# Second Order Effects of Landscape Management on Rural Economies in Bulgaria and Turkey

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## Вторични ефекти от управлението на ландшафта върху икономиките в селски райони на България и Турция

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Изследването се фокусира върху разработването на специфичен методологически подход, чрез който се разглежда влиянието и приносът на ландшафта в развитието на регионалната икономика. Основните проблеми, които се решават, е как ландшафтът влияе върху равнището на конкурентоспособност на регионалната икономика и какви вторични ефекти поражда за различните икономически сектори. Анализират се ключови земеделски производства в регионалната икономика на региона на гр. Пазарджик и региона на Испарта в Турция. Емпиричното изследване в двата избрани региона доказва, че местният ландшафт предоставя редица услуги за регионалната икономика като храна, суровини за местната индустрия, вода, качество на въздуха и благоприятни климатични условия, духовно изживяване и чувство за присъствие на природата, които добавят стойност към продуктите. Базирайки се на каскадния подход, е измерено влиянието на ландшафта върху равнището на конкурентоспособност на регионалната икономика.

## 1. Motivation and Research Questions

The provision of public goods in rural economy, as the result of the interaction between ecosystems and human management that together shape the landscape, is recognized as one of the key topics for the future of agriculture and rural policy in the EU. Rural economy, through its complex inter-linkages with the landscape, can play an important role in its management. This research focuses on building a specific framework and to measure the contribution of landscape to the development of rural economy. The main research question is to determine what is the influence of landscape services to the competitiveness of rural economy. To describe the links between nature and the economy the approach of ecosystem services, defined as the "flows of value to human societies as a result of the state and quantity of natural capital", has been proposed (Costanza et al., 1997; TEEB, 2010). The appeal of the approach is witnessed by a huge body of literature that has focused the development and application of techniques able to assess and value the supply and demand of landscape services (Costanza et al., 1997; De Groot et al., 2002; Hein et al., 2005). Yet, the development of a consistent framework indicating the most appropriate techniques and methods for the valuation of landscape services is at an early stage (Farber et al., 2006).

We approach that as second order effects we consider **socio-economic effects downstream**

**the use of public good-type landscape services**. Furthermore from different sides the suggestion has been made, to focus on more detailed cause-effect chains. Society and economy benefit from a landscape when the supply (service flow) of services from the landscape meets a demand of the population. However, this does not always mean that the benefits of the landscape services are attributed to the regional population or the managers of the landscape that produces those services. For instance, water or climate regulating service flows often also benefit regions far from the actual landscape providing these regulating functions. There are different ways in which the value of landscape benefits can be described, related to the nature of the particular service. In literature different types of values are identified (MEA, 2003): 1) Direct use value emerges from the direct utilization of goods and services delivered by an ecosystem or landscape, for example food provisioning. 2) Indirect use value arises from the utility of positive externalities delivered by ecosystems or landscapes. These types of benefits are delivered to society by regulating services. Multiplier effects are use of public good type services creates/alters/influences economic activities which again influence/alter other economic activities. The "multiplication" can go through various stages before it dies out (van der Meulen, 2011; Domanski & Gwosdz, 2010). Such effects can lead to further accompanying effects that foster competitiveness like increased construction activities, higher tax revenues, development of infrastructure, etc. It could be identified two different dimensions:

***Positive Multiplier effects*:** The (increased) use of a public good type service creates new economic activities or enhances/develops/alters existing economic activities. The new or enhanced economic activity creates additional demand, which allows the suppliers of the activity to grow (supply side effects) and/or the new or enhanced economic activity creates additional income that allows the providers of consumer products to grow (Income effects)

***Negative Multiplier effects:*** The (decreased/finished) use of a public good type service decreases or even eliminates existing economic activities. The decreased economic activity decreases demand, the suppliers' activities decrease and/or the decreased economic activity lowers income, providers of consumer products decrease.

**Feedback loops:** The use of public good type services has feedback-effects on the provision of public good type services and private good type services.

***"Positive" feedback loops:*** The expansion of the use of a special public good type service leads to economic activities that enhance the demand for the provision of the same or other public good or private good type services which again enhances economic activities.

**"Positive/Negative" feedback loop:** The expansion of the usage of a special public good type service leads to economic activities that enhance the demand for the provision of some public good or private good type services **on the cost** of other public or private good type services.

**"Negative" feedback loop:** The decrease of the usage of a special public good type decreases the demand for the provision of the same or other public good type services. (cf. CLAIM, 2014a)

## 2. Data and Methods

The cascade approach was implemented to define the influence of landscape on rural competitiveness. In economic terms, landscape can provide multiple goods and services. Society preferences on such goods or services can be determined through identifying a supply and a demand side.

The services produced by the landscape differ in terms of their economic nature. While the production of services will produce predominantly private goods or common pool resources, cultural and regulation services are linked to club or public goods (TEEB, 2010). The core issue behind the feature of landscape services as public goods is the fact that they: a) can be jointly produced together with commodities; b) their effects are produced in the form of externalities, or their use is characterised by non-rivalry and non-excludability (van Berkel and Verburg, 2010).

Traditionally, landscape is produced in connection to private goods, driven by market forces. In this sense landscape is the un-intended by-

product of agricultural production. Landscape can provide services and goods that support the rural economy and the quality of life in rural areas (Fisher et al., 2009). The structure and composition of a landscape determines the provision of landscape functions (thus: the capacity of the landscape to provide landscape services). Landscape functions are divided into four groups which are: provisioning, regulating, cultural&amenity, and supporting. Every function has several potential services which contribute to the major economic sectors. To identify the linkage between landscape services and generated output of economic sectors we use quantitative and qualitative data. The analysis is going further examining the role of landscape and rural competitiveness. Analysis is made in key sectors of rural economy of Pazarjik region and Isparta region based on the data gathered in 2013. In Pazardjik region we carried out two surveys (48 vineyards farms and 6 wineries) and choice experiment about consumers' preferences to the landscape composition in wine tourism. Participants in the choice experiments were 48 people who are visitors at wineries in the region. In Isparta region has been carried out with 79 rose producers in Güneykent settlement where typically represents views of rose producers in Turkey. In order to include stakeholders' opinions, local stakeholders' laboratories (LSL) were also conducted in both case study areas.

To further validate our results, we use the case study specific results of an Analytical Network process (ANP) analysis, conducted in line with the project CLAIM (CLAIM, 2014b). ANP is a multicriteria analysis, which can overcome some of the limits of monetary evaluation because it does not rely on a strict utility theory framework (Hall et al., 2004). Beside that, a strict mathematical basis is usually framed in order to translate judgements in values. The Analytic Network Process (ANP) is a multicriteria technique that combines mathematical and psycho-cognitive roots in order to bridge a complex system within a formal mathematical system in connection to an explicit network. It is specifically designed to cope with complex systems and the presence of loops and trade-offs that hampers decision processes (CLAIM, 2014b). One of the main features of the ANP is the possibility to assess intangibles and the inclusion of inconsistencies of judgement by means of an absolute scale of measurement (Saaty, 2005). ANP builds around the control criterion of `landscape valorisation´ (see Fig. 1). Thereby, it is focused on rural contexts. It describes economic actors by including a cluster representing producers and consumers of landscape services in a rural community.

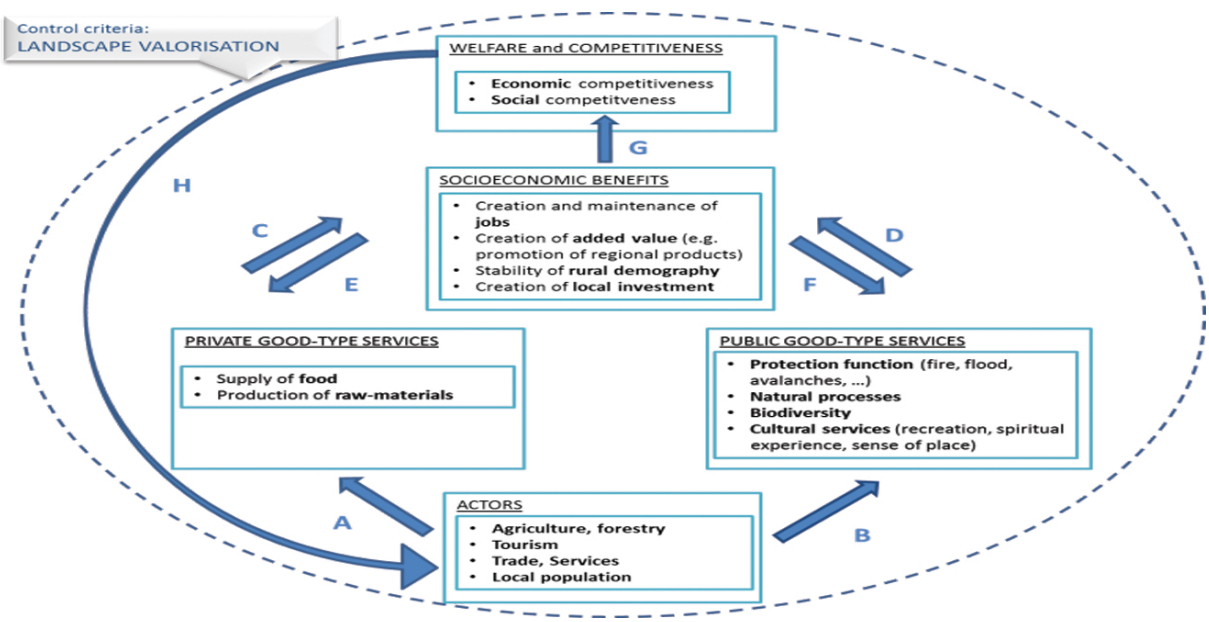


Fig. 1. The landscape valorisation analytical network (CLAIM, 2014b)

The network constitutes of the following clusters (cf. CLAIM, 2014b):

***Economic actors***

To describe economic actors, the ANP network includes a cluster which – focussing on rural contexts – represents producers and consumers of landscape services in a rural community (CLAIM, 2014b).

***Private and public good-type services***

To reflect the supply and demand of private and public good type landscape services, the network incorporates two "services" clusters. In principal, these clusters follow the ES approach of TEEB (2010), which has been the theoretical basis during the development of the CLAIM analytical framework. However, within the ANP a more „economic" component is added by distinguishing between public and private good-type landscape services. (cf. CLAIM, 2014b).

***Socioeconomic benefits***

To reflect socioeconomic benefits from the consumption of landscape services, the network includes a "Socioeconomic benefits" cluster. Its elements again refer to the results of the stakeholder (LSL): Here, the "creation and maintenance of jobs", the "creation of added value" e.g. through the promotion and marketing of regional products, the "stability of the rural demography", meaning demographical growth rather than abandonment, immigration rather than emigration and a healthy distribution between "old" and "young", and finally, the positive development of "local investments" have been depicted as the most relevant benefits. (Cf. CLAIM, 2014b).

***Welfare and competitiveness***

The last cluster of the network approaches the topic of regional competitiveness.

To evaluate the influence of the single elements in an ANP Network, relative (pair-wise) comparisons are used (cf. CLAIM, 2014b). In general, within pair-wise comparison, alternatives are compared according to a common attribute (Saaty, 2005). Put into practice, the generic question to be answered when performing pair-wise comparison is, how much more a given element of a pair of elements within a cluster influence an element of a related cluster – always with respect to the overall control criteria of the network (cf. CLAIM, 2014b; Saaty, 2005, p. 93).

At this, the fundamental Saaty (2005) scale is used as basis for the respondent to state how much more important the selected indicator is compared to the other one.

## 3. Main results

### *3.1. Bulgaria*

Pazardjik region is situated in the central part of Southern Bulgaria. Total territory of Pazardjik district is 428 664 ha. Agriculture plays a major role in the region's economy. Agricultural land

**Table 1.** Evaluation scale for pair-wise comparison

| Intensity of importance | Definition | Explanation |
|---|---|---|
| 1 | Equal importance | Two factors contribute equally to the objective |
| 3 | Somewhat more important | Experience and judgment slightly favour one element over the other |
| 5 | Much more important | Experience and judgment strongly favour one element over the other |
| 7 | Very much more important | Experience and judgment very strongly favour one element over the other |
| 9 | Absolutely more important | One element is completely dominating the other |
| 2, 4, 6, 8 | Intermediate values | A compromise is needed |

*Source*: CLAIM, 2014b, adapted from Saaty, 2005

covers a relatively large percentage of the region: approx. 33%. Forests predominate the landscape with relative share – 56%.

Basic agricultural trends in the region involve the production of a variety of vegetables and potatoes, vine growing, oil-supply crops and orchards. Exceptionally favourable natural climate and soil conditions, along with the strategic location in respect with major consumer centres in the country, provide opportunities for the production of almost all plants and crops grown in the country.

The availability of natural and underground water resources along with artificial water sources result in a total lake capacity of over 650 million $m^3$. The substantial hydro-irrigation system provides watering capabilities for around 77% of the total cultivated land in the region (see Table 2).

The landscape structure provides potential services which benefit the following economic sectors in the region: agriculture, tourism, timber industry, mining, production of construction materials and electricity generation (see Table 3). The empirical research indicates that there is demand of the following services: food, raw materials, fresh water, climate and air quality, spiritual experience and sense of place. Landscape values are: local brand of food, well developed infrastructure, appropriate conditions for recreation and rich heritage. There is evidence for contribution and benefits to the regional welfare which are health and well-being, good image of local foods, attractive tourists services, stimulated investment activity and high productivity of agriculture.

The competitiveness of the region is above average. For this evaluation main contribution is higher productivity of economic sectors. The structure of the regional economy, and is almost constant activity over the past 10 years. The main sectors are manufacturing, mining, agriculture and forestry. Also well-preserved natural environment is an opportunity for the development of tourism and related sectors such as trade, services and transport.

Demographic conditions in the region reported negative trend. The population density is below the national average and constantly decreas-

**Table 2.** Description of the Pazardjik regional landscape characteristics

| **Landscape Structure and Composition** | **Landscape functions** | **Flow of services** | **Landscape Management** | **Impact of landscape management on landscape structure, composition, features and functions** |
|---|---|---|---|---|
| There is a good mixture of plain and mountainous relief.<br>Forests predominate the landscape with relative share – 56%<br>The size of set-aside lands in the Pazardjik district is 24 257 ha or 17.2%.<br>The share of grassland is 35.4% of total arable land.<br>The region is abundant with water resources. There are 8 lakes with 1 mln. $m^3$ volume. Also a lot of sources of mineral water are available.<br>Protected areas – 20 000 ha /8.2%/<br>Recreation forests – 40 600 ha /16.7%/<br>There are several towns with rich heritage of the Bulgarian Renaissance. | Provisioning<br>Regulating<br>Cultural & amenity<br>Habitat or supporting | Provisioning:<br>Food<br>Raw materials<br>Fresh water<br>Medicinal resources<br>Regulating:<br>Climate and air quality<br>Cultural & amenity:<br>Recreation and mental/physical health)<br>Aesthetic appreciation and inspiration<br>Spiritual experience and sense of place<br>Habitats or supporting:<br>Habitats for species | Main local actors:<br>Farmers<br>Irrigation holdings<br>Eco-organizations (NGO)<br>Local action groups – LAG<br>Forest holdings<br>Food processing, food trading<br>Farms type:<br>Small size farms<br>/milk production, lowintensive sheep and beef production, vegetables and potatoes, vine growing, rice growing/<br>Typical management practices:<br>Traditional agriculture<br>Agro-ecological management<br>Irrigation management of land<br>Balneology<br>Rural tourism<br>Flood prevention<br>Waste treatment | Impact of predetermined features:<br>Preservation of forests<br>Protection of water<br>Providing habitat<br>Impact of farms:<br>Small scale farms<br>Concentration of rice production<br>Impact of management practices:<br>Irrigation<br>Tillage agriculture<br>Conservation of historical heritage |

ing. The proportion of people over 50 years, continues to grow. This finding, combined with the low level of education of the population could negative influence on the competitiveness of the region in the long term.

Direct payments support a substantial income for farmers. Generally, these payments have a large effect on cereal production. Rotations on farms are dominated by a mono culture that reduces biodiversity and increases the risk of soil erosion. The current CAP changes the landscape structure and meadows become farmland.

Future CAP could promote cooperation between local actors and keep the leading role of the local action group in rural development. Climate changes impose a problem with risk management in rural areas and better management of natural resources. Additional focus could be on renewable energy, encouraging entrepreneurship, and linking rural with urban markets.

According to second order effects we can define them as the following:

*Direct socio-economic* benefits arise from the management of landscapes: the maintenance, conservation and restoration of specific landscape elements (e.g. hedgerows and tree rows, rural and farm traditional buildings, terraces and stone walls, fencing etc.) can provide additional employment opportunities and returns for the farmers, thus representing a way to diversify on-farm activities.

*Indirect socio-economic* benefits arise from landscape functions and amenities: the development of rural tourism linked with the attractiveness of specific landscape amenities can stimulate additional on-farm activities, such as renting accommodation on the farm and the direct selling of farm products, in local stores, markets, etc. Moreover, niche-market opportunities can arise for the selling and marketing by farmers of local products with high value-added (food, craft products etc.); finally a positive "image" can stimulate the general demand for local products.

Tourism in the region has been boosted for last 5 years. The district is famous with mineral springs and mountain lakes which attract a lot of tourists all year. There is an agency of Sustainable Tourism Development assist locals with development projects, advertising campaigns, organization of cultural events.

Within the region successfully implemented various programs and policies for the protection of the natural environment that supports the desired landscape condition. Applying water legislation lead to sustainable use of water resources and preserving the image of the region. The same influence has environmental schemes on conservation of natural resources.

*Positive Multiplier* effects:

• Income effects – wineries increase their income by direct sales due to wine tourism.

• Niche-market opportunities.

**Table 3.** Contribution to Pazardjik regional competitiveness

| **Demand for services (services used)** | **Beneficiaries of services used** | **Benefits and second order effects** | **Landscape values** | **Contribution of benefits to Regional Competitiveness and Regional Welfare** |
|---|---|---|---|---|
| Food<br>Raw materials<br>Fresh water<br>Climate and air quality<br>Spiritual experience and sense of place | Number of farms 21 404<br>Number of public forest owners, private owners<br>Tourist accommodations<br>Hydropower plants<br>Mining companies<br>Tourists<br>Traders<br>Timber manufacturers<br>Food processor<br>Local population | Higher yields in farm holdings<br>Profit of all health/ recreation related touristic offers<br>Short distances of food provision<br>Direct access to the nature<br>Better image for regional products | Valuation of marketed goods:<br>Local brand of foods<br>Locals brand of mineral water<br>Famous local spa centre (Velingrad)<br>(Existing) valuation of public goods<br>Well-developed infrastructure<br>Appropriate conditions for recreation<br>Rich heritage | Health and well-being<br>Good image of local foods<br>Attractive tourists services<br>Stimulate investment activity<br>High productivity of agriculture |

• New economy activities – tourist attractions, opportunities for spiritual sense.

*Negative Multiplier* effects:

• Decreasing other agricultural activities (for example horticulture)

Positive Feedback loops:

• Enhancement existing activities – transport, communication, constructing and trading.

Positive/Negative feedback loops:

• Wine tourism dominates over other types of tourism (rural, hunting and cultural).

Negative feedback loops:

• Insufficient usage of proper environmental conditions for producing vegetables and livestock.

The results of the analysis are presented at the Fig. 2.

We can classify the "individual effects" in following dimensions. In search of wine tourism product consumers expects the winery to be at close destination and considered there are attractive buildings and cellar. Landscape attributes that add value to the product wine tourism is the availability of mountain and hilly terrain near the winery. Thus the construction of new facilities must comply with the presence of these landscape attributes. Another attractive feature of the product from consumer's perspective is the availability of wine restaurant and gourmet. These factors make visitors to stay longer in the winery. By offering wines and local foods visitor can touch to the local traditions and history.

### *3.2. Turkey*

Rose oil (*Rosa damascena mill.*) which is known as Pink rose oil, Rose oil or Damascus rose beside the "Isparta rose" is one of the important agricultural products for Isparta. Rosa damascene is cultivated to obtain rose oil, which is the main raw material of perfume and cosmetics industry and also used in food industry. The most important world rose oil producers are Bulgaria and Turkey. Rose oil is produced in Isparta in Turkey and Kazanlak region in Bulgaria. Both "Turkish Oil rose" and "Bulgarian Oil rose" are distilled from fresh rose oil flowers (Giray and Ormeci Kart, 2012).

Rose oil cultivation leads to an important commercial dynamism by covering all the agricultural activities such as the planting the gardens, harvesting and processes done for oil extraction, as well as it has a historical and cultural significance (Timor, A. N., 2011). 80 per cent of Turkey's rose oil is produced in Isparta and the rest comes from

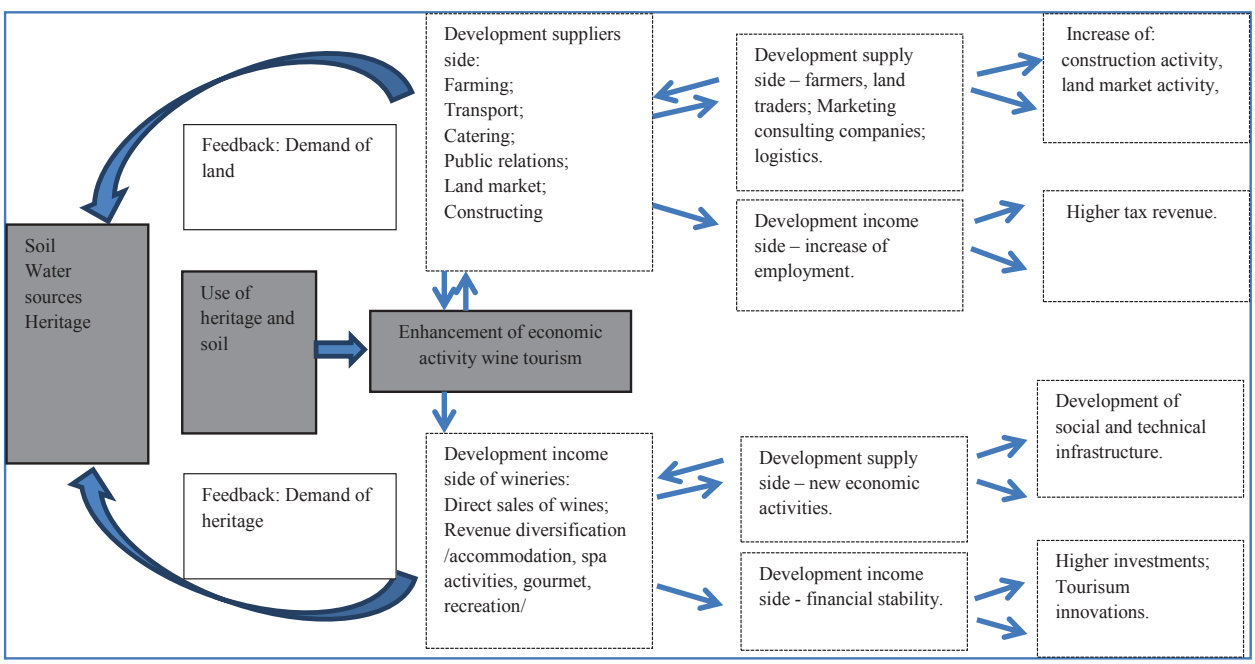


Fig. 2. Multiplier effects and feedback loops in Pazardjik region

the neighbourhood (Afyon, Denizli and Burdur provinces). Roughly 10 000 families deal with rose oil production and 8 700 families out of 10 000 live in Isparta (Anonymous, 2012).

The case study area, Güneykent, has 14.29 per cent of rose oil gardens and produces 24.16 per cent of total rose oil production of Isparta (Bilgin and Taskin, 2012).

Guneykent" town is located in Isparta province of the West Mediterranean Region in Turkey. The study region consists of the four districts "Karatas", "Orta", "Tekke" and "Yenice". The town is located in a hillside between the mountains of Gonen and Keciborlu counties. Average attitude of the town is 1,250 meters. South plain of the town reaches to Burdur Lake and also close the Egirdir Lake. Guneykent is a Mediterranean town but its climate represents more inner Aegean and Anatolian characteristics. There are 1,701 habitants in Guneykent and 52.91 per cent of the population are females. Literacy rate is 99 per cent and higher than many rural areas in Turkey.

Agriculture is the main sector in the region's economy. Rose farming is the most common income sources in the region. 95 per cent of the population have rose gardens. Güneykent has 14.29 per cent of rose oil gardens and produces 24.16 per cent of total rose oil production of Isparta. They also produce vegetables and cereals (mostly rain-fed conditions) and orchards. Animal husbandry is also common agricultural activity in the region. Both crop and animal production are carried out in small family farms and in fragmented agricultural land.

Landscape structure and composition provides many economic activities such as rose farming, rose tourism, agricultural area and agricultural industry in Guneykent region. According to observation from case study area, demand for services can be classified as tourism, raw materials and spiritual experience/sense of place. Addition that there are several landscape values are local brand of foods, local brand of rose products as marketed goods, appropriate conditions for recreation and rich natural heritage as public goods. Parallel to Bulgarian case study, there are many similarities in terms of contribution of benefit to regional competitiveness and regional welfare are good image of local foods, attractive tourists services, stimulate agricultural industry investment, high rose oil productivity compared to other region and creating value added for rose industry (see Table 4).

Various relief characteristics – along with the available natural resources provides conditions for the development of irrigated agriculture. Rich and large agricultural areas and rose farming system provide opportunities for the creating income resources from agro tourism in the region. Besides, rose and rose products provide opportunities for the development of rose industry in Güneykent region. Rose products has spiritual effects on human and that feature provides opportunity for the development of value added of rose industry and tourism. This tourism activity helps to protect the cultural heritage and traditions and it has considerable contribution for the development of cultural tourism.

**Table 4.** Contribution to Guneykent regional competitiveness

| **Demand for services (services used)** | **Beneficiaries of services used** | **Benefits and second order effects** | **Landscape values** | **Contribution of benefits to Regional Competitiveness and Regional Welfare** |
|---|---|---|---|---|
| Tourists<br>Raw materials<br>Spiritual experience and sense of place | Number of farms are 800<br>Tourist accommodations<br>Tourists<br>Traders<br>Rose product manufactures<br>Food processor<br>Local population | Higher yields in farm farms<br>Profit of all health/ recreation related touristic offers<br>Short distances of food industry<br>Direct access to the nature<br>Better image for regional products | Valuation of marketed goods:<br>Local brand of foods<br>Locals brand of rose products<br>(Existing) valuation of public goods<br>Appropriate conditions for recreation<br>Rich natural heritage | Good image of local foods<br>Attractive tourists services<br>Stimulate agricultural industry investment<br>High productivity of agriculture<br>Creating value added for rose industry |

The degree of economic activity population in the region is close to the average for the country, but the unemployment rate is higher. This leads to lower wages, forcing locals to seek additional sources of income.

The population density in Guneykent is below the national average and constantly decreasing. The share of people over 50 years is high, and it continues to grow. This findings, combined with a low level of education of the population questioned maintains the competitiveness of the region in the long term.

Beside its direct effects on the socio-economic of its producers, rose oil farming has secondary effects on the region's economy, particularly in rural areas. First effect is on the rose oil processing industry which has been important traditionally and developed mostly as a primary sector for exporting row materials. Recently, economic activities associated with the rose oil production have developed in Isparta, as well, products ranged from cosmetics/perfumery to medical/aromatic and food. Second "secondary" effect of the rose oil farming is on rural tourism which relatively newer and less developed. Landscape in the rose oil production areas, especially during the harvesting session from mid-May to August attract people to visit rural areas and it effects the other sectors in public and private sectors.

*Positive Multiplier effects:*

Rose farming creates new economic activities:

- Rose oil factories
- Rose oil processing sectors
- Cosmetic and Perfumery
- Food (limited)
- Tourism (mainly rural and sort of health tourism)

*Negative Multiplier effects*:

- Overpressure on natural resources
- Decreasing other agricultural activities

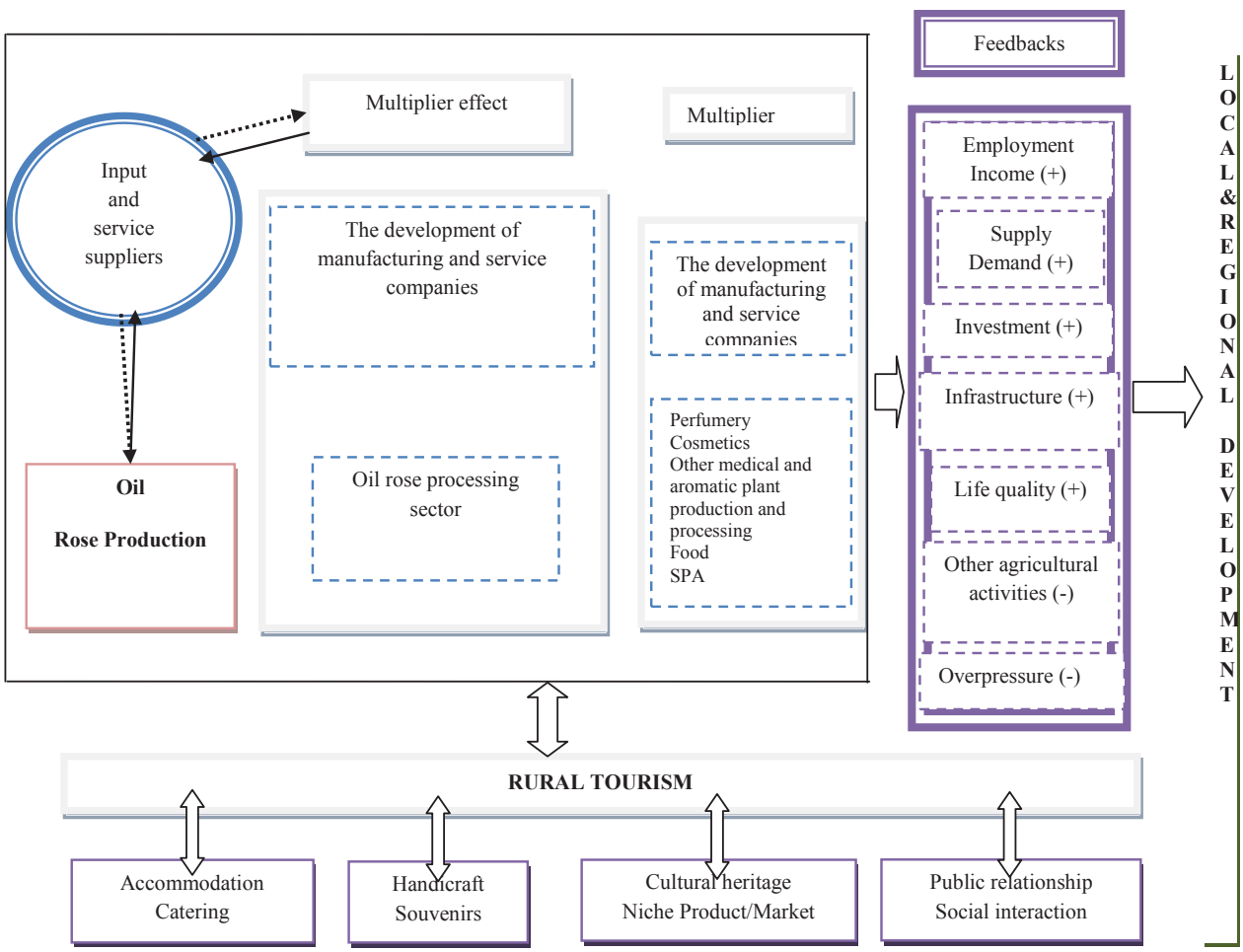


Fig. 3. Multiplier effects and feedback loops in Güneykent/Isparta region

*Positive Feedback loops*:

• Enhancing the other medical and aromatic plants farming (e.g. lavender)

• Enhancement existing activities

These relationships and results are illustrated in the Fig. 3.

### *3.3. ANP results*

The evaluation of the network is carried out in form of face-to-face interviews led by the respective CSA leaders. In Bulgaria 11, in Turkey 9 experts/stakeholders took part in the exercise. The respondents have been selected from the local stakeholder laboratory and are therefore all involved and aware of the topic of landscape valorisation and have participated to the validation of the CLAIM framework. Due to the different regional basic conditions, the composition of the expert/stakeholder panel slightly differs (see Table 5).

If we compare the ANP results for our two study regions, it becomes obvious, that the differing regional basis conditions induce shifts of the importance of single elements playing a role in the system (see Fig. 4).

In Bulgarian case study, raw material production contributes to landscape valorisation more than the supply of food. This result is explainable by the clear dominance of forests in the region, where the share of forest area is twice as high as the share of agricultural land. In Turkey case study supply of food contributes to landscape valorisation more than raw material production. Agriculture in the Bulgarian ANP has a lower importance than in the Turkey case study. The reason for this case study as there is only low vertical integration of farms and most of the added value is created

**Table 5.** Key-figures expert/stakeholder panel (number of participants)

| Stakeholder-group: | CSA 7(TK) | CSA 8(BG) |
|---|---|---|
| Agriculture | 3 | 7 |
| Economy | 2 | - |
| Environment/Landscape | - | - |
| Policy/rural development | 1 | 4 |
| Research | 3 | - |
| Tourism | - | - |
| Others | - | - |

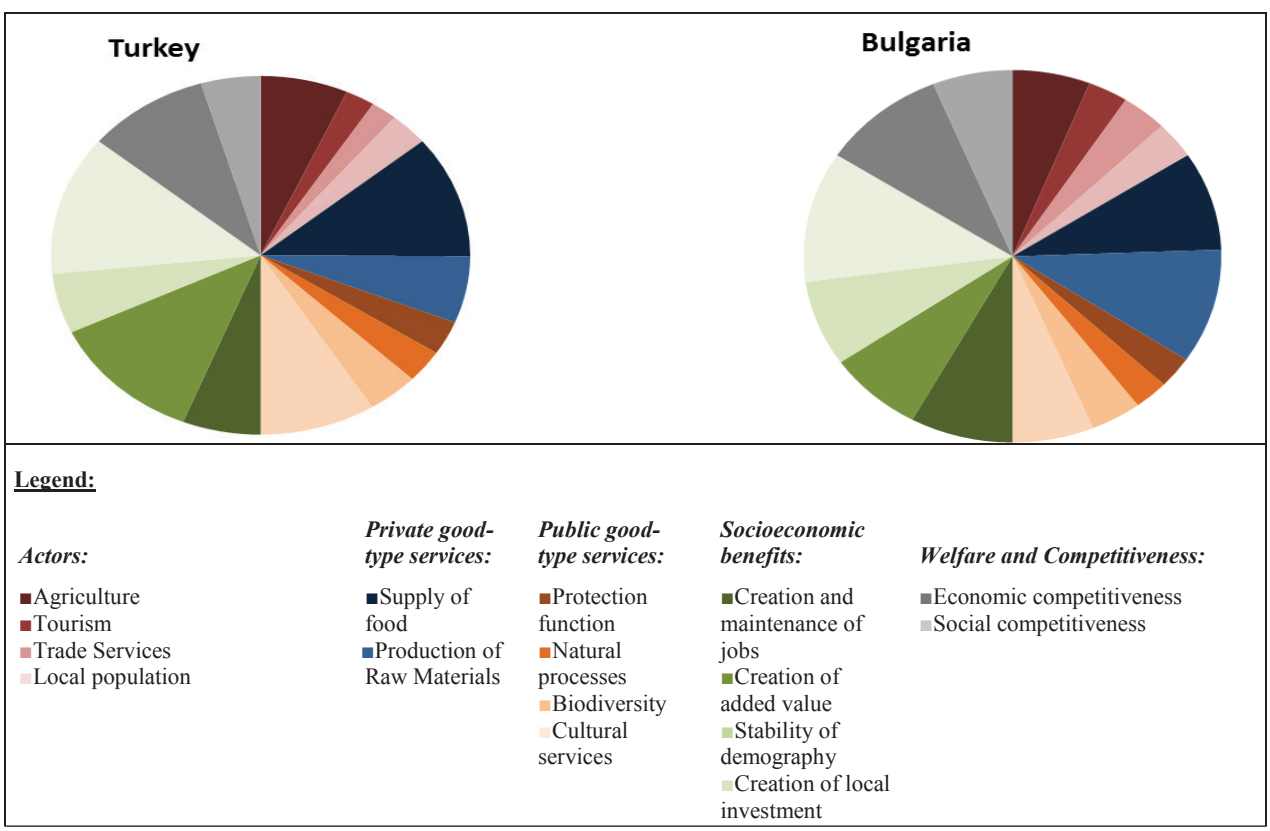


Fig. 4. Distribution of importance of element in the single CSAs

by not the farmers but the downstream industry. That is why agriculture itself does not contribute so much to competitiveness.

Looking at the Bulgarian case, one can see that, although Pazardzhik Region represents an important agricultural area in Bulgaria (the region is characterised by favourable soil and climate conditions allowing for the production of a wide range of crops), the outstanding importance of agriculture amongst all actors is not given to the same extent as in the other CSAs. An explanation for this result could be the low vertical integration of especially the agricultural sector in the Pazardzhik Region. The agriculture and forestry sector is mainly limited to primary production and therefore holds only a comparatively weak position in the value chain while adding value to agricultural products first and foremost takes place in other sectors of the local economy such as tourism or the wine industry.

## 4. Conclusions

In Bulgaria contribution of landscape benefits to the regional competitiveness can define as a good image of local foods, attractive tourist's services and high productivity of agriculture. From the bio-physical context on local competitiveness semi-mountainous landscape has highest significant influence on local employment – vineyards farms. In other side available water resources combining with riche sources of mineral water boosted tourism and balneology.

Identification of influencing factors reveals that basically factors of the socio-economic context as diversification of activity, size of the vineyards and size of managed assets. Agriculture holdings with a higher degree of diversification are key contributors to diversify of the landscape.

Landscapes combination of attractive wine cellar built, well located on a hilly terrain, giving views of the overall landscape is defined by consumers as perfect when the product is wine tourism. If the business sector complies with these requirements, it has a chance to sell a product with a high added value.

The elements of the landscape, which are created by human activities (such as wine cellar, vineyard, and restaurant) are more important to the consumer than natural ones (mountain, hill, landscape). In this context, winery's management can control the first landscape elements and combines them successfully with natural resources. As a result, it achieves an attractive and competitive product. Also can be achieved second order effects such as the development of related industries and services, preserving local traditions and promotion of rural heritage.

The results of the Turkish case study also proves that landscape structure and composition provides the region with socio-economic benefits to the regional competitiveness and regional welfare. Rose oil production contributes to income generation of its producers, helps to protect biodiversity, provide the also a unique row material for rose oil production and rose oil dependent industries. Not only these direct effects on the socio-economic of its producers and environment, rose oil farming has secondary effects on the region's economy, particularly in rural development. It is observed in the region that new rose oil processing and related industries have been increased by local producers. They are becoming actors not only in the row material production but also the further steps of the value chain, recently. The other "secondary" effect of the rose oil farming is on rural tourism.

Landscape of rose oil gardens attract people to visit rural areas and it effects the other sectors in public and private sectors in order to initiate and/or develop new business, such as bed and breakfast, rose brunch, rose harvesting tours and souvenirs production. Also these developments are expected to help and push protecting cultural heritage/traditions/local knowledge and imroving quality products.

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## Second Order Effects of Landscape Management on Rural Economies in Bulgaria and Turkey

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(Summary)

This research focuses on building a specific framework and to measure the contribution of landscape to the development of rural economy. The main issues are to be determined how landscape contributes to the competitiveness of rural economy and special focus on the second order effects. Analysis is made in key sectors of agriculture at the rural economy of Pazarjik region in Bulgaria and Guneykent/Isparta region in Turkey. Both empirical results in Bulgaria and Turkey indicate that there is demand of the following landscape services: food, raw materials, fresh water, climate and air quality, spiritual experience and sense of place. Based on cascade approach it was defined the influence of landscape on rural competitiveness.

The objectives of this paper are, in order to explain complexity of multiple processes connecting landscape elements, actors, framework conditions and benefits to present the application of the Analytic Network Process (ANP) method to the agricultural landscape topic in two case study areas in neighbor and similar countries, one is the EU member and another is a candidate for the EU to discuss evidences and results for the improvement of the method.

***Key words:*** landscape, rural economy, second order effect