A NEW-INSTITUTIONAL FRAMEWORK TO EXPLORE THE TRADE-OFF BETWEEN AGRICULTURE, ENVIRONMENT AND LANDSCAPE

Francesco Caracciolo*, Pasquale Lombardi*

Introduction

Well over a decade ago the existence of a trade-off was shown between agricultural production and the environment, with a negative balance to be ascribed to “modern” agriculture (Romano, 1998). Yet we feel it is worth revisiting the subject in light of the new ideas offered by heterodox economic theory (Marletto, 2009) and especially neo-institutionalism (Hagedorn, 2008; Vatn, 2009) in order to assess the effectiveness and sustainability of public interventions implemented for landscape conservation. A contributory factor is the substantial rethinking of the strategic approach of intervention policies (Tempesta, 1997; Hackl, Pruckner, 1997; Cicia, Scarpa, 1999).

This research strand can still offer interesting new insights due both to the growing sensitivity shown by modern society as regards various environmental issues and to the increasingly evident unsustainability of the relationship between man and the environment in current development models. In the growth strategies of more developed economies sustainability should be increasingly understood as respect for an intergenerational pact, with economic development based on resource exploitation that are not detrimental to future generations. Using this approach to analyse the socio-economic dynamics of modern economics, it would appear legitimate to state that strategic management of the landscape, understood as one of the positive externalities of the primary sector, means tacitly assigning agriculture an anything but marginal role in public intervention land management policies.

Multifunctionality of the primary sector (with joint production of farm commodities of a private origin and goods and services of a public nature), use of natural resources, competition for land use and ever more forced integration between agriculture and the other sectors of the economy, have broadened the dimension of the problem to the point where, within the modern vision of analysts and policy makers, agriculture, the environment and landscape are increasingly bracketed under the umbrella of “sustainability”.

* Department of Agricultural Economics and Policy, University of Naples, “Federico II”.

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From this standpoint, environmental sustainability, an essential objective within
the rationale of modern economic development, requires a new institutional
framework that can create a new “pact” between consumers and operators in the
agricultural sector which is able to confer a new role on farming, on the food
processing industry and all those related functions which in some way impact upon
the environment and hence on the landscape. Yet this also requires a greater, more
concrete assumption of responsibility on the part of institutions and opinion
makers. Given the dissonance between perception of the problem and the
measures to implement, there is an evident need for the scientific community to
broadcast the serious reasons for substantial, targeted intervention measures.

Our contribution falls within recent developments in this debate: sections one
and two describe the evolution of the concept of “landscape” and measures taken
to conserve it in Italy; section three reviews the concept of “multifunctional
landscape”, assessing the sustainability of conservation interventions; in section
four we discuss the theoretical paradigm of “multifunctional landscape” and the
virtuous solution of the trade-off through a new institutional framework.

1. Concept of landscape over time

The concept of landscape has so many different definitions and shades of
meaning that any attempt at formal analysis is likely to be fruitless if the problem
of meaning is not first resolved. Reviewing the historical changes in interpretation
that common sense and the hand of the Italian legislator have given to landscape, it
is clear why this definition has remained so vague and incomplete for decades
(Tempesta, Thiene, 2006), albeit constantly changing in time.

The first Italian legislative acts, passed at the beginning of the 20th century (Art.
1, Law 778/1922), likened the landscape to natural and panoramic beauty. Indeed, in
Art. 1 of Law 1497/1939 the following were made subject to protection “fixed assets
that make up a characteristic aspect with aesthetic and traditional value” and
“panoramic beauty considered as natural paintings”. From the “Galasso Law”
onwards (Law 431/1985) the legislator’s attention has shifted chiefly from matters of
aesthetics and perception to natural and environmental features. Explicit definition of
the landscape was achieved only with the general provisions of the European
Landscape Convention signed in Florence on 20 October 2000. According to Article
1 of this document, landscape is defined as “an area as perceived by people, whose
character is the result of the action and interaction of natural and/or human factors”.
This definition is further narrowed in Art. 131 of Italian Law Decree 42/2004 and the
list of elements that might be ascribed to conservation comprises both what might be
perceived in an area and elements exposed to subjective judgement (Castelnovi,

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From a recent panel of eight of the world’s most important economists, including four
Nobel prize-winners (the so-called Copenhagen Consensus) it emerged, for example, that no
environmental matter was listed among the priority issues to be tackled (Pedersen, 2008).
Landscape goods include villas, gardens, ancient trees and other areas of public interest (historical centres, panoramic areas and points). However, the most important part concerns the inclusion within the concept of landscape any area which is “identifiable” and described. Thus individual perception becomes the means by which to determine landscape “identity characteristics” that are no longer strictly connected to the notion of beautiful, given that even the most degraded urban suburb may identify a particular area.

In light of the above, it may be concluded that landscapes may be extremely varied (farmland, urban, natural, etc.), but that all have value as a continually changing public resource. Each has its own specific need of protection, conservation and restoration policies. The transition from a simply aesthetic, static and panoramic concept to a living, dynamic view has thus been completed. In the former there emerged only the categories of site conservation and protection; in the latter, alongside the concepts of conservation and protection we find those of enhancement, protection and sustainable development in relation to business activities, with both a present and future interface.

The above evolution in the concept of landscape within the socio-cultural context has also led to major economic repercussions. The various industries within a certain area thus become part of a close symbiotic relationship with the other environmental elements in landscape perception. Conversely, landscape ends up becoming itself an endogenous variable in economic development. In other words, it becomes an element of the institutional framework.

2. Landscape and its transformation

The process of landscape transformation is thus strictly connected to the institutional framework and especially to the social and productive fabric of geographical areas. This aspect was already discerned by Emilio Sereni (1961) who in his famous work *Storia del paesaggio agrario italiano* (History of the Italian agrarian landscape) stated that it was production systems and their relevant social relationships which gave specific connotations to the landscape.

Yet while almost into the 1980s human-induced changes could still seem consistent with the prevailing idea of development and economic growth (the socio-cultural and institutional model of industrial society envisaged, for agriculture, a process of “modernisation” based on capital intensification), the recent undidy transition from industrial society to post-industrial society has radically changed this vision, so much so that today, rather than speaking of development, it seems more...
legitimate to classify current events as a violent upheaval involving high social costs and substantial (primarily) private benefits.

In particular, we may identify two distinct processes that have acted directly on the deterioration of the Italian farming landscape. The first consists in the strong intensification of production processes which have affected higher-quality farmland, exposed, amongst other things, to increasingly insistent competition for non-agricultural land use; the second process, however, is that of the abandonment of rural settlements, with the consequent reforestation of former farmland that has instead affected the more marginal areas (Torquati, 2007).

The combined use of digital orthophotos, GIS (Cembalo et al., 2006) and exhaustive assessment indexes of landscape quality (Tempesta, 1996) allow us to evaluate in depth such processes of natural impoverishment which, in time, have been continuous and constant. However, also through the use of some elementary data it is possible to document incontrovertibly the far from trivial consequences of such processes of unbridled intensification upon Italian landscapes. Indeed, calculation of the difference between used agricultural area (UAA) and total agricultural area (TAA) supplies us with the first element with which to analyse change in soil management which is fundamental to determine the trend in such phenomena.

Today, compared with the 1960s about 9 million hectares of TAA and 8 million hectares of UAA (Table 1) have vanished, and if the comparison is made with the 1980s the corresponding figures are 5.8 and 3.3 million hectares less. If we add to this phenomenon the increase in weight of underused agricultural areas (UAA/TAA ratio), we obtain, albeit qualitatively, a further indicator of the impoverishment of agriculture to the benefit of other “anonymous uses” of land (Coppola, Verneau, 1997).

Tab. 1 – TAA, UAA and UAA/TAA, Italy, by altitudinal zone in thousands of hectares

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>H</th>
<th>L</th>
<th>Tot</th>
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<tbody>
<tr>
<td>Total agricultural area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>9,202</td>
<td>11,398</td>
<td>5,971</td>
<td>26,572</td>
</tr>
<tr>
<td>1980</td>
<td>7,987</td>
<td>10,232</td>
<td>5,341</td>
<td>23,560</td>
</tr>
<tr>
<td>2005</td>
<td>5,861</td>
<td>7,495</td>
<td>4,448</td>
<td>17,803</td>
</tr>
<tr>
<td>Used agricultural area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>5,735</td>
<td>9,383</td>
<td>5,639</td>
<td>20,757</td>
</tr>
<tr>
<td>1980</td>
<td>3,890</td>
<td>7,375</td>
<td>4,724</td>
<td>15,989</td>
</tr>
<tr>
<td>2005</td>
<td>3,034</td>
<td>5,676</td>
<td>3,998</td>
<td>12,708</td>
</tr>
<tr>
<td>UAA:TAA ratio</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>0.62</td>
<td>0.82</td>
<td>0.94</td>
<td>0.78</td>
</tr>
<tr>
<td>1980</td>
<td>0.49</td>
<td>0.72</td>
<td>0.88</td>
<td>0.68</td>
</tr>
<tr>
<td>2005</td>
<td>0.52</td>
<td>0.76</td>
<td>0.90</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Note U=Upland, H=Hill, L=Lowland

Source: our elaboration of ISTAT data

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These figures are obviously not exhaustive in explaining the considerable simplification of rural landscapes which has affected all of the regions in Italy, but the fact that this has assumed more serious connotations since the 1980s, especially in lowland areas, suggests that not even the thrust of environmental concerns and the greater involvement of the institutional sphere have managed to check a phenomenon which has already assumed a pathological dimension.

Comparison with other countries gives even greater cause for concern on a national basis (Figure 1). With the exception of Portugal, Italy is the OECD country which in the period in question (1967-2007) experienced the highest percentage reduction in used agricultural area. More, if we consider that Italy is subject, more than others, to continuous morphogenetic processes, one understands why the result of the increase in “non-management” of the land (Figure 2) frequently ends up in the daily news³.

**Fig. 1 – Percentage change in UAA from 1967 to 1987 and from 1987 to 2007**

![Percentage change in UAA from 1967 to 1987 and from 1987 to 2007](image)

*Source: our elaboration of FAO data*

³ “As many as 5,581 municipalities are at hydrogeological risk, 70% of all Italian municipalities... Italy is made even more vulnerable by illegal building, slope deforestation and irrational urbanisation”. (Ecosistema rischio 2008, Legambiente and Civil Protection Department).
3. Trade-off: the role of institutions

“Passive” maintenance alone of primary production is not sufficient to pursue landscape conservation policies. As stated above, there is a substantial “negative balance” in farming – squeezed, so to speak, in the trade-off between primary production, environment and landscape, a negative balance which stems directly from intensification of production techniques in agriculture. The exorbitant costs of storing farm surpluses, the irrational use of non-renewable resources, genetic erosion caused by the abandonment of native varieties and the abandonment of more marginal farmland (Buckwell et al., 1982), represent only some of those negative effects which for too long have been structurally consolidated in the very way of doing farming. However, what is somewhat puzzling is that these issues have been well known since the MacSharry reforms (1992) thanks to surveys, summarised below in Figure 3, which the European Environment Agency (EEA) began to conduct in those years.

The environment comes under considerable pressure thanks to a series of factors: these include the excessive use of pesticides (94,000 t/year), of nitrogen and phosphate fertilisers (780,000 t/year and 360,000 t/year), monoculture, the depletion of plant and animal biodiversity (of 600 species at risk of extinction in the EU, 266 are found in Italy), the inefficient use of water resources and energy, and all the consequent pollution.
Nevertheless, agriculture cannot but be considered the best instrument for sound land use management and effective area conservation. This can only happen if its multifunctional and eco-compatible characteristics are enhanced. This is possible through the active role of institutions insofar as the pursuit of better equilibria between agriculture and the environment assumes the essential connotation of a social issue. After all, given that it is a private economic activity, agriculture cannot but pursue the objective of profit maximisation.

Modern conventional agriculture today lies at the core of a complex that can be represented schematically and effectively by Van der Ploeg (2002) in his well-known triangle of faire valoir, reported in Figure 4.
If we try to draw up a similar triangle around multifunctional agriculture (production, services and environmental protection) (Figure 5) it is evident that two of the three functional types can easily be monetised, while the third, which includes in primis landscape protection (Knickel et al., 2004), poses a problem of assessment: though working towards social benefits due to a direct relation between social utility and agricultural production ($\delta U/\delta P_A > 0$), its real monetisation is only mediated by the public transfer or exploitation of products and services supplied.

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4 For a complete treatment of joint production in agriculture, see OECD (2001).
However, what counts is not so much an estimate or exact monetary quantification of such externalities, as the fact that, on the one hand, the public official acknowledges and promotes the value of these functions and, on the other, local populations perceive that such externalities may be converted into an added value that the market could transfer to them in the form of a *premium price* for higher intrinsic quality of environmental goods and services, which may be negotiated in the context of a new institutional framework⁵. Indeed, when the producer of externalities is not remunerated through prices, the existence alone of the market does not entail automatically an efficient allocation of resources (Velazquez, 2004). In this context, public intervention is generally justified to ensure that those who produce (or consume) can measure themselves against social costs (or benefits), incentivising the virtuous behaviour of economic operators, and actually solving possible market failure. Indeed, it is the institutions which supply the single economic actor with information, coercion or cooperative mechanisms, which allow the actor to take due stock in formulating his/her own strategic behaviour (Hall, Taylor, 1996).

Hence the need for regulations and the firm intention to apply them, given that it is precisely the set of rules which limits the formal scope in which each economic agent makes his/her choices and performs his/her own actions. Clearly, both requirements need to occur for actions to be effective. The influence of political and institutional conditions in achieving a sustainable use of resources is indeed substantial and is widely acknowledged⁶ (Marenco et al., 2008). Moreover, the institutional condition is directly evaluated by the same UNCSD⁷ as one of the dimensions of sustainable development, in addition to economic, social and environmental dimensions (Spangenberg et al., 2002).

However, it cannot be denied that since the 1980s there has been both national and European legislation around this issue, as well as greater recognition internationally. Whereas European institutions have been content to issue principles and political guidelines (European Landscape Convention of 2000) including those few standards and measures mostly within regulations already structured for the Common Agricultural Policy (Table 2), at the national level there has for some time been well-defined legislation (Table 3). Currently, the legal point of reference in Italy is the so-called Urban Code (Law 42/2004), and its subsequent integrations (Law 157/2006; Law 63/2008). The code builds on the previous Law 431/1985, better known as the Galasso Law, which made it obligatory for the Regional Authorities to take concrete action, such as identification of the distinctive features of regional

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⁵ Sustainability in the food chain “means creating a new sustainable agro-food system while taking the institutional element into account” (Cembalo et al., 2010).

⁶ The EU recognises “that sound policies, democratic institutions, the rule of law and respect for human rights are the basis for sustainable development...”. (Council of the European Union, Strategy for Sustainable Development, Plan of Implementation for the World Summit on Sustainable Development (Johannesburg, 26 August-4 September 2002), Brussels, 5 March 2002).

⁷ United Nations Commission on Sustainable Development.
landscapes and their assessment also through the analysis of conversion dynamics in
the years, so as to define the objectives of landscape quality.

Tab. 2 – Main landscape protection measures in Italy

<table>
<thead>
<tr>
<th>Law</th>
<th>Main points</th>
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<tbody>
<tr>
<td>144</td>
<td></td>
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<tr>
<td>Law 431/1985</td>
<td>Galasso Law: Art. 1b emphasises the need for interaction between urban planning and the environment, recommending specific consideration of landscape and environmental values when drawing up regional, local or urban plans.</td>
</tr>
<tr>
<td>Law 142/1990</td>
<td>Local authority regulations: under Art. 15 the Provincial Coordination Area Plan (PTCP) is to be submitted to the Regional Authority which shall, following its own regulations, ensure the participation of Municipal Authorities in shaping the PTCP.</td>
</tr>
<tr>
<td>Law 112/1998</td>
<td>The PTCP is given the value and effect of conservation plans in the sectors of nature protection, environmental and water resource protection, soil conservation and protection of natural beauty.</td>
</tr>
<tr>
<td>Law 490/1999</td>
<td>Legal provisions with regard to cultural and environmental assets compliant with Art. 1 of Law 352/1997 to provide for countryside plans and urban area plans for environmental assets indicated in Art. 146.</td>
</tr>
<tr>
<td>Law 228/2001</td>
<td>Orientation and modernisation of the farming sector, in compliance with Art. 7 of Law 57 of 5 March 2001. Under Art. 1, in the definition of agricultural entrepreneur, there is a reference to area enhancement and rural and forest heritage, i.e. reception and hospitality as defined by the law. Moreover, under Article 15 public administrations are allowed to stipulate conventions with farmers to arrange and maintain the local area, and protect the agricultural and forest landscape.</td>
</tr>
<tr>
<td>Law 42/2004</td>
<td>Code of cultural and landscape heritage, pursuant to Art. 10 of Law 137 of 6 July 2002 (Urbani Code). This is the first piece of legislation which explicitly contemplates the term landscape. Under Art. 135 of the code Landscape Planning is to be carried out by means of landscape plans and/or urban area plans which must take into consideration landscape values regarding the whole regional area split into homogeneous zones.</td>
</tr>
<tr>
<td>Law 14/2006</td>
<td>The European Landscape Convention is ratified in Florence on 20 October 2000.</td>
</tr>
<tr>
<td>Law 157/2006</td>
<td>Measures amending and integrating Law Decree 42 of 22 January 2004, in relation to landscape. Art. 1 is modified by Art. 5, attributing landscape conservation functions not only to the Regional Authorities but also to the State.</td>
</tr>
<tr>
<td>Law 63/2008</td>
<td>Further measures amending and integrating Law Decree 42 of 22 January 2004, in relation to landscape. The distinction between landscape assets and landscape is introduced, with significant repercussions on landscape planning procedures. In effect, as has been correctly pointed out, the distinction between landscape goods, comprising goods and protected areas, and landscape, consisting of the whole region, understood as the visible form of the area, gives rise to a series of consequences as regards State/Region relations.</td>
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</table>
Tab. 3 – Main landscape protection measures in the European Union

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
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<tbody>
<tr>
<td>EEC Reg. 797/1985</td>
<td>Improvement in the efficiency of agricultural structures; under Art. 1 it was explicitly contemplated that all the measures which Member States were to set in train to improve farm efficiency should be entirely compatible with lasting conservation of natural resources in agriculture. The regime of subsidies envisaged in Art. 3 could also concern investments for environmental protection and improvement. Further, under Art. 19 Member States would be authorised to introduce special national regimes in sensitive areas from the environmental standpoint.</td>
</tr>
<tr>
<td>EEC Reg. 2078/1992</td>
<td>EC regime of subsidies to incentivise environmental protection, product quality, biodiversity, and cultural and landscape values of agriculture.</td>
</tr>
<tr>
<td>EEC Reg. 2080/1992</td>
<td>This regulation instituted an EC regime of subsidies for reforestation and development of forestry activities in farms.</td>
</tr>
<tr>
<td>European Conference of Cork, 1996</td>
<td>Rural sustainable development becomes “the fundamental principle underlying all rural policy in the immediate future and after enlargement” assuming amongst other things the precise objective of protecting the “quality and beauty of European rural landscapes”.</td>
</tr>
<tr>
<td>EC Reg. 1257/1999</td>
<td>Support for rural development on the part of the European Agricultural Orientation and Guarantee Fund (FEAOG). Under Art. 1 the framework of European support for sustainable rural development is defined, providing amongst other things (Art. 2) for the protection and promotion of a high natural value and of sustainable agriculture that respects environmental needs. “Rural development support measures to be applied in one area shall be integrated, whenever possible, into a single plan. Wherever several plans need to be established, the relationship between measures put forward in such plans shall be indicated and their compatibility and consistency ensured” (Art. 41). The plans were to last seven years (2000-2006) for which rural development plans were to be configured as real documents of medium/long-term planning.</td>
</tr>
<tr>
<td>EC Reg. 1260/1999</td>
<td>Applicative measures for Reg. 1257/1999; under Art. 7 financial resources (195 billion euros) are split among the Objective-Regions</td>
</tr>
<tr>
<td>European Landscape Convention, 2000</td>
<td>Explicit definition of landscape. Landscape heritage conservation policies and management objectives are defined together with the measures of landscape preservation that Member States undertake to apply. The importance of the role of human activities is recognised.</td>
</tr>
<tr>
<td>EC Reg. 445/2002</td>
<td>With this and the previous regulatory intervention the EU begins concretely to shift resources towards the so-called second pillar, such that the Regional Operative Plans (ROPs) resulting from the Regional Development Plans begin to take shape, albeit with at times marked differences from region to region, as a set of coordinated measures able to influence not only the farm production fabric in the strict sense, but also more specifically landscape and the rural environment.</td>
</tr>
</tbody>
</table>
EC Reg. 1782/2003

This Regulation establishes common norms concerning direct support regimes in the sphere of the Common Agricultural Policy and establishes support regimes in favour of farmers. It introduces cross-compliance, according to which each farmer benefiting from direct payments is held to respect obligatory management criteria concerning public health, plant, animal and environmental health, and maintain the soil in good agronomic and environmental conditions.

EC Reg. 796/2004

This Regulation lays down detailed rules for the implementation of cross-compliance, modulation and the integrated administration and control system. It specifies statutory management requirements irrespective of agricultural use.

EC Reg. 1698/2005

Support for rural development on the part of the European Agricultural Fund for Rural Development (EAFRD). With this Regulation the second pillar gains greater weight. The process of decoupling has become absolutely essential and a single Common Market Organisation (CMO) begins to be designed for market relations. The Regulation stipulates the axes, measures, and local development strategies to achieve the three objectives laid down in Art. 4: a) improving the competitiveness of agriculture and forestry by supporting restructuring, development and innovation; b) improving the environment and the countryside by supporting land management; c) improving the quality of life in rural areas and encouraging diversification of economic activity. The starting-point is the Common Strategic Guidelines (CSGs) which are the inspiration behind National Strategic Plans (NSPs) that will be subsequently implemented through Rural Development Plans (RDP 2007-2013) provided for and specified under Art. 15 and 16 of the Regulation.

Therefore, having confirmed the existence of a legal framework, the second requisite merits attention, namely the willingness to use such legislation for the purposes of planning economic activities and the relative social interrelations compatible with a sustainable management of all resources. The reasons for the ineffectiveness of many of the policies implemented should be sought not only in the inadequacy of controls and the ways in which governance is organised but especially in the lack of awareness of institutions which in many contexts even

8 “The State has retained the legislative monopoly and the administrative primacy only in landscape goods, both for the purpose of applying legal constraints, and in the sphere of planning procedures, while it seems to have yielded to the regional authorities as regards “the rest” of land use planning, which has to consider and regulate the remaining part of the region. The consequence of this approach is that, according to Art. 135 of the Code, the plan has to be jointly drawn up by the Ministries of Cultural Heritage and the Environment together with the Regional Authority, yet only for part of the plan – that concerning landscape assets – while the joint drawing-up of the other part, as regards landscape not subject to environmental constraints, is merely optional. With the evident risk that a plan drawn up in separate parts – two half-plans – means that it works less effectively, while it should by definition create a single regulatory framework, extending across the whole regional landscape”. (Our translation of Amorosino, 2008).
allow certain social customs and “informal laws” to consistently replace “formal” laws, thereby creating a particular, alternative institutional framework (Marenco et al., 2008). However, it should be stated that intervening in the inefficient allocation of resources by regulating the market through a Pigovian approach can only shore up speculative free-riding behaviour which ends up making society pay huge costs for the support, management and control of public intervention.

For such reasons, sustainable strategies of landscape preservation should pursue fewer legal paradigms (only tied to the defence of “constraints”) and focus more on new frameworks with “bottom-up” interventions, through a system of polycentric governance, able to act directly on choice formation mechanisms, to reduce the existing tension between social interests and private interests.

Although positive or negative externalities represent in any case a “market failure”\(^9\), local policy interventions should target education and awareness-raising initiatives of both enterprises and local communities for promoting virtuous behaviour. For example, on the one hand, dissemination of Corporate Social Responsibility practices could be encouraged. On the other, consumers could be made responsible, fostering community involvement through participation in shared environmental management activities. This could greater awareness of the demands of the greening movement (Perrini et al., 2009).

Thus the objective of landscape protection must not be that of handing down to future generations a natural museum, so much as ensuring that society and all its citizens have a deep-rooted rapport with the environment which is both respectful and suited to the importance to be accorded to non-renewable resources.

4. Trade-off: a new institutional paradigm

The new forms of governance should be accompanied by social responsibility with regard to the sustainable use of local resources. Managing to enhance the so-called demand for “rurality” and use it as a strategic lever in the sphere of “area marketing” plans may constitute the platform for virtuous behaviour of producers, achieving an efficient and sustainable allocation of resources through the market. A necessary condition for ensuring what has been described here, is to consider food quality not only in normative terms, as is the case of products covered by EC certifications (organic, PDO, PGI, etc.), but also in broader and multidimensional terms. Quality has gone from meaning only intrinsic product attributes, hence synonymous with excellence, to a broader definition full of different meanings (Peri, 2010), including not only tangible and intangible attributes of the product but also all stages of the production process (Caracciolo et

\(^9\) The traditional neo-classic approach considers the presence of negative externalities as social costs that could be covered by taxation as compensation for the additional cost imposed on society. At the same time, in the presence of positive externalities, a reward should be paid to cover the produced extra benefit.
As a result, purchase choices are affected also by social and cultural attributes of the local context comprising the food supply chain, and above all, by the way such characteristics are guaranteed and communicated to end consumers (Caswell, Joseph, 2008). The greater the ease of recognizing the quality attributes, and the higher will be the premium price that consumers are willing to pay for the end product.

However, for institutions this means the need to offer consumers all the intrinsic product and process information, establishing a rigid system of guarantees and surveillance that is acknowledged by all economic agents (Carbone, Sorrentino, 2005).

To formalise the above statements and highlight how to beneficially resolve the trade-off between agriculture and the environment, it may be useful to examine the possible choice of goods and services supplied by an area by means of a multi-objective constrained optimal allocation model (Wiggering et al., 2006). The model, incorporating what was proposed some time ago by de Stefano (1997), includes explicitly the effect of institutional changes on reaching the equilibrium (Figure 6a).

Fig. 6 – Set of production possibilities and social indifference curve

![Diagram](image)

It is a question of representing a very simplified economic system consisting of the presence of two types of product that a "multifunctional landscape" can offer society through productive activities (e.g. multifunctional agriculture); directly monetisable resources (e.g. agri-food businesses in the strict sense, services, etc.) and positive

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10 Consumer quality perception of an organic product, for example, is lost gradually with the increase in its "food miles", i.e. the physical distance food is transported from the time of its production until it reaches the consumer (Caputo et al., 2012).

11 "Multifunctional landscape" indicates a landscape that offers both material and immaterial goods, satisfying social needs (Wiggering et al., 2006).
externalities (e.g. protection of the environment, conservation of landscape identity, etc.). By definition, externalities, even if requested by private consumers and by society, are not traded on the market. Thus, as they present no tangible remuneration, they assume the particular characteristic of a public good. Figure 5a shows the frontier of the production possibilities among the two above categories, with the assumption that also in joint production there is the possibility of changing the proportions of the quantities of the two goods produced; the shape of the transformation curve will depend on the technology adopted by the production activity and by the constraints on available resources (soil, water, labour and equipment).

With “modernisation” economic activities, including agriculture, have focused on the optimisation of private profits, decoupling as far as possible production of monetisable goods from non-remunerative goods. In the absence of interventions from the institutions (in laws or subsidies), firms reach their optimum on the horizontal intercept of the transformation curve (private optimum in Figure 6). Along this curve an increase in private profit generally entails a reduction in environmental goods and services supplied to society.

This situation has had the effect in time of bringing about a scarcity of supply of environmental goods which, once perceived by society, has stimulated the growth of citizen awareness for such issues, generating new demand for the goods in question. Society’s overall demand for goods and services supplied by the land may thus be represented by social indifference curves. Optimal allocation of production among the various products is determined by the tangent point between the frontier of the production possibilities and the higher social indifference curve (social optimum point in Figure 6a). Neo-classical economics teaches us that to make the social optimum coincide with the environmental optimum it is possible to intervene by seeking to internalise the externalities within the tradable goods market (top-down approach). In this case, the change in the institutional arrangement may emerge when intervening on the slope of the isoprofit curve.

An alternative way to reach the same objective could be the result of what is shown in Figure 6b. This is the schematic representation of the sustainable strategy which we called “bottom-up” above, a virtuous path which in some narrow environmental ambit already represents the reference model of development. In this case the productive activities falling within the affected area adopt, given the resources available, a different product transformation curve. In this case, along the curve an increase in the supply of externalities is linked to an increase in monetisable resources. We are in geographical areas rewarded by strong demand for rurality which is translated into a strong demand on the part of consumers of non-tradable goods such as those of rural tourism and gastronomic products. Such products and services are differentiated because they are rewarded by a strong relation of complementarity with the supply of environmental goods and services. In this regard, Milone (2009) speaks of “novelties”, primary goods which, “in refuting the dichotomy between agricultural production and the production of externalities, re-compose it in multifunctional practices”.

In this model we note that the private optimum is obtained at the tangent point between the frontier of production possibilities with an isoprofit curve of infinite
slope while the social optimum coincides in the tangent point with the social indifference curve; in this situation the two points coincide (Figure 5b) and the trade-off between the productive activities and the generation of externalities is resolved virtuously. Clearly, in this case a change in the slope of the isoprofit curve would be completely uninfluential in determining equilibrium conditions.

Examples of the virtuousness described are the experience of “White and Wild Milk” sold to UK consumers at a premium price for direct and explicit payment of environmental undertakings by farmers (OECD; 2005), or Community Supported Agriculture which is becoming increasingly widespread in Europe (Cicia et al., 2011). Spontaneous groups of consumers called “solidarity purchase groups” (SPG) have been also developing, where consumers and farmers organize “novelties” food transactions through districts and networks organized by social and economic territorial relations (Cembalo et al., 2011). By “shortening the chain” farmers can decrease transaction costs and increase their control of production processes. Some empirical evidence was proposed in a recent work by Henke and Salvioni (2010) in which examination of Italian FADN-RICA data actually showed that the adoption of “multifunctional practices” falls consciously within the strategies of Italian farms, to achieve long-term business objectives. Such strategies, consistent with the above account, represent an effective response to the squeezing of margins in the primary sector (van der Ploeg et al., 2000).

The presence in some regional contexts of the virtuous behaviour described above does not exclude policies from becoming a driving force for institutional change. Rather, such policies remain decisive in bringing about new equilibria and resolving the trade-off especially in those contexts that, more than most, have encountered difficulties in following paths of endogenous development. From a merely conceptual viewpoint, the shape and slope of social indifference curves depend by definition on the existing social and institutional framework: if during the Green Revolution guiding policies promoted a model that rewarded substitutability between agricultural production and positive externalities, today the model demanded by European society which is the basis for the new Common Agricultural Policy, is grounded in the concept of complementarity variously expressed (e.g. through cross-compliance). Specifically, the European Commission in the ambit of the upcoming reform of the CAP (CAP post 2013) is re-modelling interventions around three pivotal objectives, namely food security, environment and climate change, and the social and territorial balance (European Commission, 2010). Even the most criticised component, that of direct payments, will be accompanied by an additional “ecological” component, thereby further incentivising environmental commitments (greening).

12 “The active management of natural resources by farming is one important tool to maintain the rural landscape, to combat biodiversity loss and contributes to mitigate and to adapt to climate change. This is an essential basis for dynamic territories and long term economic viability” (European Commission, 2010).
Conclusions

Approximately 15 years ago agriculture was decoupled from its economic and social context in which it operated and maximised its income, increasing production with the help of direct subsidies. Currently, the role assumed by the multifunctional nature of the primary sector steers production towards the market and, at the same time, obtains a more equitable remuneration for the production of public goods such as landscape. This payment could be effected through a new institutional arrangement thanks to the right combination of intrinsic product quality and its attraction capacity linked to the supply of positive externalities and services of social interest.

The approach described could thus underlie a new paradigm of sustainable development whose objective should be to re-assess whole areas in terms of economic efficiency and sustainability. Without tackling the controversial question as to whether the use of GDP as an indicator of welfare is correct or otherwise, or whether one should use the Index of Sustainable Economic Welfare (ISEW), or even its updated version Sustainable Net Domestic Product (SNDP), it is beyond doubt that sustainable development cannot be determined with criteria of mere financial accounting.

All those concerned – institutions, public and private operators, and local communities – should acknowledge the intangible benefits of environmental and landscape protection whose current and future value must somehow be discounted. Cultural acceptance of this approach would mean avoiding the controversy often associated with public goods, for which it is less obvious, compared with private goods, who are the suppliers of the service, who the beneficiaries and who the purchasers.

Besides, it is important to realise the need for a new area governance based on the principle of subsidiarity. Any programming policy is the fruit of negotiations. Hence it needs to be taken into account that there will always be dilution in the transition from the decision-makers at the core to the periphery which has to transpose and implement the interventions. Thus the first objective of the new governance must be to manage and obviate this asymmetry between the various levels in terms of knowledge, information and intellectualisation of programmes.

The concrete harmonisation of interventions envisaged for the environment and landscape under the recent changes in the CAP can no longer be postponed. Such concreteness presupposes that cross-compliance is not only a mere term to justify financial transfers but it becomes a cultural objective made precisely by the people and especially by economic and institutional operators active in the region. We believe that this is the only way to achieve that virtuous link between cross-compliance and subsidiarity to add synergy to rational planning of interventions. Recent developments in the CAP seem to be heading in this direction.

In 1995 in one of his last interviews on the theme of agricultural issues, Sicco Mansholt spoke of a three-fold crisis of income, policy and the institutions. In relation to the latter, Mansholt made mention of organised irresponsibility, pointing out that the institutions which surround agriculture form a complex set which is
hard to manage. On the issue of policy for the environment and, more generally, for the landscape, the greatest danger to avoid is precisely that of the lack of a single strategic vision which may be translated into effective public interventions.

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