
Identification of Public Goods and Bads in South Central Planning Region in Bulgaria

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Определяне на обществените блага и антиблага в Южен централен район на планиране в България

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Резюме

Целта на статията е да се очертаят обществените блага и антиблага от селското и горското стопанство в Южен централен район на планиране. Съществува голямо разнообразие от публични блага и антиблага, свързани със селското стопанство. Много от публичните блага са високо ценени в региона. Най-важните са: селскостопанският пейзаж; топографията; качеството на почвите; биоразнообразието в земеделските земи; качеството на водата; функционалността на почвите; стабилността на климата; както и устойчивостта на наводнения и пожари. Обществените блага се използват като термин в социално-политически контекст: неща, които са „за общото благо“. В статията се използва неокласическият икономически подход при изследването на публичните блага. Развитието на концепцията за публичните блага е основна в дебата за бъдещето на политика, свързана с поддържане на тяхната наличност и използване.

Ключови думи: обществени блага, селско стопанство

Introduction

There is occurring substantial technological and structural change in rural land use, and the ongoing, gradual liberalization of agricultural markets. The agriculture and forestry sectors provide foods and other specific goods to the consumers. Some of these goods are public goods (PG) and public bads (PB).

The concept of public goods was developed by Samuelson (1954) and Musgrave (1959). These

authors state that markets are not suitable mechanism for trade of some goods. The society demands certain goods which are not measured by prices. The reason of that are inherent qualities of these goods – non-excludability and non-rivalry in consumption. The market mechanism is insufficient in such cases so provisions of these goods need a different approach. Economists work on a normative approach, in order to consider when

public or state intervention in markets may overcome this problem.

Theoretical remarks

Public good is an item whose consumption is not decided by the individual consumer but by the society as a whole. A public good (or service) may be consumed without reducing the amount available for others, and cannot be withheld from those who do not pay for it. Cornes and Sandler (2003) give a clear exposition of the economic meaning of “public goods”. These goods have the two key intrinsic features nonrivalry and nonexcludability, as mentioned earlier. Non-rivalry means more than one person can consume the good at the same time. Non-excludability means that the good is provided to everyone in the same place. These two characteristics set up an inappropriate supply and pricing of these goods in conventional markets, and they are often therefore described as examples of market failure. Overcoming of market failure propose consideration of some kind of collective action or public intervention, to correct it.

There are relatively few examples of pure public goods. Examples include flood control systems, public water supplies, street lighting for roads and motorways, lighthouse protection for ships and also national defence services.

Quasi-Public Goods

A quasi-public good is a near-public good i.e. it has many but not all the characteristics of a public good. Quasi public goods are:

- Semi-non-rival: up to a point, extra consumers using a park, beach or road do not reduce the space available for others. Eventually beaches become crowded as do parks and other leisure facilities. Open access Wi-Fi networks become crowded.

- Semi-non-excludable: it is possible but often difficult or expensive to exclude non-paying consumers. E.g. fencing a park or beach and charging an entrance fee; building toll booths to charge for road usage on congested routes.

The OECD, in its analysis of public goods in farming and forestry (OECD, 2013), suggest to

used various ways to ensure adequate provision of public goods according to the social norms and the level of private provision. The public financing is just one among them. Other authors have found similarity between PGs and private goods. They include both tangible goods and less tangible services demanded by society. Bureau et Mahé (2008); Bureau (2010), Poux (2012) describe social and environmental elements of public goods. Dwyer and Hodge (1995) have explored the phenomenon of non-profit provision where goals other than profit maximisation drive production choices. It is so-called socially-responsible production where economic and wider social and environmental goals are combined, in specific types of farming and forestry practice (e.g. Grouiez, 2014; SFSCC, 2015). In these situations, traders in markets would be motivated to maintain PGs, due to the broader mix of drivers to which they respond.

In his discussion of public goods, Musgrave (1959) also explains that the characteristic of non-exclusion gives rise to two problems:

- i) Revealing individual preferences for social wants; and

- ii) Even if preferences could be known, selecting the desired state of distribution through a social welfare function.

Olson (1965) develops the problems raised by the non-exclusion characteristic through the discussion of “free rider” behaviour. This is selfish behaviour – where an individual seeks to gain benefit without paying for it. If everyone does such behaviour (why should I pay if I can get the benefit for free?) there will be problem with supply of these goods because no-one willing to pay. The free rider problem leads to under-provision of a good and thus causes market failure.

Market failure stimulates economists to search appropriate tools in order to correct this situation. Three kinds of recommendations are usually suggested: intervention by the state to provide the goods directly (e.g. compulsory purchase and management of a nature reserve); the use of market instruments to influence provision (e.g. tax or incentive payment/subsidy to decrease private generation of public bads or increase private supply of public goods in the production of private

goods); or regulation in order to re-define property rights so as to place public duties upon private actors (e.g. prohibition on certain types of land use or management, for sites or assets of specific public value).

How we define a public good in the context of agriculture and forestry?

One in which each individual’s consumption leads to no subtraction from any other individual’s consumption of that good. The pure public good is one for which the total output.

Non-excludable – if the good is available to one person, others cannot be excluded from the benefits it confers.

Non-rival – if the good is consumed by one person it does not reduce the amount available to others.

Given the defining characteristics of public goods, their supply cannot be secured through markets. This is because non-excludability and non-rivalry in consumption imply that users have no incentive to pay for public goods, often leading to over-exploitation.

The Public goods related to the Agriculture and forestry are presented on figure 1. There are

various kinds of PG’s which must be identified in the South central region. Each of them can contribute to attractiveness of the region for living and doing business.

Research work – case study approach

The main public goods in the South Central Planning Region

South Central Planning Region (SCPR) is located in the southern part of Bulgaria. In the northern part bordering with the North Central region and the main ridge of Stara Planina is a natural northern boundary of the area, South borders with Greece and Turkey, East borders the South Eastern Planning Region and to the West with the South West region. There are five areas: Pazardzhik, Plovdiv, Smolyan, Haskovo and Kardzhali. The area covers the western half of the Upper Thracian Plain, southern Central Stara Planina, part of the Central forest – Balkan fields and much of Rhodopes. The area of the region is 22 365 square kilometers or 20.1% of the country.

Arable land in Central South Bulgaria are 20.3 percent of the arable land in the country. This is

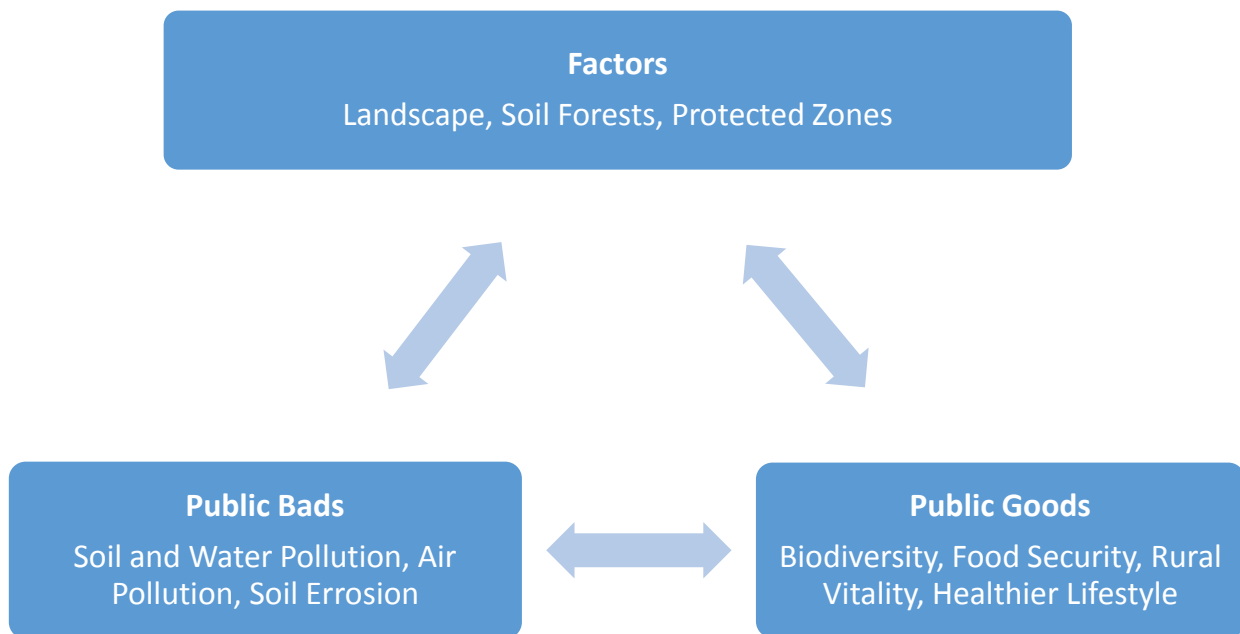


Fig. 1. Public bads and goods identified in SCR

one fifth of the area suitable for agricultural production. Crop areas are less than a fifth. However areas under permanent crops are nearly one third of the plantations in the country. Natural grass associations occupy 17.8% of the meadow grazing land in the country. Soil and climatic conditions in the region favor the cultivation of all crops. The largest share in the structure of crop areas has wheat – 38.0% of the total area in the region. The second-ranked areas is under sunflower. Although cotton occupies only 1.5 percent, the region’s main cotton producers as it provides 89.5% of the areas of this crop in the country. In the tobacco region occupies a small area – 0.8 to 2.3%, but this is more than half of tobaccos production areas of the country.

Yields of most crops are larger than average crop yields obtained in the country. Especially prominently features cucumbers – 149.8 percent, beans and plums – 146.7–132.3%. Lower yields are sunflower and some fruit trees.

The region has well developed livestock. Here grow a little more than one-third of the cattle in the country – 35.4 percent. Sheep, goats and birds are one-fifth of the total number of these categories of animals in the country. The smallest proportion of pigs. The region produces more than one third of the total quantity of milk in the country – 34.8 percent. Sheep provides more than a quarter of milk received in Bulgaria. Slightly less developed is poultry. Re-

gional animal productivity is close to the national average.

Soil cover in SCPR is closely related to the specific combination of bedrock, the peculiarities of the relief, the direction of the radial movements of the earth crust, climatic conditions and human activities that determine the considerable diversity of soils in the region. They can be characterized as: deep soils in lowland areas with soil types: typical cinnamon forest soils, leached cinnamon forest soils, leached vertisols, pseudopodzolic soils, alluvial (diluvial) meadow soils, swamp (hydrogenated) soils, saline (halomorfni) soil; and shallow soils in the hilly and mountainous areas with soil types, humus carbonate soil (shallow and lithosols), shallow cinnamon forest soils (rankeri), brown forest soils (rankeri), brown soils with humus-carbonate soils.

Forests are an important resource of the SCR, which he far surpasses other areas. They occupy 46% of the territory. Serious differences are observed within the region itself, as Smolyan and Pazardzhik region are significantly larger than other forest areas. Here, public goods are expressed in improved air quality, water quality, soil functionality, climate stability, resilience to flooding and fire. In the distant past the valley of Arda it was one of the most forested in Bulgaria, but the exploitation of forest resources, the majority of forests are cut down, so that today large areas are deforested.

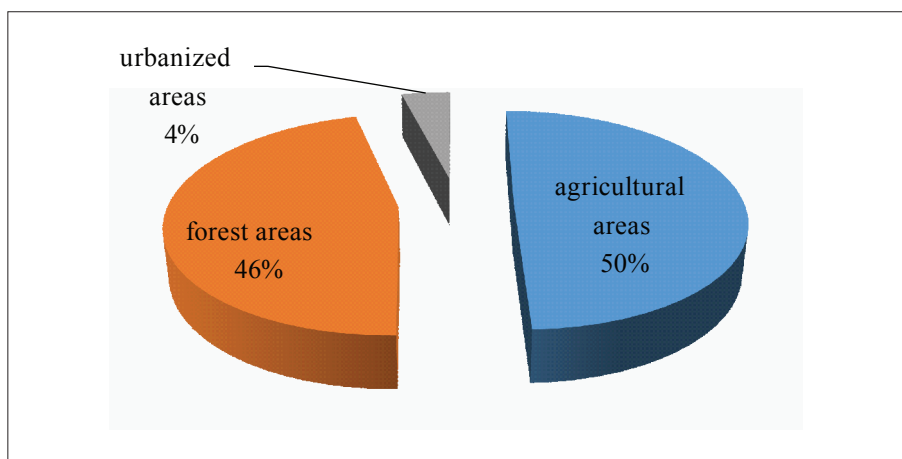


Fig. 2. Structure of territory (South Central Planning Region)

As well as a diverse suite of more social public goods, including food security, rural vitality and farm animal welfare and health, a healthier life-style, better quality of life - more environmentally friendly life;

The terrain is extremely diverse. The area covers a large part of the Balkan and Rhodope Mountains and objectives Sredna gora and Sakar Mountain. Lower parts of the area covering the Upper Tracian Valley and Sredna and valleys that are formed around the catchment areas of the River Maritsa and Tundzha River. Kardzhali and Smolyan districts are located in the mountains, while others combine high mountains with valleys with farmland. The landscape suggests significant differences in the climate of parts of the region.

Larger rivers that flow through the territory are **Maritsa, Tundzha, Arda, Stryama, Sazliyka** and others around **who are valleys with farmland. There are many dams /reservoirs in the territory of the region** – Krichim, Pyasachnik, Koprinka, Jrebchevo, Kardzhali, Studen Cladenec, Ivaylovgrad, Beglika, Belmeken, Batak, Dospat, Широка Poliana and others. In South Central region are many **mineral springs of national importance**. Better known are Hisar, Banya (Karlovo), Velingrad, Devin, Bratsigovo Mihalkovo, Strelcha, Merichleri, Narechen, Krichim, Panagyurishte, Haskovo mineral baths and others.

Natura 2000 is a European network made up of protected areas designed to ensure long-term survival of the most valuable and threatened species and habitats for Europe in line with basic international agreements in the field of environmental protection and biodiversity. Natura 2000 is central to the policy of the European Union and is a testament to the commitment of all Member States to work for the preservation of biodiversity. It is based on two key EU agreements relating to environmental protection and biodiversity conservation – directive on the conservation of wild birds and the Directive on the conservation of natural habitats and wild flora and fauna. They were transposed in Bulgarian legislation through the Biodiversity Act.

On the territory of the CSR covered many protected areas network “Natura 2000”:

- *sheltered areas to protect wild birds - Birds Directive*: protected zone “Maritza Plovdiv” protected zone “Hatcheries Plovdiv” Dam Konush, Rice paddies Tsalapitsa, Central Balkan, Reservoir Sandstone, Persenk, Maritza – Plovdiv, Maritsa Parvomay, Hatcheries Plovdiv, Dobrostan Average forest Central Balkan buffer Besaparski Hills Hatcheries Zvanichevo Western Rhodopes, Maritza – Plovdiv, Rila and Central Forest.

- *Protected areas for conservation of natural habitats and wild fauna and flora under the Habitats Directive*: Protected zone “Maritsa River” protected zone “River Sandstone” Chaya River, Besaparski Hills, Garden forest Trilistnik Forest-Shishmantsi, Vacha Thrace Stryama and Kayaliyka River, Bear River, River Cherkezitsa, Chinarer River, River Omurovska, River Sandstone, Central Balkan, Maritsa River, Brestovitsa, Rhodopes and West Rhodopes environment, Popintsi, Average forest Central Balkan buffer and others.

Protected zone “Rice paddies Tsalapitsa” (BG 0002086) is a complex used for rice production watered areas surrounded by low dikes and canals and grasslands located in the immediate vicinity. It is part of the whole territory of the rice fields located on part of the land of the compound of town and villages Tsalapitsa, Radinovo Voysil, Plovdiv district with a total area of 36 ha. The area includes rice paddies, other extensive cereals including rotational crops, arable land and water areas, including internal standing and flowing water. The protected area is declared by order of the Minister of Environment and Water. Its aim is the protection and maintenance of habitats mentioned in the subject of the protection of bird species to achieve their favorable conservation status, and restoration of habitats of species for which it is necessary to improve the conservation status.

Rice paddies Tsalapitsa territory is located in a densely populated area and is under strong pressure of the intense human activities. The main habitats are formed as a result of human activities and their existence largely depends on the active use of the land primarily related to rice production. Business activities in significant part include the growing of crops, 50% of the land in the

project area are occupied by the rice (*Oriza sativa*). Corn (*Zea mays*) represents 16% of the crops, alfalfa (*Medicago sativa*) is 18%, cereals (*Poaceae*) are 8% and sunflower (*Helianthus annuus*) is 2%. The remaining 2% included temporarily or permanently uncultivated areas. Key bird species are the subject of conservation in the protected zone. Types of art. 6, paragraph 1 pt. 3 of the Law on Biological Diversity, subject to conservation and monitoring are those included in Annex II of Directive 2009/147 / EC on the conservation of wild birds and their habitats. On the territory of the protected area established 17 species subject to protection - Little Bittern, Little Egret, Great Egret, Black Stork, White Stork, Glossy Ibis, Marsh Harrier, Northern Harrier, Long-legged Buzzard, Great Spotted Crake, Little Spotted Crake, Kokilobegach, Pratincole, Barnacle Tern, Kingfisher, Calandra Lark, Red-backed Shrike. The types of the biodiversity found in protected areas was 11 - Grey Heron, Mallard, Garganey, Common Buzzard, Kestrel (Kestrels), Moorhen, Lapwing, Redshank, Large Wood Sandpiper, Caspian Gull. In case significant is the protection of areas in which during reproduction, moulting, wintering or migration gather significant amounts of bird species than those listed in Annex II of the Birds Directive.

The main public bads in the region

Application of larger quantities of nitrogenous fertilizers needed for crop development, as well as the misuse causes nitrate pollution and soil and water (surface and underground). The air can also be polluted by gaseous nitrogen losses when some types of fertilizers (eg. Urea) were introduced at an inappropriate temperature and unsuitable soil. Point source pollution occurs when to allow release or discharge of water pollutants from a particular source, in this case nitrates (eg leaching of manure from dung-heap). Usually it occurs as a result of omissions, negligence and improper management and storage of organic fertilizers, but mostly due to the lack of facilities for this purpose.

Diffuse sources – this type of pollution is due to the total leakage of water from the ground or from the general movement of nitrates in the

soil. Diffuse source of pollution resulting from the application of organic or mineral fertilizers in quantities exceeding the needs of the crop of nutrients or thin surface layer of soil, which can not absorb nutrients. Contamination can occur when imported fertilizers in unsuitable soil or climatic conditions. If crops or pasture vegetation are not able to absorb the available nutrients it a significant part of them is lost through leakage in the Polish drainage system in nearby rivers and lakes or penetrate into the deeper soil layers, which leads to contamination of groundwater waters. Pollution carries risks for both the quality of the environment and to human health. The high content of nitrates in surface waters creates conditions for eutrophication, manifested in the appearance of excessive algae and other aquatic plants that consume oxygen from the water and lead to death or migration of fish and other aquatic life. There is a possible mass growth of harmful algae that are toxic to humans and animals. So the waters are losing their economic importance as a resource for tourism, leisure and entertainment. Even more dangerous might be the high content of nitrates in water catchment areas for drinking water. In this case there are serious health risks. When the sources of nitrates waste or manure, water can become contaminated with microorganisms or fecal bacteria. These waters are unsuitable for drinking unless purified appropriately.

There are various sources of air pollution in the SCPR as anthropogenic and natural origin: burning of fossil fuels in electricity generation, transport, industry and households, industrial processes and solvent use, for example in the chemical and mining industries; Agriculture; waste treatment; volcanic eruptions, wind blew dust and emissions of volatile organic compounds from plants are examples of natural sources of emissions.

Business reflects adversely on soil resources in SCPR in three areas: reduction of arable land, increase of degraded lands (eroded surface waterlogged, acidic and salty) and soil pollution with heavy metals. Reducing soil fund is linked to the withdrawal of land for construction of industrial facilities, roads, pipelines and others. Significant

areas are withdrawn for urban sprawl, construction of military facilities and others.

Land degradation is associated primarily with erosion. About 80% of agricultural land are under water erosion, and of these about 30% are subjected to wind erosion. Average relate 136.7 million tons soil due to water erosion. Soil salinity is closely correlated with irrigation, because it is not properly regulate groundwater and consequently increases their mineralization. Already mentioned that salinisation accompany our most fertile soils used for intensive farming. The largest areas are salted in the Plovdiv region. The total area of genetically acidic soils amounts to 56% of the country. It is worrying that intensively develop processes of secondary acidification in areas with active agriculture in SCPR – Plovdiv and Pazardzhik. Soil pollution with heavy metals is characteristic for areas with polluted air, significantly disposal of waste water, intensive use of chemicals for agriculture and busy roads. Contaminated farmland heavy metals amounted to about 470 ha for the country. For SCPR highest proportion is in the region of Plovdiv and Haskovo.

Air and water pollution, soil pollution, landscape disfigurement and general environmental degradation as a result of human activity.

In a very large area within the region and largely reported activities leading to a negative impact on the environment. SCR is a densely populated area subject to high pressure from intense human activities, in particular agricultural activity and the economic use of the land.

Damage in the region expressed in the removal of landscape features (hedges, single trees and groups) in the use of agricultural land as such;

- Burning of stubble, pastures, of reedbeds and coastal vegetation, often leads to expansion of the fires;

- Felling of trees and bushes;

- Intensification of production associated with significant use of pesticides, fertilizers and chemicals causes a change in the quality of soil and water in rivers and artificial water bodies used indiscriminate means for pest control in agriculture.

The most extensive influence in the region has the use of pesticides, fertilizers, water pollution

and soil, burning and destruction of trees and bushes. High intensity of a negative impact in the region are characterized by activities such as the reorganization of agricultural land, hunting, trapping and poaching, burning reedbeds, damage by wild animals.

As a measure in the Regional Development Plan of the South Central region includes construction of sewerage infrastructure and wastewater treatment facilities to reduce pollution loads, for example along the river. Maritsa, which is recognized as one of the biggest environmental problems of SCR.

Climatic conditions, geology and significant deforestation create conditions for the occurrence of a number of exogenous morphogenetic processes such as erosion, landslides, mud-rock flows, scree and rock falls that violate the stability of the ground and require the holding of special fortification activities in construction and other business activities. By landslides most affected road infrastructure, which necessitates an inventory and mapping the road sections which are most often subjected to landslides. These processes are usually activated after torrential rains. These protsesise usually intensify after torrential rains. Sizeable landslide stituted under the locality “Goliamata niva” (“The great field”) in the village of Jyltusha, Ardino Municipality. Another landslide in neighborhood „Blackberries“ Ardino, caused by the collapse of the old galleries of mine “Goroubso” as subsidence caused the formation of a crater with a diameter of 8 m and a depth of 6 m.

In South Central region are extracted and most diverse mineral resources: coal, ore and industrial minerals and mineral waters. Of importance are mainly ores copper, polymetallic (mainly mined lead and zinc), iron, manganese and others. Ore-bearing areas are Balkan, Rhodope Srednogorian and metallogenic zones. Primary fuel mined in the region is lignite. The main deposits are in the southeastern part of the Upper Tracian Valley and Dimitrovgrad. Nonmetallic minerals are clays, perlite, feldspar, rock salt, rock building materials (granite, rhyolite, syenite, marble, limestone, marl, and dolomite). Most mining processes require a huge amount of water to separate the pre-

cious metals from rock. This reduces the level of aquifers and difficult access to water, leading to drying up or reduction of local springs and a fall in the level of the wells. The waste products have a huge volume and in many cases contain heavy metals and other toxic chemicals that, if not properly secured and stored, leading to serious pollution of surface water and soil. Wastes from mining forever remain a place of formation and represent a potential threat for decades to come.

Competition for land and water resources and pollution arising from mining, severely affecting the livelihoods of communities in the region who make a living mainly from agriculture and livestock, directly dependent on the quality and quantity of local water and soil. Mining in areas with high biodiversity can lead to loss of valuable plant and animal species, due to shortage of water due to absorption of much of the local water resources for mining, as well as the contamination from mining processes. Most mining activities leave irreparable wounds in the landscape – especially the open mines, storage sites of rock, tailing ponds, roads, drilled specifically for the needs of mine and others.

Location of the public goods and bads in the region

Although /despite/ pollution in the area, there are numerous preserved environmentally clean areas, mainly in mountainous areas - large part of the Central Balkan National Park, part of the Rila National Park and the entire array of the Rhodopes.

Sites within the ecological network shall be determined in accordance with two major environmental EU Directives – Directive 92/43 / EEC on the conservation of natural habitats and of wild fauna and flora (hereinafter briefly Habitats Directive) and Directive 2009/147 / EC on the conservation of wild birds (hereinafter briefly Birds Directive). Both Directives have been transposed in Bulgarian legislation through the Biodiversity Act.

Eastern Rhodopes are one of the country's regions with the greatest biodiversity. The richest families were presented Asteraceae (Asteraceae) – 237 species, beans (Fabaceae) – 173 and Cere-

als (Poaceae) – 163 species. There have been 23 Bulgarian and 93 Balkan endemics, but the percentage of endemic component is relatively low – 5.9%, i.e. below the national average. This is probably related to the lack of separate centers of speciation. The presence of endemic species in some families is significant – yuryushki mullein (*Verbascum ju-ruk*), rock mullein (*Verbascum rupestre*). They are prioritized for protection in Bulgaria, according to the National Strategy for Biodiversity Conservation. Of special interest to scientists and environmentalists to specialized cognitive and eco-tourism are 1,700 plants, including 15 protected species of orchids in protected natural areas: Bio-Reserve “hole” near Ivaylovgrad and the protected area “Lika fountain” on the road a village fiddler. The number of faithful occurring species with significant conservation status is as follows:

- 83 protected by the Biodiversity Act (14.2% type of all protected plant species);
- 12 globally rare species included in the Appendix of the Habitats Directive;
- 5 species included in Appendix №1 of the Bern Convention;
- 13 threatened and 101 rare species included in the Red Book of Bulgaria.

The fauna is represented by deer, wild boar, wild cat, jackal, fox and all kinds of raptors. It supports 350 species of butterflies, 21 species of fish, 10 species of amphibians, 26 reptile species, 273 bird species and 59 mammal species.

Here dwell rare bird species such as black kettle, American and Egyptian Vulture (near by village Plevun) small eagle, hawk, 19 species of bats. Attraction is farmed in village Slaveevo giant turtle.

Primary for the Eastern Rhodopes forest vegetation – old coniferous and deciduous forests, which determines the development of the timber. Common are residual forests composed almost exclusively of hairy and virgiliana oak, eastern sycamore, pine, oak, ash, hornbeam and beech, thorn bushes and grass ecosystems Belizmata, beard, bulbosa. More rarely are distributed cedars, six, birch and others.

The most of the area is occupied by oak forests. There are seven species of oak that make

up pure and mixed forests. Beech forests which play an essential role in snow in winter and regulation of water regime, are preserved in the valleys of Arda River and White River. Here meet and Mediterranean communities, dominated by evergreen flu verdure. Typical Mediterranean plants are: skleropoa (*Scleropoa rigida*), Asparagus fern (*Asparagus acutifolius*), zhaltuga (*Genista anatolica*), *Osyris alba*. The composition of psevdomakvisite come less evergreen and other Mediterranean forms, but enough accompanying transitional Mediterranean species. These communities are found scattered in the most eastern and northeastern parts of the subregion (eg. Ivaylovgrad, Belorolyane, Mandritsa) evergreen and their appearance is determined by the flu (*Phillyrea media*), kukuch (*Pistacia terebinthus*), prickly juniper (*Juniperus oxycedrus*) and others. their composition also includes hornbeam (*Carpinus orientalis*), oak (*Quercus pubescens*), the thorn (*Paliurus spina-christi*), bulbosa (*Poa bulbosa*). Typical for the subregion are mesophytic communities of oriental beech (*Fagus orientalis*), and xeromesophytic of oak (*Quercus frainetto*), *Acer monspessulanum* (*Acer monspessulanum*) and oak (*Quercus ceris*).

There are also small patches of preserved forests of black pine (*Pinus nigra*). And afforestation are made with white and black pine.

About the bads: South Central region has been identified as contaminated area in terms of air, water and soil due to the location of a large number of areas with cumulative environmental problems - Plovdiv, Kardzhali, Dimitrovgrad and Asenovgrad. The pollution is mainly of sulfur dioxide, nitrogen dioxide and particulate matter.

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Connection between landscape and the public goods/bads

The region is among the richest biodiversity areas in the country. It covered a large part of the Central Balkan National Park, part of the Rila National Park and the entire array of the Rhodopes. There are 11 reserve 9 maintained reserves, 155 protected areas and 98 natural landmarks, located in the region. In the area covered and most of the protected areas Natura 2000 – 44.5% of those in the country.

In the South Central region focuses the entire production of essential oils in the country, which is considered the most unique sub-sector of Bulgarian industry. This is due to the fact that the area is Rose Valley, where thanks to the unique combination of climate, soil and processing technology, produces the highest quality rose oil in the world.

In Rose Valley 25 towns and villages and 30 000 people are associated with the cultivation and processing a wide range of essential oils, which are produced essential oils, concretes, extracts, absolutes, resinoids and rosewater. The annual production of rose oil and other essential oils totaled 700–800 kg respectively. And 23–25 thousands tons, 95% of the production are for export. Common areas of the rose gardens are about 20 000 ha, as most of them are over 20 years old. The main problem is to highlight the need to encourage manufacturers of oil-bearing crops for planting again of existing fields and gardens.

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Business reflects adversely on soil resources in SCR in three areas: reduction of arable land, increase of degraded lands (eroded surface water-logged, acidic and salty) and soil pollution with heavy metals. Reducing soil fund is linked to the withdrawal of land for construction of industrial facilities, roads, pipelines and others. Significant areas are withdrawn for urban sprawl, construction of military facilities and others.

Land degradation is associated primarily with erosion. About 80% of agricultural land are under water erosion, and of these about 30% are subjected to wind erosion. Average relate 136.7 million tons soil due to water erosion. Soil salinity is closely correlated with irrigation, because it is not properly regulate groundwater and consequently increases their mineralization. Already mentioned that salinisation accompany our most fertile soils used for intensive farming. The largest areas are salted in the Plovdiv region. The total area of genetically acidic soils amounts to 56% of the country. It is worrying that intensively develop processes of secondary acidification in areas with active agriculture in SCPR – Plovdiv and Pazardzhik.

Soil pollution with heavy metals is characteristic for areas with polluted air, significantly disposal of waste water, intensive use of chemicals for agriculture and busy roads. Contaminated farmland heavy metals amounted to about 470 ha for the country. For SCPR highest proportion is in the region of Plovdiv and Haskovo.

Conclusions

There is a wide range of public goods related to agriculture, many of which are highly valued in the region. The most important are: agricultural landscape (landscape) topography, soil quality, farmland biodiversity, water quality, soil functionality, climate stability, as well as the sustainability of floods and fires.

Positive features of the South Central Planning Region (SCPR) are varied terrain and good weather conditions.

Some of the benefits arising directly from nature, because the environment in the region is very fertile, (and the land – fertile), but many of them are the result of agricultural activity in this region is high. Many public goods in the region are a direct result of land management, which is high in this region.

The region has ancient coniferous forests and pastures, many rivers and many springs of national importance. Around rivers are valleys with farmland. Many are also reservoirs in the territory of the region. The terrain is extremely varied.

The next step is to mix and match public goods to a set, which will ensure the competitive advantage of the region. Public goods may have an important role to play in the formation of the competitive advantages of the region. They assist in the creation of business value in the business sector and market development. When planning a business in a way that combines the public goods to market products allowing to achieve the uniqueness of the proposed value. The proposed model requires a coordinated approach to the protection and conservation of these public goods. To minimize the risk of their disability, it is necessary to involve all stakeholders. The use of the cluster approach would be appropriate to achieve proper economic outcomes for participants, as well as to realize the second-order effects with the non-economic nature of local society.

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Identification of Public Goods and Bads in South Central Planning Region in Bulgaria

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(Summary)

The aim of the article is to outline public goods and bads from agriculture and forestry in the South Central Planning Region.

There is a wide range of public bads and goods related to agriculture. Many of public goods are highly valued in the region. The most important are: agricultural landscape / landscape / topography, soil quality, farmland biodiversity, water quality, soil functionality, climate stability, as well as the sustainability of floods and fires. Public goods are used as a term in socio-political contexts: things which are ‘for the common good’. Development of the PG concept is a core in debates about future policy concerns maintenance of their availability and usage. We adopt the neoclassical economic approach in consideration of PG.

Key words: public goods, agriculture