

### Séance 3- Le foncier comme bien commun

## How to integrate ecosystem services approach into territorial development: the basket of ecosystem services of the Karaburun Peninsula (Turkey)

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### Problematic and main objectives

Ecosystem services, which constitute a new framework for the analysis of the relationship between nature and society, can be considered as tools for local and regional development (Kumar, 2010) and can generate some advantages for territorial development. First, from a didactic point of view, this approach facilitates the inventory of physical, ecological and cultural resources of a territory exploring the links between the use of resources and its economic and socio-institutional effects. Second, ecosystems services framework in territorial development approach can encourage implementation of sustainable practices. In other words, it can allow designing an economic development through environmentally friendly practices minimizing pressure on exploited resources. Finally, the anthropocentric characteristic of ecosystem services approach can facilitate cooperation of local actors leading to the emergence of a collective identity around the services.

In the light of these advantages, we argue that the introduction of the concept of ecosystem services into territorial development approach is relevant since many territories, especially Mediterranean

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ones, are facing several environmental concerns which threaten their ecological and socio-economic structure. From territorial development perspective, ecosystems and biodiversity can be considered as scarce and specific resources that the territory supplies. Territories can generate economic advantages in terms of territorial rent through productive valorization of these specific and scarce territorial resources (Mollard et al., 2001). Supposing that ecosystem services can create an environmental and patrimonial specificity for the territory, the question is then how to valorize ecosystem services in territorial development framework in a sustainable manner.

To answer this question, in analogy with the bundle of products and services of Mollard and Pecqueur (2007), we develop a new concept, basket of ecosystem services, which refers to a set of ecosystem services (ES) linked to an agricultural activity (provisioning service). This notion of basket of ES services makes it possible to attach the provisioning product to its "composition" of supporting, regulating and cultural ecosystem services in a given territory. In other words, the set of all tangible, intangible and non-marketed services linked to the provisioning service constitutes ecosystem services (ES) basket.

Mollard et al. (2001) state that some field observations provide in depth explorations for joint valorization of specific resources and their territorial anchorage. The matching of supply and demand with territorial qualities lead to the emergence of a bundling effect which generates a specific rent, rent of territorial quality (RTQ) emerging from simultaneous interaction of Ricardian quality rent and Marshallian territorial rent. It is closely linked to the capacity of coordination of local actors and governance. The fact that goods and services in the bundle are complementary creates interdependency between producers encouraging them to get mobilized for a collectively constructed economic gain. On the consumer side, consumers appreciate the quality of the goods and services of the bundle and this reinforces the image of the territory (Mollard et al., 2001). Thus the willingness to pay of consumers for the products and services of the basket are likely to be high due to both quality effect (product quality) and territory effect (territorial dimension) (Campagne and Pecqueur, 2014).

Inspiring from the approach of Pecqueur (2001), we argue that the valorization of ES basket is likely to create value added for the territory not only through the marketing of specific, high quality, environmentally-friendly product but also through the maintenance of concerned supporting, regulating and cultural services which constitute territorial well-being. This requires awareness of local actors concerning ecosystem services of the territory. Acknowledgement of ecosystem services can help to identify territorially-adapted use of natural resources, appropriate sustainable practices and governance. Consumers do not only appreciate the quality of the product which is produced through environmentally-friendly practices but also the quality of other services (quality of air, fresh water, quality of soil, landscape, maintenance of collective traditions, etc.) which are linked to

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the provisioning service. In other words, the valorization of the provisioning service provides the maintenance of other services in the ES basket. As in the approach of Pecqueur and Mollard, the fact that consumers have higher monetary contribution can generate a specific rent, rent of territorial and environmental quality (RTEQ), which could be a lever for territorial development.

Combining the local actors' perceptions of ecosystem services (farmers, residents, tourists, etc.) with the current agricultural practices at farm level, our research focuses on the land use perspective. First, it highlights different interests of local actors on land use and potential conflicts in the future related to various alternatives of land use (building versus farming, energy development project versus biosphere reserves). Regarding agriculture, participatory study of interactions between ecosystem services, territorial development and sustainability can facilitate identifying some problems related to land tenure and help solving them by defining appropriate land devoted to each territorial production through spatial techniques (De Vreese et al., 2016). In other words, ES framework provides useful information for designing land tenure schemes taking into account different actors and different dimensions of sustainability. Second ES basket allows showing the impacts of human activity on soil quality and erosion control which are linked to the land tenure issue. Farmers need to be protected by land tenure schemes so that they improve land and landscape quality through environmentally-friendly practices. At this point, ES framework can help to support adoption of appropriate development policies in the territory.

### **Methodology and results**

We have developed a qualitative approach to evaluate basket of ES. First, we have evaluated farmer's behavior in order to see how provisioning activity interacts with tangible and intangible ecosystem services. 5 ES baskets have been constructed from five provisioning services of Karaburun Peninsula in Turkey: olive, tangerine, grape, narcissus production and goat breeding. A survey based on ecosystem services indicators was conducted nearby 200 farmers in July 2016. More generally, indicators concerning supporting and regulating ecosystem services are inspired from agro-ecological practices whereas those of cultural services are derived from territorial development approach. Second, we have examined consumer's behavior. To do this, we interviewed 100 consumers in Izmir city in July 2016. We have mainly focused on the monetary contribution of the consumer to the baskets of the territory.

The producers' answers have been evaluated by scores from 0 to 4 representing the degree of contribution of agricultural activity to the improvement of ecosystem services (from no contribution level to the highest contribution). Producers of ES baskets linked to narcissus production and goat breeding contribute the most to the maintenance of the supporting and regulating ecosystem services (soil fertility by manure, low animal loading in the grazing area, no frequent tillage, etc.).

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Tangerine producers have the lowest score. (Cultural services obtain the lowest scores among the services. Landscape is the service with the highest scores due to the maintenance of traditional buildings.

Regarding to consumer's behavior, our results show that monetary contribution of the consumer is not sufficient to create autonomous markets for the processed products (olive oil and goat cheese) due to intermediary costs.

### Conclusion

To conclude, analyzing ES baskets of the territory is an important challenge for a territorial development. The valorization of ES baskets refers not only to pricing mechanism but also to setting up some institutional frameworks in order to guarantee the supply of services. The aim is to encourage the adoption of environmentally-friendly practices and values by producers of Karaburun Peninsula where traditional agriculture is threatened by ageing of rural population, some ongoing investments and land tenure schemes. Consumer's contribution can be a lever for the emergence of RTEQ on condition that an integrated management of ecosystems is set up in the territory. Taking into account the notion of basket in an integrated management is therefore an important challenge for the improvement and valorization of land services of the territory.

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