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# **Consumption of farmland between traditional interpretative paradigms and new spatial models**

## **Abstract**

In this paper, we will discuss how soil consumption in mature economies is increasingly affecting farmland with measurable effects on the loss of eco-systemic services of agriculture. Different sets of indicators interconnect multiple phenomena: this fact restates the centrality of rural areas through the concept of multifunctionality.

Modifications are intense, which imply the damage of multiple relationships between artificial space and agricultural systems.

The observed trends suggest a concentration model of farm structures. This allows the testing of the effectiveness of agricultural policies. The tendency of relevant indicators shows the intensification of the restructuring process.

## **Keywords**

Farmland consumption, multifunctionality, spatial models

## **JEL Codes**

Q10 Q12 Q15

## **1. Consumption of farmland in new spatial models**

The use of agricultural land through several forms of degradation: erosion, compaction, and waterproofing affects all primary sectors with increasing costs.

The Italian landscape is 30 million hectares, 17 of it is the total farmland (SAT), but only 12 are actually productive. The utilized agricultural area (SAU), in the past 30 years has decreased by 20% and its incidence has contracted from 52.4%, to 42.6% [Arzeni, 2012]. The majority of the loss is due to urban expansion and soil consumption. An appropriate indicator of damage includes private roads, irrigation systems, uncultivated lands and uncontrolled events affecting the rural area (SAT). On the other hand, the utilized farmland (SAU) is more suited to a planning that is guided by qualitative dimensions that considers the specific agricultural acreage and its productivity. Its decrease is due to several factors: in addition to the loss of SAT, it is also related to the reforms of the Common Agricultural Policy, to the many agricultural subsidies and to the dynamics of international trade. The abandonment of farming is

the result. Often, the outcome is wild re-naturalization inside many forms of urban development. This factor contributes only partially to the return of lost biodiversity, serving several forms of degradation and disorder, while natural forces regain land control.

Soil consumption is increasingly affecting the farmland, with measurable effects in the loss of many ecosystem services of agriculture: the ability to absorb carbon, biodiversity and the restoration of natural capital.

Different sets of indicators interconnect multiple phenomena, this fact restates the centrality of rural areas through the concept of multi-functionality [Casini, 2009]. Modifications are intense, which imply the damage of multiple relationships between artificial space and agricultural systems. In the last decade, approximately 1,500,000 hectares of farmland (SAT) and 300,000 hectares of good land (SAU) were pulverized, rising progressively, to 55 ha per day [ISTAT, 2013]. The damage diversifies regions, for morphological peculiarities, but especially for the variability of the economic development rate. The North shows the most rapid trend. In the Veneto and Lombardy, the proportion between soils consumed and regional surface in the decade exceeds 10% [ISPRA, 2015]. On the other hand, the internal dynamics connects us to the mode of Community economic development, where the situation is also very widespread. If residential buildings represent 30% of the loss, infrastructures constitute more than 40%, the remainder is attributable to different methods of urbanization (excavation, compaction, construction sites, areas for exhibitions, car parks, etc.).

What is attributable to a disorderly land planning translates into urban expansion: the proliferation of roads, interconnecting infrastructures and widespread urbanization. Increasing costs materialize the phenomenon of deterioration. Human impact results in emergent negative externalities [Movia, 2015]. Oversized, articulated, inhabited towns produce cumulative diseconomies, rising costs of land, housing, and transportation prices. Flight to the suburbs is the basis of the repolarization process. The additional impact on the area generates spatial dynamics, dilating land consumption [Chang, 2011]. The uncontrolled growth of cities affects the outlying regions, and failing planning results in a degradation that feeds upon itself. Thus, "urban sprawl" explodes, with low population density, high land consumption and widespread urbanity [EEA, 2006]. This leads to devastation with territorial metastasis, with the gradual marginalization of farmland, the loss of the original biological characteristics and the segregation of the natural elements. Also, the concept of "empty landscape" arises for rural territory. The extinction of indigenous species, due to

pesticides, cultivation methods, and hunting brings us back to a scenery deprived of its characteristic elements, a clear demonstration of biological decline [Ripple, 2015]. The housing dispersion expands the artificial surface: construction of new roads, bridges, links, and refueling systems. Paradoxically, the rate of consumption of the ground becomes inversely proportional to the increase in population. Small municipalities elevate the level of per capita consumption.

Waterproofing becomes relatively independent of demographic growth, related to the stage of economic development, the marginal rate of consumption rises for new residents. The diffused conurbation appears to be the natural evolution of human processes. A strong component of "moral hazard" of the local policies guides the logic of building and the real estate speculation of municipalities. Specific interests and the common good are often difficult to merge. The relevance of the income generated by the taxes from building plots is directly related to the justification of the increase in building spaces. The situation is even more intense in the weakest and mountain areas, where the most fertile land and the valley floor will all soon be urbanized. It only due to the economic crisis that thus far, real environmental and landscape damage has been prevented. We can cite the whole unsustainability of winter sports facilities, for significant effects on the environment.

In Veneto, human impact is intensified by regional peculiarities. Historically, the territory is dotted with small to mid sized towns, characterized by a high degree of autonomy. The fulfillment of housing needs is associated with the rejection of moving house. We must note rural origins where a strong sense of private property and of the small community prevail [Soriani, 2015]. The new structure spatial model "agropolitian" confuses high urbanization characteristics with pre-existing rural structures, at the risk of breaking up the environmental, landscaping, socio-cultural distinctive features of the traditional Veneto. Formed by local cultivation methods anchored to morphological prerogatives, indigenous vegetation peculiarities, pre-existing structures, and tree-lined and inter-property roads, this is the unavoidable heritage anchored in the history of Veneto [Scarpa, 1963]. This provides a pertinent identity to distinguish and diversify the Veneto Region, which includes its landscape and local culture with habits, customs and traditions. It is characterized by its particular use of the land, the combination of natural and modified characters is evident in the specificity of the vegetation and fauna and in the housing and socioeconomic patterns. The traditional Veneto agricultural landscape is now threatened by the phenomenon of abandoning marginal and mountain areas. Examples

are the modifications in production systems with the elimination of its essential features in the intensive areas of the plain, and by the gradual process of subtraction by extra-agricultural activities [Scarpelli, 1996]. In such a manner, the grassland surrounded by hedges, the riparian small woods and wetlands, gradually disappear for the application of agricultural techniques with high mechanization and the consolidation of cultivated areas. The contraction of trees and hedges and the general demise of aesthetic elements are functional to productivity. In the plains, the objective of maximizing production results in the simplification of landscape elements. In the hills and mountains, a more inertial evolution connotes the consequences of the abandonment [De Pin, 2006].

The breakdown of the regional identity profile declares the progressive cultural detachment from the places of origin and the loss of the value of their preservation. New lifestyles indulge standardization and social homogenization; shopping centers and major connector roads are part of active life. New spatial patterns overwhelm the environment and social relations [Bernardi, 1990]. They deprive value from the landscape, even the ones that can be used for tourism development.

## **2. Agricultural structures concentration in the relocation processes**

The restructuring process of agricultural economy in the Veneto is one of the most intense, the fastest and the most out of control in many ways in a future increasingly full of uncertainties.

The productive reorganization seems to follow the Ricardian model. It is increasingly concentrated on the plains; the particular land regime contrasts the competitive repositioning of farms, whose drop-out rates have gradually accelerated, also aggravating the difficulties of turnover, revealing the weaknesses of the social component.

As in other mature economies, the most destabilizing factor is the progressive consumption of agricultural land: it emphasizes the irreversibility of the loss. Territorial aggression becomes more intense, contributing to an erroneous concept of development. A strong defense of rural heritage seems progressively closer to surrendering. The most pronounced decline in farms, almost halved in number from '90s, most dramatically in mountain areas, reveals a selective restructuring. The failure

of those remaining to adapt does show that they have not yet reached a satisfactory structural equilibrium.

The significant contraction of meadows and pastures, but also of woods, encourages the intensification as a favorite kind of land use, when more and more pressing economic commitments require the specialization of farms. The non-agricultural destinations of the land are now predominant. The decreased importance of agriculture in the management of resources makes its function of environmental protection more conflictual and is gradually restricted to unprofitable spaces.

Obstacles to the development of farms are partially circumvented through alternative methods of land consolidation, such as leases and rent-free agreements. In this context, in the personal budgeting of the farmer, the aids to agriculture contrast with other elements, until the preference for land use changes, with a view to urban rent.

A further question is whether such an evolutionary model of the supply, whose dynamics look to speed up further, is compatible with the requests of an increasingly demanding market.

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