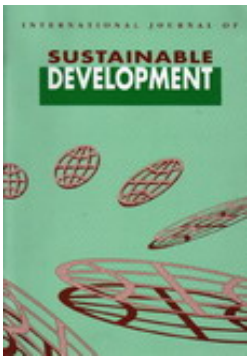

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Valuing ecosystem services within the territorial development approach: the ecosystem services basket in the Karaburun Peninsula (Turkey)

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Valuing ecosystem services within the territorial development approach: the ecosystem services basket in the Karaburun Peninsula (Turkey)

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Abstract: Our research aims to combine qualities from both of the ecosystem services (ES) and territorial development research communities. We will develop and test an operational research framework based on a new concept, the ES basket, and demonstrate the relevance of developing a non-monetary valuation approach based on multi-criteria indicators and perceptions. Our scope is to better characterise the potential valuation of agricultural ES through emblematic products. The ES basket aims at facilitating the recognition of ES through these products, and consequently collective action and the appropriation of changes towards better sustainability in agriculture. This methodological framework has been applied to a rural territory, the Karaburun Peninsula (Turkey), where ES baskets have been developed through the farming of two emblematic products, olives and narcissus. Our results may help identify the perspectives of territorial development and the supporting policies to be implemented for the valuation of ES baskets.

Keywords: ecosystem services basket; territorial development; rent; perception; governance; emblematic product; Karaburun Peninsula; Turkey.

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1 Introduction

The notion of ecosystem services is an important framework for the development policies and projects (TEEB, CICES, IPBES) and can bring about some advantages (TEEB. 2010, 2011) in the struggle to support the environment, local development and quality of life. Concerning the territorial development (TD) approach, more and more studies have concentrated on sustainable development, integrated management approaches, and

collective action to strengthen participation in territorial governance (Campagne and Pecqueur, 2014; Torre, 2015; Colletis-Wahl and Pecqueur, 2001)[1]. The objective of this paper is to study the possible links between the ES and TD research areas, transposing a TD approach onto an ES framework. To do this, we will cover the concept of the basket of goods and services (BGS) defined by Mollard and Pecqueur (2007), by proposing a new concept, the ES basket, which is intended to facilitate the development of a collective dynamic around the demand for several inter-related ES and thereby facilitate their conservation at a territorial level. The concept of the BGS has been at the centre of the literature on territorial development (Senil et al., 2014) and implemented in several local development policies (Hirczak et al., 2008), with its effectiveness being proven through certain examples from Mediterranean territories: the Baronnies and Cévennes in France (Mollard, 2001; Lacroix et al., 2000) and the High Atlas in Morocco (Campagne and Pecqueur, 2014). By exploring in-depth the joint valuation of specific resources, this BGS approach provides further insights into natural resources, ecosystems and biodiversity which can be considered the new specific resources of a territory (Mollard, 2001). In this context, the ES basket that we propose can constitute an enabling environment for development of alternative markets, provided that the underlying pro-environmental values are seen as legitimate and shared within the society in a constant manner (Torre, 2015). In order to facilitate the appropriation and operationalisation of the sustainable management of ES at a territorial level, it is necessary to identify and recognise them beforehand. This requires working on a grid of indicators where supporting-regulating (SR) and cultural services (CS), linked to emblematic territorial products, are determined based on agricultural practices in the territory.

It should be noted that the concept of the ES basket is distinct from a 'bundle of ES', which focuses on the supply and demand of ES (Burkhard et al., 2009; Raudsepp-Hearne et al., 2010; Burkhard et al., 2012; Ryschawy et al., 2013) through spatial mapping and land use, whilst the ES basket helps operationalise ES through a provisioning service (PS) based on a territorial emblematic product. The ES basket approach puts particular focus on the issue of the demand linked to it, a still relatively under researched area (Gómez-Baggethun et al., 2010; Wolff et al 2015; Costanza, 2020), with the exception of contingent evaluation (Martín-López et al., 2014) or other scientific implementations such as the capacity matrix (Burkhard et al., 2012; Campagne et al., 2016).

From a didactic point of view, the ES framework in TD approaches can facilitate the inventory of the physical, ecological and cultural resources of a territory, by exploring the way they are utilised, and as such, can favour the design of economic development based on sustainable practices. This framework can facilitate the cooperation of local actors in the development process (TEEB, 2010, 2011), since the anthropocentric characteristic of ES can lead to the emergence of a collective identity around the benefits and services. Moreover, ES mapping, based on land use and ecological knowledge of ecosystems, presents an operational contribution to territorial planning and to the regulation of how resources are used (Spyra et al., 2019), whilst the explicit link of ES to well-being facilitates the appropriation of the process. The ES literature has demonstrated the importance of perceptions for decision making in addition to the different economic values when assessing ES (De Vreese et al., 2016; Jacobs et al., 2016). We propose a methodological framework which allows the identification of the conditions for the intersection of supply and demand for the ES basket, by characterising the behaviour and perceptions of both producers and consumers. A multicriteria, non-monetary

methodology, based on perceptions, has been developed to assess the ES baskets and applied to a case study in a rural territory, the Karaburun Peninsula located in Western Turkey. In this paper, we present two contrasting ES baskets in the Karaburun Peninsula: olive growing and narcissus production. The data used come from surveys where ES baskets were assessed from 115 farmers in this area and 100 consumers in Izmir city.

In the second part, we go deeper into the originality and efficacy of the concept of the ES basket for TD, while the third part focuses on the materials and method used. Part four presents the results we obtained from the surveys, and the discussions and conclusions follow in parts five and six.

2 From the concept of the BGS to the concept of the ES basket

The BGS is based on Lancaster's hypothesis (1966): 'goods are goods' with greater or lesser substitutability and is built up around a leading product (Mollard and Pecqueur, 2007) involving a composite and locally situated supply. The willingness of consumers to pay for the BGS is likely to be high due to both the quality effect (product quality) and the territory effect (territorial specificities) (Mollard et al., 2001). The combination of cultural and historical factors such as the landscape of the territory, its history and authenticity, create a positive image for the BGS. Thus, the goods involved have a low level of substitutability thanks to their quality, but also thanks to all other non-marketed intangible elements of the territory. As a result, the BGS allows for a bundling effect leading to the valuation of all intangible non-marketed elements that are incorporated into the image of market products. However, environment and natural resources are not considered as factors in goods and services differentiation in the BGS approach. The objective of the ES basket is to narrow this gap by introducing environmental differentiation and territorial specificities as the basis of specific products and TD.

The fact that goods and services in the BGS are specific and non-substitutable for the consumer, can generate a specific temporary rent, the rent of territorial quality (RTQ), which emerges from the simultaneous intersection of four elements: *supply, demand, territory* (Ricardian rent) and *quality* (Marshallian rent). Consumer's demand is inelastic for the territorial goods. When applying the theoretical fundamentals of the BGS to the ES basket, the territorial Ricardian rent represents the supply of territorial specificities and refers to the territory's scarce resources embedded in the image of territorial products (Mollard, 2001). ES are one of the new potential scarcities in the territories due to the increasing degradation of ecosystems. The Marshallian (quality) rent is anchored in the consumers' demand towards particular attributes of products, making them different from any other generic product. For the ES basket, these attributes are positive externalities incorporated into the product quality. The intersection of the Ricardian and Marshallian rent enables a higher surplus (ES-based RTQ) for the local private and public actors, provided that they set up a form of governance to manage the surplus.

Table 1 illustrates how the ES basket takes the position in regard to other types of baskets. As in the BGS approach, the value which emerges from the bundling effect is a kind of quasi-optional value, as the consumer, in consuming the ES basket, is primarily seeking to preserve the positive externalities and public goods for their future use and contributing to territorial socio-economic and ecological well-being. From this perspective, the ES basket approach focuses on the recognition of the various categories

of services to identify appropriate development strategies that can contribute to territorial well-being through the better ES supply.

Table 1 Principal models of valuation of rural resources

	Bundle model	*Protected designation of origin (PDO)model*	*Basket of goods and services (BGS) model*	*Ecosystem services (ES) basket*
Characteristics of supply	Composite and non-located supply	Supply of unique and located product	Composite and located supply	Supply of unique product
Product's transparency	Low	High	High	High
Type of surplus: surplus versus rent	Commercial surplus	Rent linked to quality and reputation	Joint rent (quality and territory)	Joint rent (quality and territory)
Who gets the surplus/rent?	Service provider	Producers	Private and public producers and service providers	Private and public producers and service providers
Level of substitutability	Substitutable	Partially substitutable	Not substitutable	Not substitutable
Market type	Shipping market	No arbitration between shipping and shopping market	Shopping market	Shopping market[1]
Temporality	One-time (punctual)	Cumulative	Trajectory	Trajectory
Territorial specificity	No	Yes	Yes	Yes
Institutional construction	No	Yes	Yes	Yes

Note: [1]Shipping market in case of eco-certification.

Source: Pecqueur (2001), developed by the authors

On the producer side, regarding the development of rural territories, our approach allows to assess producers' willingness to improve the practices (in particular based on agroecological principles) in favour of the conservation of ES. Market segmentation and the existence of remunerative prices are crucial to the acceptance of changes in practices. On the consumer side, our approach studies their knowledge and perceptions regarding the territory, and asks the question: how can territorial resources be valued through the monetary contribution of the consumer to the ES basket? This dual-entry assessment entails the collection of a set of perceptions and practices. Perceptions are important for several reasons. Firstly, for services (e.g., SR ES) whose contribution to well-being is indirect, perceptions make it possible to assess the implicit demand and determine their underlying factors. They also identify emotional and productive factors regarding health, leisure, landscape and cultural heritage (Sandifier et al., 2015; Lewicka, 2011) along with demographic characteristics like age, gender, education and place of residence, that all of which lead to the different perceptions. Moreover, perceptions contribute to individual and collective learning processes and enable the identification of degrees of knowledge

and even biases (Kahneman, 2011), thereby determining the needs and the design of awareness-raising policies. Perceptions have also recently come into play in connection with the development of psychological and behavioural approaches (Rey-Valette et al., 2017) to strengthen the commitment of actors in favour of environmental conservation. More importantly, when it comes to complex learning which requires significant shift in beliefs and values (Milfont and Duckitt, 2010; Jacobs et al., 2016; Mazzucato, 2018), it is essential to understand the types of relationships that exist in connection to ES (Dunlap et al., 2000; Davis et al., 2009) and their contribution to well-being (Summers et al., 2016), in addition to the prioritisation of the principles that underpin the legitimacy of the measures (Costanza, 2020).

Figure 1 Geographical location of the Karaburun Peninsula in Turkey* (see online version for colours)

Source: *By Marie Demarchie

3 Materials and method

3.1 Main characteristics of the Karaburun Peninsula

Our study zone, the Karaburun Peninsula, is located in the Aegean Region in Turkey about a hundred kilometres from Izmir, Turkey's third largest city (Figure 1). It consists of 14 municipalities with a population of 8848 inhabitants. Connected to the rest of the country by a narrow strip, the Peninsula has been isolated for many years and has experienced a significant rural exodus. This isolation has contributed to the protection of its nature and biodiversity, leading to the Peninsula becoming a breeding ground for

several species of internationally protected birds and marine mammals (Erdem et al., 2002). Likewise, it has allowed for the preservation of its specific culture (gastronomy, artisanal craft products, etc.). The Karaburun Peninsula is a rural agricultural area (61.7% of the active population) where traditional non-irrigated olive growing is the main agricultural activity (75% of the utilised agricultural area), in addition to goat breeding, it produces table grapes, narcissus, tangerines, and artichokes (Erdem et al, 2002). Summer tourism has also grown over recent years (7.6% of the active population) (IZKA, 2014).

Today, this territory is the subject of important changes linked to the construction of a road and to centralised projects such as wind turbines and bio-industrial olive farming based on the sublease of agricultural land by the State (in 50-year leases) to private companies. These public projects often create conflict related to land use within the local society. In this context, the ES baskets can be a determining driver for TD projects promoting traditional agriculture and the associated ES through sustainable practices. In particular, these practices involve agroecology, which does not only involve innovation at the farm level but is also a pillar of governance for TD (Angeon et al., 2017).

3.2 Main steps

Defining the ES baskets for the territory entails three steps (Figure 2): the configuration of the significant ES baskets and their assessment by experts, producer and consumer surveys to assess perceptions about the ES baskets, and the analysis and interpretation of the data.

Figure 2 Scheme of the different steps of the ES basket approach (see online version for colours)

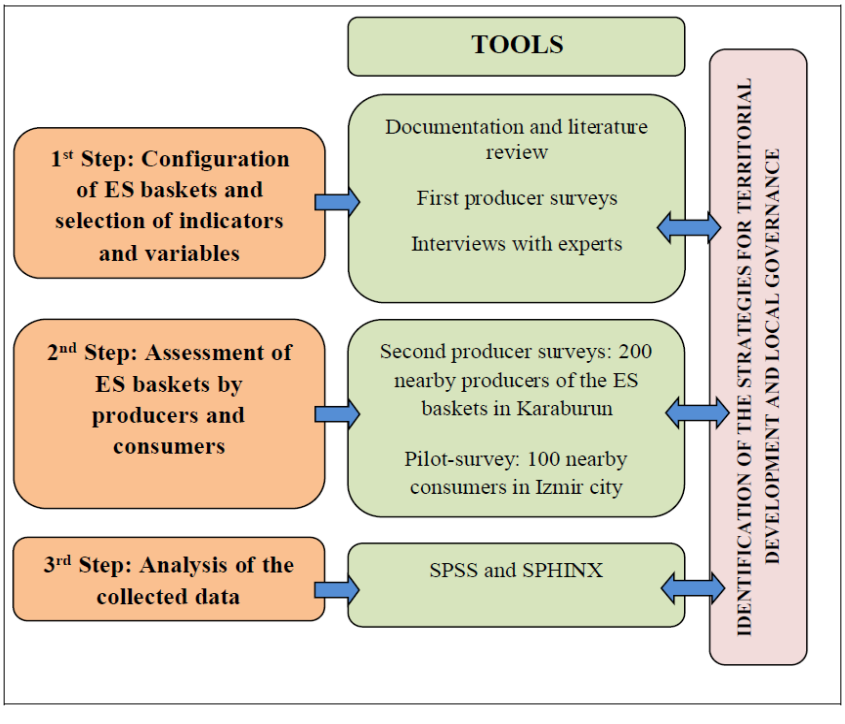


Table 2 Identification of indicators and variables characterising the ES baskets related to the cropping systems (olive and narcissus)

Division	*Group*	*ES (class)*	*Variables*	*Indicators*
SS-RS	Regulation of physico-chemical environment	Pedogenesis and soil quality regulation	Soil fertility	Use of green compost and animal manure
			Maintenance of nutrient elements of the soil	Intermediate crops (bean-vetch)/rotation (for narcissus)
		Soil structure	Soil biodiversity	Tillage: frequency, area (all the surface vs. around the tree), machinery, etc.
			Soil monitoring	Recognition of soil bio-indicators, soil test
	Regulation of biotic environment	Life cycle maintenance, habitat and gene pool protection	Pollination	Diversity of crop systems (monoculture vs. polyculture) and/or semi-natural areas	Existence of polyculture in the farm/agroecological infrastructure
				Ecological sensitivity	Perception of sustainable practices in favour of biodiversity and pollination
	Flow regulation	Mass flow regulation	Regulation of erosion	Permanently covered soil	Number of days the soil is covered with plants
				Slope and terraced soil	Terraced cropping
	Regulation of physico-chemical environment	Water quality regulation	Regulation of water purification	Chemical contamination of the soil	Use of pesticides, type, frequency, quantity.
CS	Symbolic	Aesthetic, heritage	Landscape (scenery)	Buildings and constructions (cultural landscapes)	Traditional buildings, modern well-maintained buildings
				Attractive plants (landscape character)	Maintenance of attractive plants in the farm
	Spiritual	Cultural heritage (traditional places linked to agriculture)	Marketing of the agricultural product as part of cultural heritage (traditional market, festival)	Participation in traditional local market: traditional recipes, artisanal products, etc.
			Presentation of the product at local markets	Trade of the farmer with local firms
	Intellectual and Experiential	Information and knowledge	Maintenance of spiritual values and collective traditions (educational)	Creation of collective identity and solidarity through agricultural production	Perpetuation of agricultural values
				Solidarity between producers
				Memberships in local groups and institutions
				Participation to local meetings (frequency)
	Intellectual and Experiential	Recreation and community activities	Landscape character for recreational opportunities and ecotourism	Rural cottage	Farmers already providing holiday accommodation or willing to do it
				Participation of the producers in cultural activities	Participation of producers in cultural, educational and touristic activities and festivals

Source: Adapted from CICES V5.1

3.3 Configuration of the ES baskets and selection of indicators and variables

Along with a group of five agronomists, we firstly identified the most important agricultural activities with significant territorial specificities based on PSs in the Karaburun Peninsula: olive, tangerine, grape, narcissus production, and goat breeding. Then, SR, and CS constituting the ES baskets (adapted from CICES V5.1) were determined. The multi-criteria approach that is used in our methodology to evolve indicators relies on the implementation of sustainable development indicators for agriculture and territories (OECD, 2000; Briquel et al., 2001; FAO, 2014). As for governance indicators, they are derived from the advances in TD and aim at identifying the constraints on collective action capabilities.

Secondly, based on our diagnoses and expert interviews, we chose one to two variables for each ES and an indicator for each variable in order to define farming practices with positive impacts on the maintenance of the ES. For CS, our primary objective was to define the level of potential resources enabling the development of these services. As such, we gathered all the information in an assessment grid. Table 2 presents the assessment grid for olive and narcissus ES baskets, whose results will be presented in this paper. In order to avoid double counting, we used each variable only once even though it may concern several services. Our indicators refer to both practices and perceptions. Although perceptions do not provide information about the direct, measurable impact on the SR ES, they can allow for the anticipation of producers' behaviours and attitudes in order to identify the best conditions for a change in practice in the long-term. A producer's perception regarding the soil, for instance, may indicate his current behaviour and potential practice which can create an impact on the nutritional cycle in the long term. Soil monitoring and sensitivity to agro-ecological issues have been retained in the grid for such reason.

Our grid is quite simplified, as the main objective is to define mechanisms that enhance certain operational changes in practice for sustainable TD. The variables for CS were identified through the TD literature, notwithstanding the awareness of there being certain difficulties linked to their incommensurability aspect (Satz et al., 2013). Those for SR services were identified through the review of the main agroecological challenges (Wezel et al., 2014).

3.4 Assessment of the ES baskets by producers and consumers

The producer survey for the assessment of the olive and narcissus ES basket was conducted in June 2016. Our sample of olive producers represents 30% of the registered producers in the territory at that time, whereas that for narcissus represents about half of the registered producers[2]. In parallel with the producer survey, a pilot survey was conducted on 100 consumers in Izmir city (June 2016), in order to identify the perceptions of the ES and the territory, and to ascertain in what situation consumers would be in favour of a higher price to value best practices for the conservation of the ES associated with the baskets. Both producers and consumers were randomly selected.

In the producers' questionnaire, practice related questions were derived from the indicators of Table 2. They were either qualitative or quantitative, closed or open-ended. There were 49 questions and each survey lasted for around one hour and half. Qualitative questions aimed to obtain information about the social values, behaviours and perceptions of the producer, whereas the quantitative questions focused mainly on their willingness to

improve farming practices. To this end, we tried to estimate the effect of a certain percentage increase in the current selling price of the product on the willingness of producers to change practices.

The producers' answers were evaluated by authors and experts through scores ranging from 0 to 4, representing the degree of contribution of agricultural activity to the improvement of the concerned ES. As an example, no tillage and minimum tillage was scored 4, as minimum tillage is recommended by experts (Zhang et al., 2007), while frequent tillage, disturbing the biodiversity of the soil, was scored 0.

The consumer pilot survey was conducted in five districts of Izmir city and with a gender and age-balanced sample. The questionnaire consisted of 32 questions and lasted for around one hour. In order to study the monetary contribution of consumers to the ES baskets, we first showed them several photos. Those relating to SR ES presented the good and bad states of the ES of the basket in a comparative way (e.g., soil erosion, water pollution etc.). For CS, we used photos which displayed the cultural activities of the territory as well as its aesthetic elements. Then, the consumer was asked to state whether they would pay a higher price for the ES basket in order to support the good state of the ES. If the answer was yes, then the consumer was asked to declare how much their contribution would likely be and what photos influenced their decision the most. Table 3 summarises the characteristics of the sample of producers and consumers.

Table 3 Characteristics of the 115 producers and 100 consumers surveyed (%)

	Producers	*Consumers*
Gender		
Man	100	50
Woman	0	50
Total	100	100
AGE		
Less than 50 years old	5.2	66
50–59 years old	39.2	19
More than 59 years old	55.6	15
Total	100	100
ORIGIN		
Native producers of the territory	97.4	NA
Other	2.6	
Total	100	
EDUCATION		
Primary school	94	14
Secondary and high school	6	86
Total	100	100
FAMILY SIZE		
Family consisting of less than 4 members	31	NA
Family consisting of 4 members or more	69	
Total	100	

3.5 Statistical analysis

Statistical processing was conducted using SPPS and Sphinx software. On the producer side, in order to study the correlations between each producer's practice/perception and their contribution to sustainability, the scores from 0 to 4 have been reclassified based on the average score in three performance classes: low (farms that require innovation and support), average (farms that need to improve certain practices), and high (those corresponding to the challenges of sustainable TD). Similarly, on the consumer side, the results of the pilot survey have been analysed in order to cross consumers' social representations with their behaviours concerning the ES baskets.

4 Results

4.1 Performances of the ES baskets' producers

Air quality, naturalness[3] and peacefulness are the most important elements of Karaburun's landscape according to the producers surveyed. Ninety-four percent state that agriculture plays an important role in the creation of territorial culture by contributing to the protection of the natural area. Two-thirds of the producers state they have heard of the notion of ecotourism, and olive production is considered by all the producers as the leading activity for ecotourism projects in Karaburun.

Narcissus producers are more likely to have high contribution on SR services (soil fertility by manure, no repeated tillage, no risk of soil erosion, no pesticide use) (p-value < 0.01%) (Figure 3). The olive ES basket represents low scores for pedogenesis and soil quality regulation as a result of repeated tillage and the absence of agroecological practices such as intermediate crops (Figure 4). As for contributions to pollination, both baskets contribute with an average score of sustainability thanks to polyculture traditional farming (the polyculture indicator in Figures 3 and 4). Olive producers have the highest scores in terms of ecological sensitivity and are therefore meant to be more likely to adopt new sustainable practices to maintain biodiversity and pollination in the long-term.

CS obtained the lowest scores among all the services, while the olive ES basket represents relatively high scores (Figure 4). Landscape (scenery) is one of the services with the highest scores due to the maintenance of traditional buildings[4]. As for the territorial market, as a part of traditional places of cultural heritage, olive producers represent a low score of participation in the traditional local market, while, in contrast, they have the highest score regarding trade with local companies. Satisfaction with undertaking agricultural activity and solidarity between producers is highest among olive producers, creating the highest impact on the agricultural values and maintenance of collective traditions. While the producers of both ES baskets belong to professional chambers and local groups, olive producers seem to be more involved in territorial meetings and discussions.

4.2 Producers profile and their environmental sensitivities

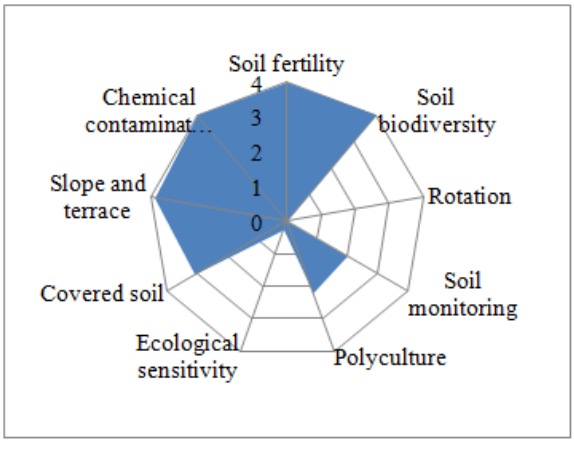
Producers in the 46–59 age group, are those with a positive impact on soil fertility and soil structure services (p-value = 2.12%). Those who have higher scores concerning

pollination, the regulation of erosion, and water purification services are producers who want to improve farming practices (p-value = < 0.01%).

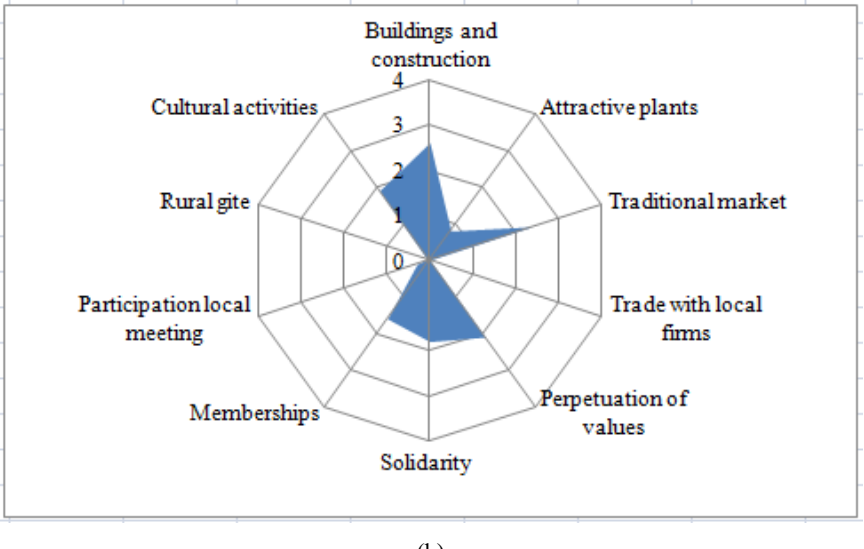
Those with the general highest scores are the most motivated towards improving practices with high environmental sensitivity (p-value = 0.35 %), these producers also declare that they want their children to ensure the continuity of agricultural activity (p-value = 2.31%).

As for the change in practices, producers are willing to improve their practices provided that they receive a minimum increase of 30% in sales prices.

Figure 3 Performance of the narcissus production ES basket, (a) supporting and regulating services (b) CS (see online version for colours)

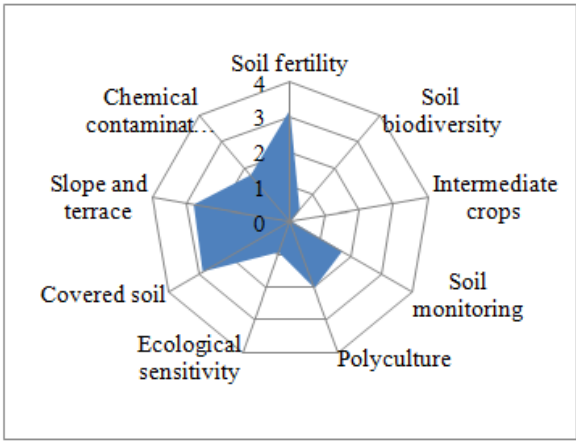


(a)



(b)

Figure 4 Performance of the olive growing ES basket, (a) supporting and regulating services (b) CS (see online version for colours)



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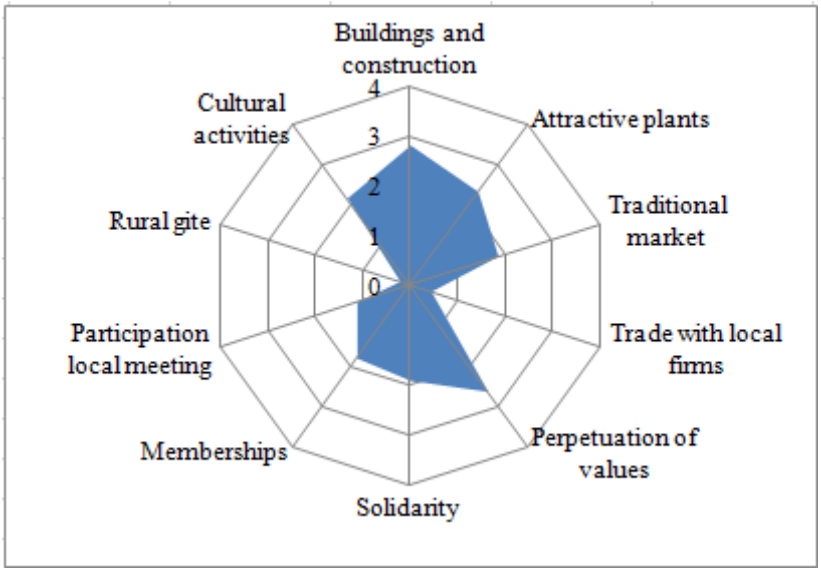

(b)

4.3 How are the ES baskets evaluated by consumers?

Sixty-six percent of the consumers surveyed had already been to the Karaburun Peninsula. Among the reasons for their visit were the richness of the ecosystems, with biodiversity as the principal reason (32.8%). Forty-eight percent stated that they have heard of the notion of ecotourism.

Women in particular (p-value = 4.49%), and people in general in the 45-54 age group (p-value = 0.13%) know of and already consume local products from Karaburun. As for the perceptions of the landscape, the sea and beaches are attractive to 39.4%. However, the landscape is perceived as 'whole' by approximately 20% of the consumers, meaning that the combination of all the landscape components is attractive to them. There is a significant relationship between words associated with the territory as well as with the fact of having already visited the Peninsula itself (p-value = 0.04%). The words 'beach', 'holidays', and 'agriculture' for example, are significantly mentioned by those people who have already visited the Peninsula.

The primary reason behind the increased monetary contribution of consumers to the ES baskets is to consume healthy organic products and to support the traditional agriculture and ecosystems of the Peninsula (Table 4). For both baskets, the consumer's monetary decision was most influenced by the first three photos selected, two of which were associated with CS.

Table 4 Consumers' behaviour regarding the ES baskets

	Olive growing	*Narcissus*
	Consumers who want to make an increased monetary contribution (% of total surveyed consumer)	
	78	75
	Reasons for monetary contribution (1: the most important reason)	
I want to consume healthy products.	1	2
Traditional agriculture and ecosystems in the Peninsula should be protected.	2	1
Everyone should be a part of the solution.	3	
Traditional agriculture is important in order to tackle the rural exodus.		3
	Rank of the selected photos and associated ES	
Photo 1	Cultural heritage	Landscape
Photo 2	Landscape	Soil fertility
Photo 3	Soil biodiversity	Source of inspiration

5 Discussion

The application of the concept of the ES basket to several products in the Karaburun territory provides insights into the validation of its relevance and functionality. The acceptability tests for the ES baskets close to the consumers demonstrate that the prospects of environment, cultural heritage and health concerns drive consumers to appropriate the ES baskets. However, the monetary contribution of the consumer is not enough to enable the development of an autonomous market in the case of olive oil, due to intermediary costs. It should be noted that CS motivates most consumers' decisions, whilst producers' decision making is characterised by the capacity to adopt new practices

concerning SR ES. This highlights the positive interactions and dependence (Milcu et al, 2013) that exist between these two types of services.

Generating new marketing channels involves a collective learning process for both producers and consumers and the development of a sort of solidarity economy, encouraging the creation of social links, for example through direct sales and farm visits (Hatt et al., 2016). In the case of a new territorial planning based on the ES baskets, our approach ensures the establishment of a mechanism for dialogue based on the newfound values between local actors and consumers from nearby cities. Territorial shopping markets (where consumers come specifically to the territory to look for the ES baskets) allow for the meeting of these actors in *situ*, contributing to the valuation of both intangible services of the landscape and of agricultural values.

The results of our consumer pilot survey demonstrate that perceptions concerning the territory are not segmented and ecological, agricultural and touristic elements represent, as a whole, the attractiveness of the landscape. Therefore, the valuation of the ES baskets based on the entirety of these elements requires concerted effort of actors to design public policies through awareness-raising campaigns and environmental programs, which can create interest and confidence for higher monetary contributions (Orset, 2019).

The ES basket provides a new important framework for the valuation of sustainable farming systems, envisioning alternative channels such as shopping markets, direct sales, and eco-certification. In the case of eco-certification, the additionality[5] and the supply of ES depends largely on the socio-institutional context of the territory in which such certification has been established. The adoption rates of good farming practices may still be low despite the certification (Ssebunya et al., 2019). The eco-certification measures should therefore be accompanied by appropriate external incentives of financial support in order to facilitate the changes in practice. It is essential that the governance mechanism be designed to institutionalise new forms of regulation and to strengthen institutional and collective learning capacities regarding the interdependent baskets of a territory. Ostrom (1990) surmises that for the commons, these conditions highlight the importance of collective management at the community level (Pretty, 2003). Indeed, in the Turkish context, the centralised organisation of the state is a constraint on the management of resources, and generates, in addition to local inequalities, perverse effects on the local dynamics that can offset dialogue and collective action (Akbulut, 2012). In view of this, biosphere reserves, ecotourism and eco-certification can be used as institutional frameworks for the valuation of the ES baskets depending on local context and international development projects (Beuret, 2011; Durbin and Ratrimoarisaona, 1996). The way ecotourism revenues create economic benefits for the local society (limiting capital flight outside the territory) largely depends on the governance capacity (Lapeyre et al., 2007; Tardif, 2003). In the case of the Karaburun Peninsula, the collective interviews[6] and the results of our consumer pilot survey demonstrate a great interest for an ecotourism development project based on a restored traditional agriculture that encourages young producers to stay in the territory.

The ES basket approach facilitates reflections on integrated management considering the use and the conservation perspective through perceptions and multi-criteria indicators in addition to monetary valuation (Jacobs et al., 2016, 2018; De Vreese et al., 2016; Gómez-Baggethun et al., 2010). Perceptions make it possible to identify the pluralism of the values attributed to the ES (Jacobs et al., 2018; Rey-Valette et al., 2017; Kelemen et al., 2016; Chan et al., 2012; Spash, 2009) and to better identify awareness-raising actions (Aubin et al., 2014). Integrated management refers to the design of local policies

based on the ES baskets and trade-offs between services available at a territorial level. Indeed, rather than creating synergy, development choices may lead to the supply of one service to the detriment of another (Liu et al., 2017). From this perspective, the concept of the ES basket is quite close to that of the ES network (Lavorel et al., 2016). This does not only involve the identification of the ES bundles according to their spatial characteristics for an integrated territorial management, but also their interactions with respect to the provisioning services as in the case of the ES basket. From the TD approach, integrated management requires collective dynamics and the participation of the actors (Pecqueur, 2015) in the development of a solidarity economy for the valuation of the ES baskets. Therefore, concerted governance that involves all of the actors (individual and collective, private and public) is crucial for an integrated management set up.

6 Conclusions

Our research presents a theoretical framework that allows to link the ES and TD research communities with the aim of the involvement of the ES concept as a focal point in territorial development. The concept of the ES basket implies a renewed vision of farming as a socioecological system (Mcginnis and Ostrom, 2014) and attempts to offer a perspective on the valuation of ecosystem services in farms by reintroducing the consumer to the territory. The application of this framework to the Karaburun territory has made it possible to test the relevance of this basket concept. Indeed, focusing on the demand for ES, it facilitates its inventory in a territory, and the creation of a territorial rent. This territorial rent allows for the higher price valuation of the agricultural products that are obtained through sustainable practices. It also allows for the specification of the products and makes their demand inelastic, coming closer to the principles of eco-certification (Le Coq et al., 2016; Froger et al., 2012; Wunder, 2005).

For consumers, the value of the basket is linked not only to the supply of healthy products, but also to the conservation of the ES and cultural values, as well as to a sense of solidarity with rural areas. Our results also reveal the determining role of CS in sustainable development (Satz et al., 2013) when it comes to designing the processes of cultural heritage valuation and territorial governance (Parra and Moulaert, 2011). Finally, the Karaburun case highlights the importance of the role of decentralised policies in facilitating appropriation and co-construction of sustainable development goals.

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Notes

1 This specific approach of territorial development does not include spatialised analyses (Lardon, 2011).

2 Izmir Directorate of Provincial Agriculture and Forestry, February 2016.

3 Naturalness refers essentially to the ecosystems of the Peninsula that are not degraded as well as to the authenticity of its nature.

4 A traditional building indicator is used to assess the quality of the landscape. We score the landscape service through its capacity to maintain the original architecture avoiding ugly new farm buildings.

5 The additionality of eco-certification is its ability to encourage changes in practices (Le Coq et al., 2016).

6 Conducted by the City Council in 2012 nearby local actors.