas for countries like France, the UK, Portugal and new member states like Hungary, Lithuania, and Slovak Republic especially farm enterprises larger than 100 ESU are involved in diversification activities.

While the reviewed EUROSTAT data certainly provide relevant material for the analysis of MFA, the available statistics at European level continue to show a number of major shortcomings and limitations. The first of these refers to the often large category of other rural development activities that are classified as 'not as earlier', which in countries like France, the Netherlands, Slovak Republic and Hungary accounts for 15% or more of the total number of farm holdings. There is a lack of transparency for the activities that are included in this rest category, and moreover it suggests that there are important differences between member states in definitions and data collection methods for different types of rural development activities. Another important shortcoming is that the available data only allow for the analysis of numbers of farms involved, and do not provide sufficient information for the analysis of socio-economic impact levels in terms of NVA and / or income effects. Contrary to conventional primary production activities, for which income effects and standard gross margins are calculated on the basis of a sample of farms from the FADN / RICA network, such data are not available for diversification activities. Socio-economic impacts of such activities for now therefore can only be assessed on the basis of case-study material and in some cases data from national statistical offices (ref. IMPACT methodology), which highly limits the possibilities for a meaningful comparative analysis.

In addition to Structure of agricultural holdings there is a range of other sources of statistical data material at European level that are relevant for the analysis of MFA. We can refer to statistical material on SMEs (based on NACE classification), data sets on ecological performance indicators as collected within LUCAS and CORINE, statistics on income of agricultural households from different income sources (IAHS), and ongoing attempts within the LEADER programme to develop social indicators on the 'quality of life' in rural areas, etc. Additionally, there are various administrative data-sets which are used for the monitoring and evaluation of EU policy schemes (see also Le Bas et al 2005). From the perspective of research on MFA, however, these data-sets show a number of fundamental limitations. First, there is the problem that various data sets are not readily available for their use for research purposes (e.g. administrative data-sets). Apart from that it is often problematic to integrate statistical material from different data-sets. For example, it is not possible to integrate farm-based data-sets on engagement in diversification activities and their socio-economic impacts with geographical (GIS), area-based data-sets on environmental performance indicators or land-use cover. This impedes a more profound insight in interrelations between socio-economic and other environmental sustainability indicators at lower aggregation levels.

Another limitation refers to the sectoral fragmentation of data-sets and the lack of longitudinal forms of data collection. As was concluded in previous sections, from an MFA perspective a rigid distinction between agricultural and other rural sectors is more and more at odds with the empirical diversity of farm development models and the role of SMEs in the provision of MFA. However, current statistical data sets still largely follow sectoral boundaries and their fragmentation is an important barrier for a better understanding of the relevance of inter-sectoral interactions (e.g. resulting in synergy effects) or the analysis of household income from different (sectoral) sources. The same goes for the lack of more longitudinal data collection systems. Available data sets are

too often limited to 'snap-shot' statistics of one specific moment in time, which makes it difficult to gain more insight in the temporal dynamics of e.g. pluriactivity and farm diversification as alternative development models. More longitudinal data collection systems could draw specific attention to the dynamics of rural businesses in a broader sense, including the potential role of farm businesses as 'breeding ground' for other SMEs and the relevance of different farm development models in terms of changing land use patterns.

In short, research on MFA requires more integrated and more longitudinal forms of data collection that allow for the analysis of interactions between and dynamics of agricultural and other economic activities in rural areas, as well as an assessment of their performances in relation to different (social, economic, environmental) sustainability criteria. This still leaves open the question of what is the most appropriate scale to come to such more integrated and 'MFA proof' data collection systems. It might be argued that the European level is not the most appropriate level for this, if only because the collection of data by agencies like EUROSTAT in the end depends on the provision of primary data by national statistical offices. Also the previous conclusion that expressions of MFA are highly context dependent and may differ considerably between countries and regions, suggests that the national or even the regional level is perhaps the most appropriate for the development of more integrated statistical data systems. In order to ensure the comparability of data within comparative studies, however, it would be desirable to come to a harmonisation and co-ordination of approaches at European level.

The state-of-the-art review for different EU countries suggests that national statistical data systems show largely the same shortcomings as available European statistical material. Also at the national level there is a growing availability of statistical data material on MFA performances, but again mostly highly fragmented, with relatively little information on environmental performances, and in particular on the contribution of agricultural activities to social functions. Another limitation of the use of national data-sets for research concerns the lack of harmonisation between member states, which results in important bottle-necks for comparative studies.

Box 5: Relevant lines for future research on statistical data systems

- *How to harmonize statistical systems and definitions between member states in order enable comparative studies?*
- *How to deal with actual fragmentation of data-sets between different levels and different sectors?*
- *How to develop methods with more explicit attention for the social dimension of sustainability?*
- *How to come to more integrated and longitudinal forms of data collection?*
- *How can data collection and management tools be reshaped to support new institutional arrangements? (new features of collective action, new management tools)*

4.4 What is the role of interfaces between the farm, the territory and institutional networks?

There is a broad range of research related to the critical question on the role of interfaces between the farm, the territory and institutional networks in relation to MFA. Generally speaking, in research there is a growing attention for the role of territory-specific resources in the development of MFA.

E.g. research in line with the rural development perspective emphasizes that, contrary to the productivist paradigm which involves a specific reordering, uniformisation and standardisation of farm resources into a generalised model with universally claimed validity, MFA would rather depend on the capacity of agriculture at farm and regional level to *particularise* socio-material realities. Within this perspective e.g. land assets are no longer only valued in terms of their size, rational parcelation or productive potentials, but may also acquire economic and symbolic value by virtue of the specific scenic landscape, ecological values or leisure opportunities that they accommodate (Renting & Ploeg 2001).

The same authors argue that agricultural modernisation has historically contributed to the dismantling of many localised, community-based social mechanisms, and more generally reduced the institutional environment of farm households to relations with commodity and input markets, farmers' associations, and state agencies belonging to the dominant expert system, i.e. to *sectoral* institutions and networks (see also Ploeg 1992). The crisis of productivist agriculture, but also the growing importance of consumption interests in rural areas (Marsden et al. 1993; Mormont 1987), in recent years has stimulated a trend towards the diversification of rural areas. As a result of this rural areas are no longer automatically strongholds of farming, but much more are to be conceived as multiple realities in which farming has to co-exist alongside with other land-uses and interests. The sectoral organisation of networks and institutions in which agriculture is embedded is increasingly at odds with the diversified nature of rural areas, and increasingly leads to conflicts and tensions with other categories of rural actors (see also 4.2). At the same time, the diversification of rural economies also offers new opportunities for multifunctional farm development strategies, e.g. by building coalitions with categories of other rural actors or by responding to changing labour markets or newly emerging local markets for products and services. It is suggested that especially family farms are well-suited to reconfigure their organisation in response to such changes in market conditions, a.o. due to their flexibility in labour allocation and the family-owned nature of resources (Brunori and Rossi 2000; Ventura 2001, Ventura and Milone 2004).

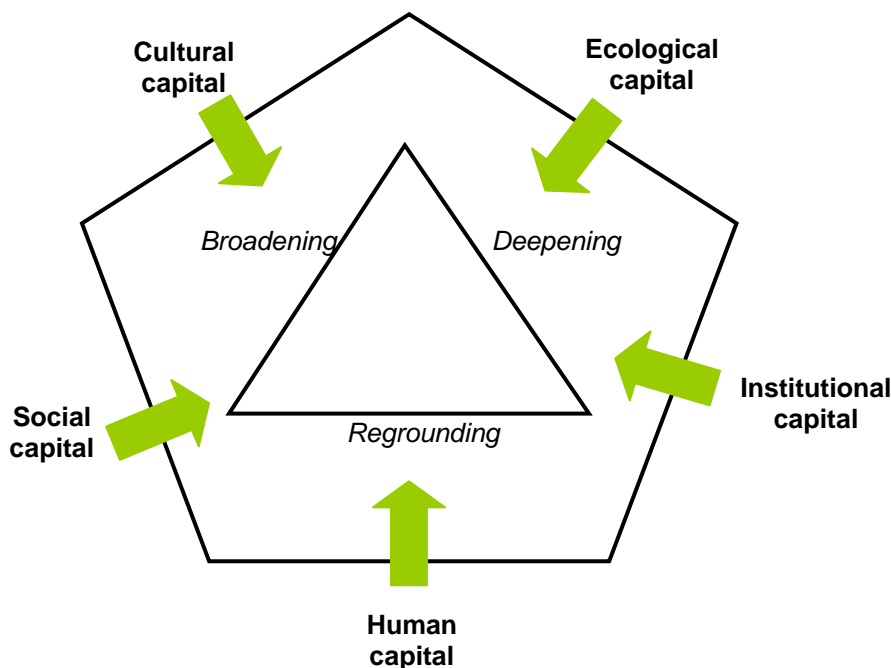
The literature shows that farm households, partly in response to the forementioned trends, are increasingly involved in a multiplicity of markets where the viability of activities critically depends on the successful enrolment of other agents in networks. This is most clear for activities like direct marketing or agri-tourism, which evidently depend on the co-operation of consumers and tourists for the valorisation of products and services, but is also the case for politically constructed 'markets' for nature & landscape management or farm-based care provisioning whose successful articulation often critically depends on territorially based collective action as well as the successful enrolment of extra-local state agencies. New territorially based institutional arrangements and 'partnerships' play a critical role in the creation of synergies between different (farm-based and non-farm based) rural development activities beyond the individual farm household (Brunori & Rossi 2000; Knickel & Renting 2000). In other words: to fully explore MFA potentials there emerges the need for *new forms and mechanisms of co-ordination and co-operation* between farming interests and non-agricultural interests, especially at the territorial level but also with society at large. These will primarily depend on horizontal and lateral institutional linkages as opposed to the vertical networks that were characteristic for the modernisation era (Renting & Ploeg 2001; Murdoch 2000).

In the food sector, the emergence of such new mechanisms of co-ordination and co-operation is expressed by an increasing number of alternative food networks that combine specific sustainability claims (organic, local, artisanal, animal friendly, fair trade, etc) with innovative organisational arrangements, frequently characterised by hybrid networks through the direct involvement of consumers, citizens, NGO's, local institutions, etc. (see e.g. Ilbery & Kneafsey 1999 & 2000;

Kneafsey et al. 2001; Barjolle & Sylvander 2000; Renting et al. 2003; Jervell 2003; Jervell & Jolly 2003). A growing amount of research findings demonstrates that throughout Europe a proliferation of initiatives can be witnessed, which have as common characteristic that they attempt to link up farming and farm resources with other economic and policy fields. In Italy, for instance, this might refer to the development of a regional institutional framework to integrate farming into the rural welfare system of Tuscany (Di Iacovo 2003a & 2003b). Other examples of new institutional arrangements that are supportive to MFA include the French Contracts Territorial d' Exploitation (Lacombe et al 2004; Kroll 2002; Cochet & Devienne 2002; Durand 2003) and agri-environmental co-operatives in the Netherlands (Polman & Slangen 2002; Ploeg et al. 2002b; Renting & Ploeg 2001; Ploeg & Renting 2003; Wiskerke et al. 2003).

An interesting approach to conceptualize the role of new interfaces between the farm household, the territory and institutional networks within MFA is the notion of *territorial capital* (see figure 7 below). From a rural development perspective territorial capital can be defined as the specific assets that a rural area can draw upon to differentiate and distinguish itself from others and thereby obtain visibility in global policy and market networks. As such, territorial capital can be used as a resource base for specific '*cultural repertoires*' (Ray 1997 and 1999) i.e. strategies for value creation that build upon rural identities e.g. by expressing these in specific product identities (of food, tourism, services, etc.) and by constructing commercial networks that communicate these in transparent and effective ways. As consumers recognise and increasingly look for specific territorial identities, they are willing to pay premium prices for these products. The level of success of a rural area to realize premium prices for products and services will depend on the specificity of its territorial capital, its successful articulation to distinctive product qualities and communication to relevant consumer groups. This requires a level of co-ordination beyond the farm level, which in particular addresses the strategic management of different types of territorial capital and communication strategies with external market and policy actors.

Figure 7: Interrelations between MFA and different types of territorial capital



While the specificity of territorial resources offers potentials for the strengthening of MFA, it should also be noted that there exist large differences in the level of endowment of territorial capital between rural areas. This has led some authors to warn that endogenous development strategies by no means are an appropriate development strategy for all types of regions, and that a too strong emphasis on territorial strategies in the allocation of support to rural areas might contribute to new patterns of unevenness and to an undesirable 'territorial competition' between regions over limited public resources (see Buller 2000). Also, it is suggested that there is a need for appropriate strategies for the development of territorial capital in regions where such specific resources are not readily available. E.g. for CEE countries it is reported that there is a general lack of human and social capital, and that in many cases past regimes have strongly limited the development of cultural capital (Heinonen & Granberg 2005). European public policies should start from this evidence to enact appropriate measures to support the building of social, human and other types of territorial capital.

On the basis of the review of research on interfaces between the farm enterprise, the territory and institutional networks the following relevant future lines of research can be identified (see box 6).

Box 6: Relevant lines for future research on territorial and institutional networks

- *How can MFA be constructed and stimulated at the regional/territorial level by building on the plurality of farm- and non-farm development models?*
- *How do different farm/firm development patterns interact in negative and positive ways? (co-existence, competition, synergy, spin-off effects, etc.)*
- *What empirical examples exist of successful new institutional arrangements for enabling MFA?*
- *To what extent can successful new institutional arrangements be upscaled and transferred to other contextual settings?*
- *What mechanisms and instruments are available for enhancing synergy and cohesion between farm/firm activities at different levels?*
- *How can rural dynamics be identified that provide economically, environmentally and culturally valuable innovation?*
- *How is the success / failure of MFA strategies affected by the unequal distribution of territorial resources between regions?*
- *To what extent and how can territorial strategies be applied in less endowed regions?*
- *What mechanisms are available to avoid and regulate competition between regions over limited resources?*

4.5 What are relevant learning models to support MFA?

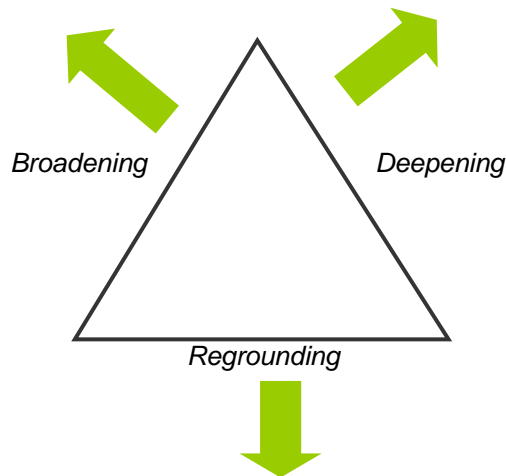
In the state-of-the-art review relatively little research could be identified that specifically addresses the role of farm advice and learning support in relation to MFA. However, from the available research it gets clear that an approach that recognizes the multifunctional character of agricultural activity requires the development of appropriate models of knowledge and learning support, which in form, content, and targeted population might be quite different from existing ones. From the reviewed literature it gets clear that models of linear diffusion, where knowledge is assumed to be generated by science and afterwards diffused through education and extension in order to be put into practice by farmers, are increasingly criticised by agricultural researchers (Leeuwis & Pyburn

2002; Van der Ploeg 2003; Vijverberg 1996). These authors show that a great deal of knowledge is developed or reinvented by farmers, that extension agents mostly transfer knowledge from one farmer to another, and that many scientists build their research on practical experiences.

A linear conception of learning processes is even more out of place in the context of supporting the multifunctional nature of farming, so it is argued, because this requires a gradual transition process in which the character of agriculture changes structurally from modernisation models to farm development trajectories based on wider rural development concerns (Wiskerke 2001). This may require the development of new forms of knowledge, skills and technology, but often also supposes the building of networks and partnerships with new actors, the construction of appropriate market and policy frameworks, the strengthening of linkages between farming practices and territorial resources, etc. Following the theoretical framework of 'transition management' (Wiskerke & Van der Ploeg 2004; Kemp et al. 2001; Hoogma et al. 2002) learning and innovation within the context of MFA are therefore to be approached as part of a multi-level transition process, in which a range of processes that impact on the potentials and performances of MFA are governed and facilitated in an interrelated way. Figure 8 (below) details some of the relevant aspects of MFA as a multi-level transition process in relation to the strategies of broadening, deepening and regrounding that were distinguished before.

Figure 8: MFA as a multilevel transition proces

- Public goods markets
- New institutional arrangements
- Public-private partnerships
- Synergies at territorial level
- Changing relations with consumers and other SC actors
- Trust, reduced information asymmetry
- Reputation effects, reduced transaction costs



- Multiple use of resources
- New skills, knowledge, identities
- Social networks, social capital
- Labour markets, social security, infrastructures, land markets, etc.

The significance of these different processes has been illustrated in the different national reports. We will restrict ourselves here to the argument that learning models that are supportive for MFA are first of all about the learning capacity to create coherence between different processes. As an example we can take public good markets such as those for agricultural nature and landscape management. The success and potentials of these will, amongst others, depend on the capacity of stakeholders to establish new territorially based institutional arrangements. Territorially based institutional arrangements and social networks will be also important stimuli to construct synergy effects with private markets that incorporate and build upon regional nature and landscape values (regional quality foods, rural tourism). A successful implementation of a regional development strategy that builds on such endogenous resources on its turn requires farmers (and other rural entrepreneurs) with professional identities that are favourable to the preservation of rural nature and landscape and with the skills to recognize, explore and collectively valorize the opportunities of territorial resources. These will also interact with prevailing regulatory frameworks for labour and land markets, social security systems, etc, which might contain important hindrances for the multiple resource management that characterizes MFA. More in general, the overall characteristics and functioning of the institutional environment will also impact on the development of different types of territorial capital.

The example illustrates that MFA supportive learning models are primarily to be characterized as multiple stakeholder learning processes. Various research findings from communication and innovation sciences demonstrate the complexity of such multiple stakeholder learning processes due to different backgrounds, interests, values, convictions and perceptions with regard to the problems at stake. It is argued, therefore, that transition processes in agriculture should be approached as *combined processes of learning and negotiation* (Leeuwis 2000; Morgan 1995). There is a growing amount of literature that suggests specific methodologies and approaches to facilitate these combined processes, as is expressed in concepts like '*collaborative problem solving*' (Gray 1989), '*joint problem solving*' (Dunning 1986) '*social learning*' (Röling & Wagemakers 1998; Leeuwis & Pyburn 2002) and *communities of practice* (Wenger 1998). These authors emphasize the relevance of the social and cultural dimensions of collective learning processes and present a range of tools that can contribute to the creation of supportive learning environments for innovation processes in agriculture and rural areas, although mostly without explicit reference to the topic of MFA.

Box 7: Relevant lines for future research on learning models

- *What is the role of institutions (public and private) in processes of change and innovation towards MFA?*
- *How to develop more attractive/flexible remuneration systems for the provision of green services by agriculture?*
- *How to elaborate supportive learning networks for MFA?*
- *How does the ongoing liberalisation of agricultural commodity markets impact on the actual performance of and potentials for MFA?*
- *To what extent is a high output of private market goods negatively associated with non-market or public goods?*
- *What is the most appropriate level of policy formulation and implementation for MFA? (farm, region, national, international)*
- *How to create more coherence and coordination between territorial and sector policies in the support for MFA?*

5) Conclusions

The overall results of this state-of-the-art review of research on the multifunctionality of agriculture from a supply-side perspective revealed, first of all, the necessity to fully address the contextual diversity across Europe in the analysis. This has been in particular related to the following critical factors:

- The way how (broader) MFA perspectives are linked to changing societal and consumer demands and sustainability concerns.
- The range of functions, goods and services, that are included within MFA conceptualizations.
- The relevance of various farm / firm categories and differentiating farm development models for the provision of MFA.
- The changes in (professional) identities of farmers and its impact on the provisioning of MFA.
- The (lack of) existence of MFA supportive, territory based, social networks.
- The (lack of) availability of different types of territorial capital.

Building on the research findings around these critical factors, secondly, it has been concluded that the recognition and development of MFA is to be approached as a multi-level transition process that requires a range of coherent and interrelated adjustments at different levels. Among these levels (farm, sector, supply chain, territory, country, etc.), the territory appears to be the most appropriate level to govern such a transition process. Additionally, also the collective capacity to create multiple stakeholder learning processes that contribute to the construction of territorial capital has been identified as one of the crucial success factors for the development of MFA.

Thirdly, the state-of-the-art review resulted in the identification of a range of research gaps and promising lines of future research, which refer to theoretical and methodological issues as well as to the need for more empirical research to deepen current insights in the actual development and potentials of MFA from a supply-side perspective. As was concluded during the MultAgri WP4 expert meeting, the range of identified research topics and challenges can be re-organized according to their relevance for the domains of science, policy and practices. This classification is not intended to suggest that any of the domains has a higher priority than others - all three research components are crucial and do not permit *a priori* any ranking in terms of importance. Rather, it intends to show that the successful effectuation of a future research agenda to support MFA requires a joint and co-ordinated effort of different stakeholders in the academic world, policy and rural society.

Figure 8: Research topics and challenges according to domains of science, policy and practice

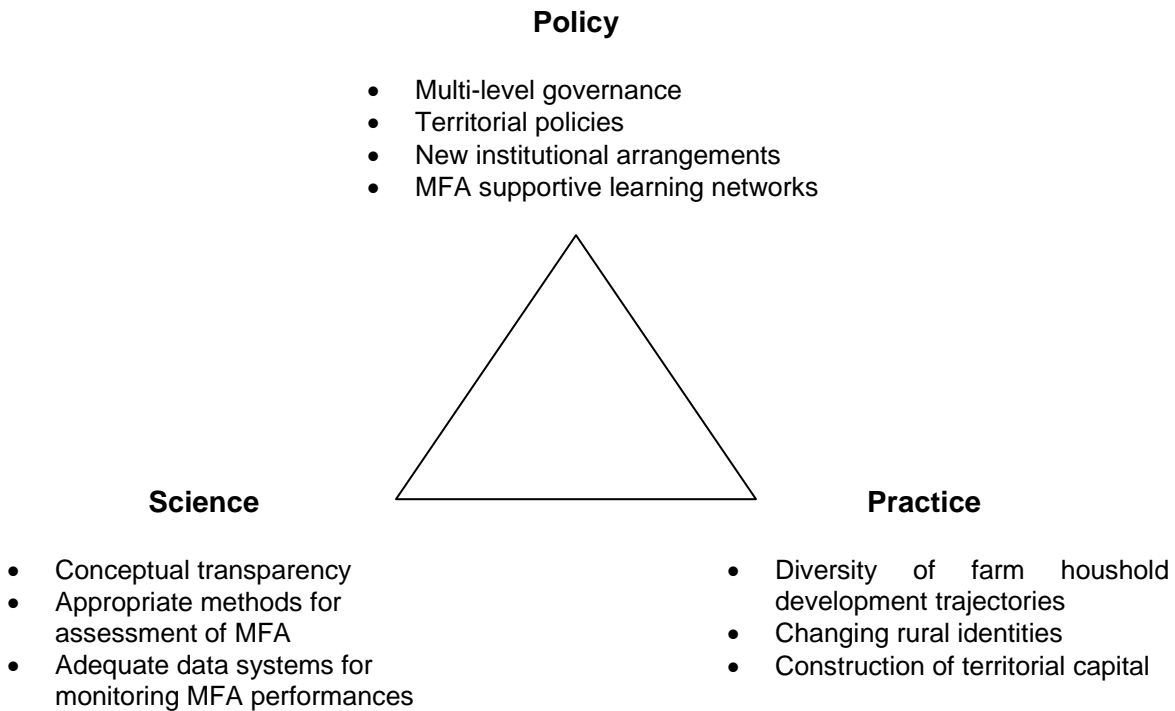


Figure 8 visualizes such an approach. First, it recalls the scientific challenge to come clear, transparent and unequivocal concepts for the analysis of MFA from a supply-side perspective, to design more appropriate methods for the assessment of MFA, and to develop more adequate data systems for the monitoring of different aspects of MFA performances. Second, it summarizes the most important policy related research topics, including the need to further develop territorial approaches within multi-level governance processes, to strengthen the capacity of policy to respond and facilitate the role of new institutional arrangements, and the challenge to develop and strengthen territorially based learning networks that are supportive to MFA. Third, a number of research topics refer to the need for a more profound understanding of the empirical realities of MFA, including the relevance of different farm development strategies and trajectories, changing rural identities, and the capacity of rural actors to collectively mobilize and construct territorial capital. Especially within this last domain there is a need for explicit attention to participatory research methods as a means to actively support promising MFA practices.

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