Multifunctionality: a Critical Assessment of the framework approach

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• This is probably the most expensive hectare of agricultural land all over the world:
  – Burgundy, Romanée Conti vineyard: 4,000 euros per bottle; 15-20 million euros per hectare (?)
• This is a vineyard in the “5 terre” National Park – Italy
  – Very expensive to grow, negative net income, but crucial environmental and landscape functions
These are two extremes of the European agriculture, both of strategic importance, both multifunctional.

How to deal with a so complex and changing phenomenon as multifunctionality?
• The generally accepted definition of multifunctionality, also adopted in our project, is as follows:

• the factual or potential provision of material or immaterial goods and services that satisfy social expectations, meeting societal demand/needs through agriculture sector structure, agricultural production processes and the spatial extent of agriculture.”
• Such definition implies a relative concept of multifunctionality, i.e. linked to the evolution of society.

• This is the key point in our reasoning: agriculture performs and has always performed multiple functions, but their precise connotation and assessment depend on the specific socio-cultural context in which it takes place.

• how to define these functions? How to evaluate them? ....
• This definition is widely accepted but to be applied in a operational context we need to define some further elements
• We propose an analysis of some of the main definitions proposed by international institutions (FAO, OECD, UE), organized into 5 defining (why, when, where, who, what) and 2 application elements

• in view of a better and more comprehensive conceptual definition of the term and of its possible operational implications
1. the purpose of the definition of multifunctionality,
2. the parties that are directly or indirectly involved
3. the time horizon,
4. the space dimension on which the concept of multifunctionality takes place,
5. the elementary objects making up multifunctionality (functions, NCOs, etc.).

1. the instruments for the assessment of the proposed functions
2. the instruments for the political implementation – constraint systems, targeted payments, tradable permits, auction systems, negotiation agreements, etc. –
FAO approach is more descriptive than methodological or prescriptive
• The MFCAL paper is generally aimed at pointing out to practical ways to achieve and satisfy sustainability objectives through the multifunctional properties of the agricultural sector.

• “Our understanding of the factors crucial to achieving greater sustainability in agriculture has increased through building on the potential scope of multiple functions in rural areas”.

• The FAO thus recognizes the strong implications linking the concepts of sustainability, multifunctionality, and land use.

• The focus is on MF for sustainable rural development.
The information at the basis of the concept of multifunctionality conceived by the FAO is then strongly affected by the practical experiences directly collected by the heterogeneous worldwide agricultural sector.
The horizon to define the concept and assess its impacts is, in fact, very wide both in terms of space and time, and allows to consider the impacts of the phenomenon at different scale, including the whole contemporary society and the future generation as potential targets of multifunctional agriculture benefits.
The functions identified directly on the ground of practical experiences are grouped together into the following three main ones:

- **The Environmental Function.** Agriculture and related land use can have beneficial or harmful effects on the environment. biodiversity, climate change, desertification, water quality and availability, and pollution.
- **The Economic Function.** Agriculture remains a principal force in sustaining the operation and growth of the whole economy, even in highly industrialised countries.
- **The Social Function.** The maintenance and dynamism of rural communities is basic to sustaining agro-ecology and improving the quality of life (and assuring the very survival) of rural residents, particularly of the young. Social viability includes maintenance of the cultural heritage.
The FAO paper stresses the close interrelation between the different functions and the need for a detailed analysis of the synergies and the possible trade-offs that can result from transformations in the agricultural sector.

The complexity of multifunctionality is expanded by the relative character of the concept under different local conditions. This defines a dimension that changes according to space and time scale.
The FAO approach: the Multifunctional Character of Agriculture and Land

- MFCAL also has a time dimension resulting from the need to identify appropriate reference time horizons for the different functions, allowing on one hand to interpret the effects (either cumulative or cyclic) properly and, on the other, to ensure the identification of a time span large enough to allow a comprehensive evaluation of the effects of each function in the short, medium, and long term.
• The concept of agriculture’s multifunctionality can be implemented and enhanced through:
  – good market mechanism,
  – good public institution framework
  – the emergence of new techniques and technologies
In particular, strengthening market mechanisms can improve the effects of multifunctionality through (FAO 1, 1999):

• establishing greenhouse gas emission rights markets to which all producers could have access, and promoting carbon fixation and substitution;

• developing mechanisms for public tender to licence contracts for natural environment maintenance, biodiversity management, water management, ecological infrastructure maintenance, desertification reduction and mineral accounting;

• developing ecological tourism markets, with the corresponding amenities provided by landscape and biodiversity maintenance (internalization mechanisms);
The institutional framework can, in turn, be improved by:

- encouraging local **agreements between users** for the management of renewable natural resources, in order to control erosion and land degradation, and best practice for use of water, rangelands, forests and wildlife;

- encouraging **local agreements** in order to guarantee community economic functions: integrated control, storage of food stocks in the event of food shortages, promoting quality control and labelling;

- promoting efficient local public authorities with decentralised powers to **create infrastructures** that can cater for the preferences of local people relating to rural roads, communications and other services.
The most extensive attempt to provide an agriculture multifunctionality definition was carried out by the OECD, which decided to adopt multifunctionality as a policy principle.
The OECD analytical framework of multifunctionality

• The goal of the OECD is to establish principles of good policy practice that permit the achievement of multiple food and non-food objectives in the most cost-effective manner, taking into account the direct and indirect costs of international spillover effects.

• On a broader scale, the work on multifunctionality is part of an ongoing effort by the Secretariat to address domestic non-trade concerns, including equity and stability issues, and trade liberalisation in mutually consistent ways.
• three distinct but connected sets of issues form the nucleus for the development of a work programme on multifunctionality.
  – The first of these concerns the production relationships underlying the multiple outputs of agriculture, and the externality and public good aspects of these outputs.
  – The second comprises methodological and empirical issues related to the measurement of the demand for non-commodity outputs, criteria and procedures for specifying domestic policy objectives, and mechanisms for evaluating progress.
  – The third set of issues concerns the policy aspects of multifunctionality, including its implications for policy reform and trade liberalisation.” (OECD 2001).
From the theoretic viewpoint, the key elements for the development of public actions aimed at achieving a second-best solution in this context concern the following main issues:

- defining the existing joint-production relations between market and non-market goods and services;
- assess the positive externalities, i.e. the social benefits produced, but not or only partially compensated by the market;
- implementing market and non-market instruments capable to make up for market failures with respect to the production of externalities.
• From the economic theory viewpoint, this is a neo-classical approach based on the application of the Cost Benefit Analysis (CBA) methods, especially as far as the evaluation instruments are concerned. The Authors themselves highlight the criticalities of this approach, particularly in terms of effective data availability, and conclude that: “Although some strong assumptions might need to be made and the resulting precision of the data can be challenged, the most important message is that the exercise is essential in order for a sensible policy decision to be made” (OECD 2003).
• the involved parties and, thus, the society “judging” multifunctionality can be quite easily identified in the current citizens of the OECD countries, and of the more developed ones in particular, where agriculture’s externalities have a greater social value. This highlights clear consequences with respect to the type of values and to the functions that can be attributed to agriculture. The issue of equity is considered, but only in intra-generational terms and not in a comprehensive way
The OECD analytical framework of multifunctionality

• The definition of the value objects, i.e. the basic components of multifunctionality, is contained in the first OECD report by way of examples, but the suggested approach is such that “There is no need to establish a listing of the multiple “non commodity outputs” or negative externalities of agriculture … What is important is that the different steps in the analytical framework are followed with a view to determining whether a policy intervention is required and, if so, what the nature of that intervention should be.” (OECD 2003).

• The theoretical consequences of the assumption are that the components of multifunctionality have to be defined at local level (single country, homogeneous set of countries) and based on the current priorities.
The OECD analytical framework of multifunctionality

- As to the space dimension for the evaluation of multifunctionality, the OECD approach expressly tackles the theme in both micro and macro-economic terms.
- As to the time horizon, the adopted neoclassical instruments imply clear difficulties in discussing inter-generational equity, hence a substantial lack of consideration for the long-term and future-generation problem, even if some references are made to equity, especially for the negative NCOs.
With reference to the operational side of the proposed multifunctionality concept, the OECD tackles the issue of evaluation and of the economic-policy instruments in a strictly neoclassical perspective (CBA).

As to the economic-policy instruments, the preferable solutions include the internalization of the NCOs, mainly taking inspiration from Coase, even if with a strong focus on the issue of transaction costs, which represent the main limit of this approach.
The concept of multifunctionality within the Model of European Agriculture (MEA) certainly does not present the features of an economic theory like the OECD document, but since the McSharry reform of 1992 this concept has become increasingly widespread and important in the official documents of the European Commission.
The approach to multifunctionality outlined in the EU sector does not aim directly to define the concept of multifunctionality but rather to adopt it as an argument to emphasize the importance of the sector in the European nations and societies. The concept of multifunctionality that emerges from the documents underlines the various functions ascribable to the sector but in the political scheme it tends to standardise the concept of multifunctionality with environmental sustainability.
As a normative concept, multifunctionality fulfils specific functions. It is possible to identify three intertwined functions: it justifies the existence of agricultural policy, the need for change and the necessity to underscore environmental and rural development concerns. (Garzon 2005)

In other words these functions can be summarised into two different requirements: to respond to the needs of European society to share the objectives of high-level financing for agriculture; secondly, to make aid to European farmers acceptable in international agreements especially in the WTO.
“We cannot expect rural zones to be prosperous, the environment to be protected, animals in breed farms to be treated well and our farmers to survive, without spending any money. In future farmers will receive incentives, not to produce in excess but to meet the requirements of citizens who ask them for safe foods, quality produce, well-treated animals and a healthier environment”. (10.7.02 “Towards sustainable farming" Commission presents EU farm policy mid-term review).
• Therefore taking into account guidelines from the OECD report especially: *targeted payments are likely to be the most desirable option from the point of view of efficiency, equity and international spillovers* (OECD 2003).
• In the application of regulations, however, these objectives seem to be forgotten or at least considered in a very restricted context rather than in terms of full promotion of agricultural multifunctionality. The main concern seems to be promoting agriculture that has no negative effects on the environment, rather than protecting and motivating agriculture which carries out functions – for the landscape, environment and society – that are important in many areas of the country.
• There are a number of reasons for this divergence between the initial approach and the final regulation concerning the role of multifunctionality in the Mid-Term Review but they are mainly ascribable to two basic reasons. Firstly, the heterogeneous nature of European agriculture types and the relationship between these and the respective national communities; secondly, the role of WTO negotiations in the definition of the PAC.
The multifunctionality of agriculture within the Common Agriculture Policy

- Despite this resizing of the multifunctionality concept, there are some regulations that can contribute to identify the CAP concept of multifunctionality

- In particular, art. 69 1782/2003 “Optional implementation for specific types of farming and quality production”
The new regulation pattern of rural development does not appear to solve many of the problems mentioned above regarding effective application of targeted payments for multifunctionality, however they may represent a fundamental tool for the future of many disadvantaged areas with a high level of positive NCOs produced.
• The reference subjects for the concept of multifunctionality are inevitably European citizens, but more precisely concern a concept of flexible multifunctionality which can be adapted to the specific interpretations attributed by each member nation.
• There is very little to be established on the time and space horizon of European multifunctionality, although stating the concept of sustainability implies in some way a consideration of future generations in the definition of current choices.

• The spatial dimension for the analysis of multifunctionality is limited to the definition of administrative contexts in which the support tools are applied and coincides with either the member state or its large subzones (NUTS1-2). Obviously there is no relation between this spatial definition and the really wide impact of the NCOs.
• Regarding valuable objects to take into consideration it may be useful to quote the results of a study of the OECD countries which defines the following “Principal Non-Commodity Outputs and Negative Externalities”:


• To these we can add as social functions of agriculture inferable from other EU documents the following NCOs: economic functions, including **security of food supplies** and the **generation/maintenance of employment in rural areas**; functions of public utility ascribable to **quality and safety of food** and their contribution to the balanced development of the area.
• The cross between these functions and current agro-environmental measures is not wholly satisfactory especially in terms of measures aiming at targeted payments for positive NCOs. Moreover the problem is emphasized by application methods adopted by member countries which have almost all opted to subsidise the reduction of negative externalities, and very often with approaches that have a very low effects on agricultural impact.
• As far as concerns multifunctionality management tools, we have already mentioned the privileged use of restrictive statutory systems

• An other important tool is represented by the internalization mechanisms as incentives for agritourism and typical products

• but the new regulation for rural development also leaves room for types of targeted payments: for example (art. 39) regarding agro-environmental payments: “the beneficiaries can be selected through a call for bids, applying criteria of economic and environmental efficiency”. Obviously in this case too, much depends on the application choices of individual member states.

• The main EU guideline is not to make choices about multifunctionality but only about sustainability, probably opting for a reduced but politically manageable objective.
the MeaScope project attempts to provide operative tools for the activation of political tools aiming at the multifunctionality content of agriculture. In this sense the contribution aims mainly to provide tools to assess multifunctionality at the level of farms and territory.

The approach is therefore based in conceptual terms on the microeconomical theory and technically aims at the interpretation of the various qualitative and quantitative extents to which multifunctionality is revealed within the various agricultural systems and production techniques.
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<td>Define a new system of objectives to finalize new tools for agricultural policy in order to minimize the negative effects of agricultural activity and promote non-market functions</td>
<td>Impact analysis of the CAP options</td>
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<td>Appropriate reading of the cumulative or cyclical effects expected in the medium and long term, in consideration of future generations</td>
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