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Glavni in odgovorni urednik / Chief and Responsible Editor
Lučka Lorber
Oddelek za geografijo
Filozofska fakulteta
Univerza v Mariboru
Koroška cesta 160, SI – 2000 Maribor, Slovenija
e-pošta / e-mail: lucka.lorber@uni-mb.si

Tehnični urednik / Technical Editor
Uroš Horvat

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KAZALO - CONTENTS

New Challenges for Sustainable Rural Development in the 21st Century

INTRODUCTION

The concept of rural development has undergone an important transformation process during the last decades, which has gone hand-in-hand with changes in the countryside and new demands from society.

Rapid changes in the international economy-globalisation, improved communications and reduced transportation costs, changing trade patterns for commodities, as well as emergence of important non-farm activities in rural regions – confront rural regions with some obvious threats, but also with significant opportunities. Against this background, policy makers increasingly recognise that traditional sectoral policies need to be upgraded and, in some cases, phased out and substituted with more appropriate instruments. Particular concerns are raised by the modest positive impact that agricultural subsidies have on general economic performance even in the most farming dependent communities. Indeed, with farm families relying increasingly on off-farm employment, the economic success of rural communities will depend on the development of new economic engines.

In this context, the majority of governments are showing increasing interest in a more place-based approach to rural policy that emphasises investments rather than subsidies and that is able to integrate different sectoral policies and improve the coherence and effectiveness of public expenditure in rural areas.

In this special issue of the Journal for Geography published at the occasion of the 17th Annual Colloquium of the IGU Commission on the Sustainability of Rural Systems, entitled New Challenges for Sustainable Rural Development in the 21st Century, which took place from 13th to 18th July 2009 in Maribor, Slovenia, experts from Bosnia and Herzegovina, the Czech Republic, Japan, Portugal, Romania, Slovenia, Turkey and the United Kingdom analyse and explain the development of a multi-sectoral place-based approach that aims to identify and exploit the varied development potential of rural areas. Two principles characterise this "new rural paradigm": the focus on places instead of sectors; and the focus on investments instead of subsidies. This new integrated approach to rural policy can be seen in an increasing number of initiatives in the majority of developed countries.

In the first paper, the author **Muzaffer Bakirci** from the Istanbul University, Turkey, examines negative impacts of forest fires on ecological balance and environmental sustainability on the case of Turkey. Forests, which are a vital element to Earth's ecological balance, economy, biodiversity, water resources and air purity, are confronted with various threats, one of them being fire. Fires are a major threat to forests, which are vital for the preservation of ecological balance and environmental sustainability. Caused by various reasons, fires result each year in the destruction of millions of hectares of forest land, high fire fighting expenses and loss of recreational value and lives. The paper questions the incendiary causes and negative effects of fires in Turkey. Fires, which are nowadays triggered more and more by the global climatic changes, are becoming increasingly destructive despite all the improved fire protection and extinction methods. Fires occurring despite the preventive measures result in greater economic losses and create an obstacle for the maintenance of environmental sustainability, by destroying the home ranges of

living organisms, by causing erosion, by disturbing the hydrological cycle, by increasing greenhouse gases etc.

73% of agricultural land in Slovenia is situated in the areas with limited opportunities for agricultural production. This is reflected in lower production ability of farms, limited selection of products, specialization of production, adjustment of technologies and higher production costs. Farms in these areas are less competitive and less adjustable.

Štefan Bojnec and **Kristina Knific** from the University of Primorska, Slovenia, present in their paper structural changes in agriculture between the years 2001 and 2006 in the mountainous areas of the Gorenjska region in Slovenia. In these areas, agriculture plays multifunctional roles. In addition to the supply of safety and quality food, it has also a social and an ecological role. The research on structural changes in agriculture is based on an empirical analysis conducted from three different standpoints: for a sample of agricultural households as a whole, for agricultural households by socio-economic types, for agricultural households by areas with different level of development and with different natural conditions for agricultural production. The socio-economic type of agricultural household is an indirect indicator of income diversification in agricultural households, which are divided into pure agricultural, mixed, supplementary and elderly farms. For most agricultural households, incomes from agriculture were not enough for survival. The objectives of agricultural households are oriented towards preservation of farms for the next generations and maintenance of family tradition and life in rural areas. Due to small farm size and unclear future, the agricultural households ad hoc adjust business strategies to changes. The abandon of farming is most likely to happen with the passing of the farm to the successor, particularly if incomes from non-farm employment are enough for survival of the agricultural household.

The main objectives of the 1999 CAP Reform regarding rural development, which became the second pillar of the CAP, aimed at the integration of the structural policy into rural development, the promotion of the multifunctional character of agriculture, the improvement of the quality and safety of agricultural production through environmental sustainable practices, and more attention to Member States and specific needs of regions. European countryside was perceived as a space for agriculture for a long time. But understanding rural regions as multi-functional areas is the present challenge. It is connected with the definition of "rural". There are two groups of delimitation: the first one operates with settlements and regions of specific character, the second one prefers rural as a way of life.

The Czech author **Antonín Vaishar** from the Mendel University of Agriculture and Forestry in Brno analyses in his paper sustainable development of Moravian countryside. Agriculture ceased to be the leading employment in the Moravian countryside long ago. Its production (with the exception of energetic crops) has decreased after 1990. On the other hand the economic importance of forestry and primary elaboration of timber have kept their importance for the countryside. Nowadays, much is said about rural tourism and agro-tourism, yet in reality, tourists are directed to big cities and spas. Second dwellers are typical for the Moravian countryside. They do not bring much money, however they maintain the rural houses. There are also other branches located in the countryside, such as small industrial factories or services. Enterprises with less frequent contact with consumers are typical in rural areas. The importance of social services – especially

for older people – will increase in the future due to population aging. The countryside with its quiet atmosphere is an ideal place for them. Good transport conditions and developed local services are the main pre-requisites. The Moravian countryside is diverse. The sub-urbanized countryside in the surroundings of Brno and Ostrava evokes the question whether it can still be considered countryside. Easily accessible countryside of the Moravian lowlands enables the division of work among individual settlements. Badly accessible countryside at the border and the inner periphery is dependent on small towns which ensure jobs, services, social contacts etc. The Moravian countryside will certainly survive.

In regions defined as predominantly rural, primary agriculture usually accounts for a larger, though still mostly modest, share of employment and GDP. Nevertheless, there are some regions where a significant proportion of the population is dependent on agriculture. At the same time, a significant share of farming takes place in regions that are not defined as rural. For example, less than half of the farms and half of the farmland is in predominantly rural areas, as defined by OECD.

The author **Vasile Surd** from the Babeş-Bolyai University, Romania, examines in his paper the Romanian rural space from the major critical aspects, with the focus on dispersion of population, agricultural land use and infrastructure. From a territorial point of view, Romania belongs to the category of predominantly rural areas. The rural population of Romania is around 10 million, which is almost 45.4% of the total Romanian population. Almost 90% of the total surface of Romania is represented by rural areas, of which 62% is agricultural land used mostly as arable land. There are about 8 million agricultural exploitations with an average size of about 1.7 hectares. Out of 63,670 km of local and county rural roads, only 7.7% are modernized and only 2,467 villages (17%) are connected to centralised water systems. In 20 years after the abolishment of the former centralised economic and political system, Romania has not yet found the proper manner to modernise its agriculture and rural life, despite its high quality agricultural land. The SAPARD Programme with over 5000 investment projects, implemented in the rural areas, is far from satisfying the general needs for modernising the Romanian village.

A growing interest in rural non-farm incomes reflects the increasing evidence that rural people's livelihoods are derived from diverse sources and are not as overwhelmingly dependent on agriculture as previously assumed. Although rural non-farm incomes are important as an off-season, part-time or home based income supplement for households whose main activity is farming, they tend to benefit disproportionately the better-offs, implying significant entry barriers and market segmentation. Moreover, in the absence of an appropriate targeted policy, current trends in the relevant sub-sectors suggest that entry barriers may increase. People's access to education and skills, infrastructure, financial capital, social capital and natural resources (particularly land) is examined in relation to their participation in rural non-farm activities. Improvements in infrastructure, education, health and financial services help facilitate access to rural non-farm income sources. A sound and less risky agricultural base provides a strong foundation, on which other activities can develop. Social capital is important.

Rahman Nurković from the University of Sarajevo, Bosnia and Herzegovina, discusses in his paper the influence of tertiary activities on the transformation of rural settlements in his country. In the recent period, particularly after 1995, great spatial changes have occurred in rural settlements of Bosnia and Herzegovina due to

fast development of tertiary service activities, which has had a strong influence on the transformation of rural settlements. The author's research focuses primarily on the development of rural settlements, but also on the expansion of the new tertiary activities in rural settlements, diverse housing constructions and traffic infra-structure development. The mentioned processes have a strong influence on modern spatial and functional structure of rural settlements in Bosnia and Herzegovina. The new rural development of the settlements is connected with other smaller towns into an interacted urban system, in which each of them provides services and products for its surroundings, the region and its hinterland. This is followed by the emergence of specialised shops (bank services, legal services, large market, diverse manpower, extensive public services, car shops, computer equipment, furniture shops and alike). A strong pressure of foreign and local investors leads to poor quality construction and illegal construction of the buildings in rural settlements, which are expanding along the traffic routes.

Rural areas have come to fulfil other functions, thus other public policies apart from agriculture have impinged on rural areas, and governments have been drawn in to resolve issues concerning social and economic development in rural areas through rural development policy. However, the nature of rural areas and the challenges they face vary considerably across Europe, the consequence being that what is understood to constitute rural development policy also varies. The common feature is a certain perspective that cuts across sectoral concerns and has a territorial orientation. As a deliberate focus of activity, two other fields are established: agricultural policy and spatial policy.

The paper by **Irma Potočnik Slavič** from the University of Ljubljana, Slovenia, focuses on neo-endogenous rural development that enables development of "traditional" endogenous potentials of rural areas, e.g. human, social, economic, environmental etc. as development resources on the local territorial level, and external resources such as the national state rural development scheme and the EU Rural Development Programme. Contemporary Slovene rural areas are a very heterogeneous, dynamic and complex, multifunctional, fluid, hybrid and globalized space, not a definite and closed category, and not geographically limited. Therefore, Slovene rural areas require a small-scale in-sight research which will try to explain their restructuring and help develop sustainable rural governance of their endogenous potentials. The economic theory defines the term "economic cycles" as a representation of economic relationships between aggregated units: private households, enterprises, state and foreign county or countries – they are not closed, but open to larger systems. The research has partly confirmed that the activation of neo-endogenous potentials of rural areas is evident through the empowerment of regional economic cycles. Slovene rural areas have great endogenous development potentials that should be developed by using the neo-endogenous development approach, by enabling its sustainable use, but also by the appropriate restructuring of national/regional/local institutions, local population activation and a responsible response by all the stakeholders.

People compare the grandeur and beauty of rice terraces in Japan to the pyramids in Egypt. Rice terraces, however, are alive with farmers, crops, cultures, and rituals, which are evolving and are handed over from generation to generation. They are not simply a tourist attraction or a device for producing rice. Rice terraces make people aware of their relationships with their ancestors, families, colleagues and nature. The authors **Koji Kobayashi** and **Chisato Harada** from the Gifu University,

Japan, discuss the preservation of rice terraces in Japan. Since 1960, abandoned rice terraces have been found in Japan. The reason for this is a poor demand for rice due to the changes in the diet. Moreover, rice terraces are not always suitable for growing rice. However, the preservation of rice terraces has been promoted since 1990. People are getting more conscious of environmental problems and food safety issues and more aware of the importance of multilateral functions of agriculture and rural areas. In this context, people have been encouraged to conserve rice terraces all over Japan.

India's farmers are still mostly practicing organic methods, passed down for millennia. Organic fertilizer and natural pest control are the only tools available to most of these farmers, who have always lacked the financial resources to explore chemical solutions. But these farmers, whose produce is as organic, cannot afford to pay the fees required to gain official certification.

Ana Firmino from the New University of Lisbon, Portugal, examines in her paper the new challenges for the organic farmers in India, such as tourism, spices and herbs. India is reputed for its spices and herbs, which are used not only for gastronomic purposes, but also for medicaments and religious rituals. The intensive contacts with merchants from different parts of the world, for example with the Portuguese during the 16th and the 17th centuries, contributed to the enrichment and diversity of the flora, which has been kept up to now, namely in Goa, where the field work for this paper took place. This increasing demand for specific plants of the Indian flora, produced according to the organic farming methods is a new challenge for the local farmers, who have been launching other activities such as visits to the farms, with a guided tour to identify the herbs and spices, meals served in a traditional way, tours in the nature, walk on an elephant, farm shops where handicraft, oils and fragrances can be purchased. Some also offer accommodation; others work together with ayurvedic healers. In this study, the advantages offered by multifunctionality are tackled as well as the threats constituted by the intensification of production, the dilapidation of the natural cover, namely due to wild collections and the misuse of the organic label in farms where this mode of production is not certified.

Whenever the term "mountain" or any image relating to mountains appears on a food product, this constitutes a "promise" to consumers that must be delivered. In fact, the mountainous identity represents very positive communication capital in the eyes of consumers; it is the duty of everyone to ensure that this image is not tarnished or abused.

The contribution entitled Are Consumers in Slovenia Concerned about the Mountain Quality Food? by **Andreja Borec** and **Darja Majkovič** from the University of Maribor, Slovenia, presents the first consumer analyses which aim to find out whether consumers are sensitive to such products, and whether there exist positive synergies between the consumers and the area of origin. The consumer analyses were carried out using questionnaires, and the data where processed based on descriptive statistics. The results show that consumers have in general a very positive perception of mountain quality food products, although they do not know exactly what the characteristics of mountain quality food products should be. As regards the synergies between the area of origin and the purchasing of mountain quality food products, the results differ according to the area where the respondents come from, e.g. mountain or non-mountain areas.

As of the end of 2007, 7.8 million hectares in Europe were managed organically by more than 200,000 farms. In the European Union, 7.2 million hectares were under organic management, with more than 180,000 organic farms. 1.9% of the European agricultural area and four percent of the agricultural area in the European Union is organic. 24% of the world's organic land is in Europe. The countries with the largest organic area are Italy, Spain and Germany.

In the paper entitled Organic Farming: a Solution to Agriculture Crisis or a "New" Trend to Healthy Eating? **Annabelle Boulay** from the Institute of Food Research, United Kingdom, examines organic production, which is often seen as a viable alternative to conventional ways of farming. In France and the UK, many farmers would like to switch from conventional farming to organic farming but the obstacle is very often the time that must elapse between abandoning the use of chemicals and being certified organic. As a result, much organic food is imported because domestic production cannot supply the market, despite the higher prices organic products attract. At the same time, many farmers in France and the UK are not willing to engage in organic farming, as the concept of organic farming goes against their belief: a farmer must produce food for the nation and only technology and chemicals can help to produce enough food to feed the world. Many people have a different view regarding the concept of organic farming. The idea of organic farming seems quite appealing for consumers as it is often assimilated to quality products, whereas farmers are less enthusiastic about the concept. Only a minority of farmers, especially in dairy areas, is in favour of organic farming.

Sales of organic products amounted to approximately 16 billion Euros in 2007. The largest market for organic products in 2007 was Germany with a turnover of 5.3 billion Euros, followed by the UK (2.6 billion Euros), France and Italy (both 1.9 billion Euros).

The authors **Silva Grobelnik Mlakar**, **Matjaž Turinek**, **Manfred Jakop**, **Martina Bavec** and **Franc Bavec** from the University of Maribor, Slovenia, discuss in their paper the grain amaranth as an alternative and perspective crop in temperate climate. Globalisation of agriculture and consequently its industrialisation seem inexorable, with negative side effects felt throughout the world. These effects include, but are not limited to, biased technological development and usage of only some, fertilisation and energy high demanding plant species, monoculture production and in this way reduced genetic diversity in agriculture. The mentioned facts with profound environmental concern and consequences in loss of crop varieties stimulate organisations and scientists worldwide in retrieving, researching and disseminating the knowledge in production and utilisation of neglected, disregarded, underexploited and new plant species, or the so called alternative crops. Besides the ecological advantages of their inclusion in agricultural production, the alternative crops have, in principle, also a high nutritional value. The immediate objective of this paper is to present information gained as results of a national project on grain amaranth; its production, nutritional quality and possible utilisation in our production environment.

As the largest business sector in the world economy, the Travel and Tourism industry is responsible for over 230 million jobs and over 10% of the gross domestic product worldwide. If tourism were a country, it would have the second largest economy, surpassed only by U.S. In over 150 countries (four out of five), tourism is one of five top export earners. In 60 countries, tourism is the number one export.

Uroš Horvat from the University of Maribor, Slovenia, examines in his paper the importance of health resorts for the development of less development areas in Slovenia. Health resorts are one of the oldest kinds of tourist resorts and started to develop in Slovenia already in 18th and in the beginning of 19th centuries. The main reasons for the first tourists' visits were connected with bathing in thermal waters, drinking of healing water, socializing of the higher social classes and entertainment. Later, the health resorts became centres of highly qualified medical rehabilitation based on the use of natural remedies and modern medical treatments. The so called classical health resorts prevailed in Slovenia until the mid 1980s. The beginning of the 1990s marked an important turnabout in the development of health resorts in Slovenia. With the construction of modern swimming pools, some health resorts have started to use thermal water for fun and "experience". The so called "thermal rivieras" or "thermal parks" have emerged with covered or open pools, which are open throughout the year. The reorientation to mass tourism based on recreation, healthy lifestyle, wellness etc., as well as spending of holidays in apartment accommodation have significantly increased the tourist visits in the so called recreation health resorts. These are usually located in less developed areas of the country, which means their importance is even greater for the employment of the inhabitants and the spatial and functional development of rural areas.

The papers published in this issue represent different views on how to manage rural development. The development on international as well as domestic level is changing the rules for rural regions, necessitating new approaches. Three factors in particular are influencing rural policy making across countries: increased focus on amenities, pressures to reform agricultural policy, and decentralisation. Diversification of farm households into other activities on- and off-farm affects the rural economy by raising the level of farm income and the viability of farms, and thus affecting farm households' consumption of local goods and services, and the provision of agriculture-related amenities. But this is a two-way relationship, whereby farm families depend on the existence of a healthy and diversified rural economy, which provides off-farm work opportunities as well as the economic, social and cultural services that attract and retain people in rural areas.

Lučka Lorber
Chief and responsible editor

NEGATIVE IMPACTS OF FOREST FIRES ON ECOLOGICAL BALANCE AND ENVIRONMENTAL SUSTAINABILITY: CASE OF TURKEY

Muzaffer Bakirci
Ph.D., Assistant Professor
Department of Geography
Faculty of Letters
Istanbul University
Beyazit, Istanbul, Turkey
e-mail: mubak@istanbul.edu.tr

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Abstract
Negative Impacts of Forest Fires on Ecological Balance and Environmental Sustainability: Case of Turkey
Forests are a vital element in the Earth's ecological balance, economy, biodiversity, water resources and air purity. On the other hand, forests are confronted with various threats – one of them being fires. Its distinctive geographical features provide Turkey with rich plant diversity along with an imbalance in the dispersion of forested land. 27% of Turkey's surface area is covered by forests, most of which are concentrated on the coastal lands and their hinterlands. 2.135 forest fires were recorded in Turkey in 2008, resulting in a loss of 29.749 ha of forest. Although this figure translates into a decrease of 25% in the number of fires, the amount of destroyed forestland increased by 155% with respect to the previous year. This paper questions the incendiary causes and negative effects of fires in the case of Turkey.

Key Words
ecological balance, environmental sustainability, forest fires, Turkey

The editor received the article on 7.2.2010.

1. Introduction

As is known well, forests, as a result of their multiple functions, are one of the most efficient natural resources contributing to the continuity of ecological balance on the face of the earth. They also ensure environmental sustainability. With these attributes, forests are natural resources that have vital importance for not only humans, but all other living creatures as well.

Degenerations in the natural environment caused by the demolition of forests as well as forest loss as a result of uncontrolled use for centuries, especially by human beings, bring forward the issue of protection and sustainable management of forests.

Forested areas, which directly affect the ecosystem in full, as in other resources, are accepted to be not just the possession of a single country but also the common heritage of mankind. Within this framework, international initiatives and efforts for the preserving and sustaining of the mentioned resources are intensified more and more each day. That's because the negative conditions arising as a result of the demolition of these resources for various reasons are experienced globally along with the positive conditions gained as a result of restoring the natural balance. Especially in recent years, new threats that have emerged as a result of changes in the climate require accelerating the efforts for preserving forests.

Fires are a major threat to forests that are vital for the survival of ecological balance and environmental sustainability. Each year, fires, which are caused by a variety of circumstances, cause millions of hectares of forest to be destroyed, a large amount of forest fire fighting expenses, and loss of recreational value and lives. This paper questions the incendiary causes and negative effects of fires in Turkey.

1.1. Methodology

The methodology of this study includes a survey of the literature on the issue of forest fires, collection of up-to-date data from relevant public institutions, administration of field observations over the ecological damages caused by forest fires, analysis and synthesis of data with the observational findings, and mapping of the assessments made upon questioning of the cause and effect relationships.

2. The functions of forests

Besides being an essential part of ecological balance, forests also have many economic and social benefits. Within this scope, we can discuss the functions of forests under the following main topics: ecological functions, economic functions and social functions. "Ecological functions" covers hydrological, erosion prevention, climate protection, biological diversity and preserving of wildlife functions. On the other hand, the forestry products function, including construction materials and fuel wood, can be evaluated under the "economic functions." Social health, ecotourism and recreational functions, employment and aesthetic functions constitute the "social functions" of forests.

2.1. Ecological functions

The most important sub function of forests in terms of ecologic functions is

undoubtedly that they are an oxygen source. Forests make the world more livable for other creatures as a result of the photosynthetic properties of the plants, which take in CO_2 and release O_2. They also play an important role in cleaning the air with positive contributions such as absorption of dust formed in a variety of ways, reduction of noise pollution and elimination of harmful gasses. Within this context, it is accepted that forests clean 50% of the pollution formed in the air and that one hectare of Beech trees cleans more than 68 tons of dust per year. Also, according to the conducted research, plants contribute approximately 140 billion tons of oxygen to the world, of which forests contribute 66 percent (Konukcu 2001, 12 and 13).

Besides having a great capacity for storing carbon, forests may turn into carbon sources when certain interventions are made (fires, overuse, illegal cutting, desire to obtain agricultural land) and may become harmful to nature rather than beneficial (DPT 2000, 10).

Another sub function of forests within their ecological function is their hydrologic function. Forest flora enables rainwater to travel through the leaves, body and roots of the trees and to slowly reach the earth, and this way, by aiding the formation of underground water sources, contributes to the arrangement of the water regime and consistent and regular provision of water from these sources throughout the year. Forests play an important part regarding the provision of not only drinking water but also water for agricultural irrigation and urban use.

Another main function of forests that can be evaluated under the ecological function is the preservation and regulation of the climate. In this sense, forested areas, which constitute floras spread over large territories, have a positive effect on the shaping of climate properties and also offer contributions such as water evaporating and turning into rain and limitation of the effects of storms. Forests also act as a heat buffer and play an important role in the balancing of temperatures, causing humid local and regional climate properties by decreasing the temperature differences between night and day and between the different seasons.

The land protection and erosion prevention function may be considered to be another sub-function that is among the ecological functions of forests. The tree formations composing forest flora limit the intensity of the rains with their leaves and branches as well as through holding together the soil with their roots and therefore preventing the groundcover from being carried away by external factors such as water and wind. Forests not only protect the soil zones but also prevent or reduce the loss of lives and goods in settlements, other facilities and roads on the foothills by preventing floods, avalanches and landslips.

Preserving the biological diversity and wildlife is another one of the ecological functions of forests. Forests, which are natural shelters for wildlife, provide an opportunity to preserve the biological diversity on earth with the many endemic plants and wild animals they host. The fact that 50% of the existing species on the face of the earth lives in forest ecosystem (Konukcu 2001, 10) proves the effect of forests on biological diversity.

2.2. Economic functions

Forests are important not only for ecological purposes but also as an economic asset for the world economy. Since there are many useful products provided by forests,

they are also considered to be raw material depots. The raw materials mentioned can be classified as primary and secondary resources. Primary raw materials consist of construction (building materials) and fuel (wood) materials whereas secondary raw materials consist of plant (seeds, flowers, leaves, roots, crusts, fruits, resin, etc.), animal (hunting, fishing) and mineral (mines, mineral water, etc.) products. Cellulose, which is the raw material paper is made of, is also an important product acquired from forests.

Besides the raw materials provided by wood products, forests play an important part in improving society and forest villages, by meeting the needs for the food, medicine, chemistry, alcoholic beverages, leather and cosmetic industries. The fact that forests provide the materials used in medicine production, meaning that an important part of medicines are produced from plants, along with the fact that a major part of lesser developed countries use the plants directly as medicine, displays another great contribution of forests to the health of people.

2.3. Social functions

Forests, besides their ecological and economic functions, also have various social functions that directly affect social life. We can state these as community health, ecotourism, employment and aesthetic functions.

The community health function concerns the part played by forests in CO_2 - O_2 exchange and their role as a filter for the cleaning of the air. This function is key for human beings and all other creatures to continue their presence on earth.

The tourism functions of forests have begun to be more and more evident as a result of people desiring to spend more time in natural environments, starting from the acceleration of urbanization. Within this context, daily or long term tourism activities such as long hikes, camping and safaris represent an appropriate basis for the development of ecotourism, which draws more attention each day.

Forests have an important place in the lives of societies, not only by being the source of raw materials indicated above, but also by providing employment to many people who help convert these products into consumable products. Forests provide many employment opportunities ranging from growth of seedlings to afforestation, from maintenance efforts to fire fighting. These employment opportunities are taken advantage of by many people in many countries, and large masses of populations earn their livings from forested areas. Economic activities such as freshwater fishing in the water resources that emerge within the borders of forests, and beekeeping for which the plant flora provides an appropriate ground, may be evaluated in the sense of the contributions they make to employment. Forests, with the many different kinds of plant types they have, also display an aesthetic look on the fields they inhabit. This situation has positive effects for societies in terms of environmental beauties, tourism and general living.

3. Damaging elements on forests and forest fires

Forests, which fulfil multiple and diverse functions and are a key element of ecological balance, are also under intense threat by various factors. Forest fires, biotic factors (pests and diseases), uncontrolled human interventions (overuse, illegal cutting, grazing, desire to obtain agricultural land, road construction and

establishment of settlements), abiotic factors (air pollution, various gasses and acid rains) and other harmful environmental factors such as extreme weather conditions (long term heat waves, overtimes and gales) are the main harmful factors that cripple and sometimes totally rule out the beneficial functions of forests.

A Forest fire, one element that harms forests, is one of the most important natural disasters directly concerning all countries with its effects and results. Fires, caused by various reasons, are the most important environmental threat that causes millions of hectares of forest land to be destroyed each year, a large amount of forest fire fighting expenses and loss of recreational value and lives.

Large scale fires in forests not only cause the floras to be destroyed but also, as a result of depriving the land of floras, a chain reaction occurs, which causes water resources to be spoiled, air pollution, desertification, and natural disasters such as flood, avalanche and landslip to be experienced more frequently. Also, the large scale fires that take place in different areas of the world including the Mediterranean basin may continue for many days and may even threaten agricultural and settlement areas.

The CO_2 and other greenhouse gas accumulations that emerged as a result of the rapid growth following the industrial revolution also caused an evident temperature increase in average global surface temperatures. Climate changes caused in connection with this temperature increase are anticipated to have significant results that may directly or indirectly effect human life and health, socio-economic sectors and ecological systems. These changes may include melting of the glaciers, increase of altitude above sea level, severe weather conditions, overflows and floods taking place more frequently and strongly, drought, erosion, desertification, epidemics and agricultural pests (Ministry of Environment and Forestry 2008, 3).

The change that may take place in the climate is anticipated to cause problems that may be effective on all living spaces present on the earth in different scales. Within this framework, Turkey is one of the countries at risk that shall be affected by global climate change causing the diminishing of water resources, forest fires, drought, desertification, increase of harmful creatures in the ecosystem and the ecological corrosions caused in connection with these.

In this sense, global climate changes, which have started to become more and more of a current issue, including above average temperatures, cause forest fires to take place more frequently and more destructively over large areas and the carbon release that takes place as a result of forest fires causes negative changes in the climate. The extremely high temperatures caused by carbon release result in a decrease of relative humidity and cause forest fires to spread further by gales, leading to disasters. Therefore, these fires result not only in the destruction of forests, which are considered to be the common heritage of the world, but also in the formation of new conditions that emerge as a result of this threat and affect the lives of human beings and other creatures in a negative manner.

Consequently, global warming, depending on the increase of the term and intensity of the drought period, may have an effect on the increase of frequency, impact area and duration of forest fires and may cause changes in the CO_2 retaining and releasing capacities of forests.

4. General geographical properties of Turkey and the present situation of forests

Turkey has rich natural resource diversity as a result of the mathematical and distinctive location it possesses. The country, which resides at the intersection of the Asian and European continents, contains the properties of Asia and Europe as well as the Black Sea and Mediterranean basins in terms of geographical properties. The existing topographical properties and climate fractionations play an important role in the distribution of the flora (especially forests) and the various climate types that emerge in the country and allow a very rich natural life to exist in this location.

The land use characteristic in Turkey has shaped parallel to the fairly uneven topography and climate conditions showing alterations in short distances. The 77,846,000 ha total land it has shows many different utilization characteristics such as agricultural lands, forests, grasslands, pastures, lakes, settlements, roads and other facilities (Fig. 1). In the scope of this general land use, forested land consists of 21,188,747 ha (27%).

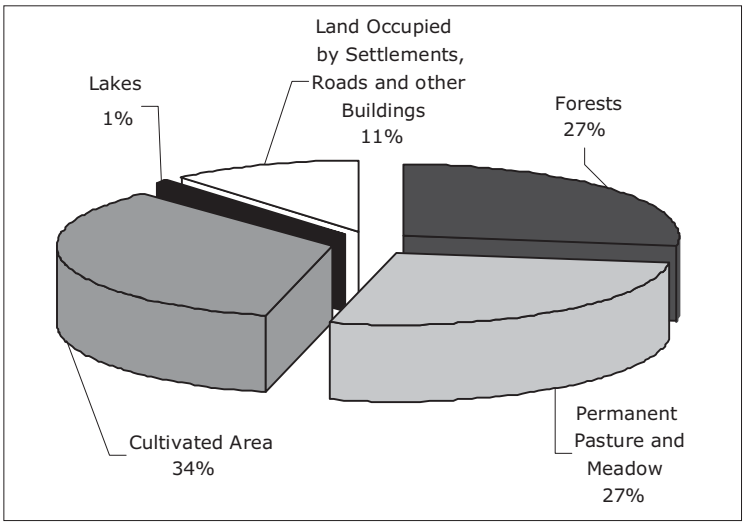

Fig. 1: Land Use in Turkey.
Source: OGM 2006.

The forests of Turkey, which are within the earth's north zone forest system, are at the south of the Cold-Temperate and Cool-Temperate forest zones consisting of Russia, Siberia, Middle and Northern Europe, Canada and the North of USA, and at the north of tropical and hot-temperate subtropical forest zones (Fig. 2). The ambi-valent physiological structure that can be seen in the country and the habitat properties, which change at short intervals, has allowed thousands of simple structured and hundreds of developed plant taxons to grow and, as a result, has formed the basis for a rich diversity not only in the number of species but also in the number of inter-species elements.

Almost all forest land in Turkey belongs to the state. After the adoption of the principle that forestry activities shall be completed by the state, following the establishing of the Republic (1920), almost all forests have been nationalized with

the 4785 numbered act accepted in 1945. 99% of forest in Turkey is still under the control of the state. 50% of these forests are productive forests and the other half are low yield forests.

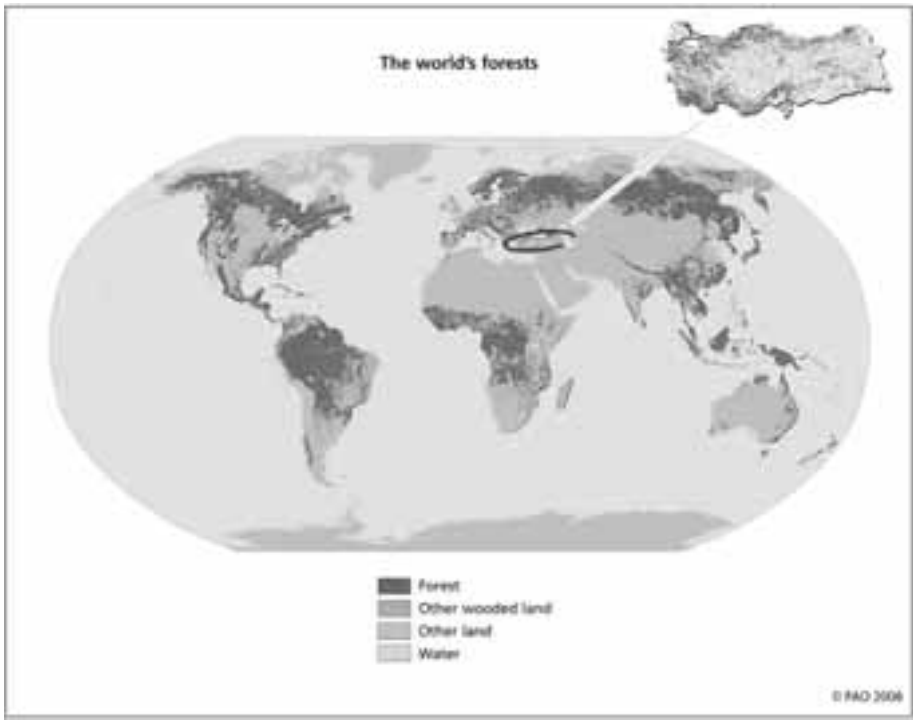

Fig. 2: Distribution of Forest Land on the Earth.
Source: FAO 2006.

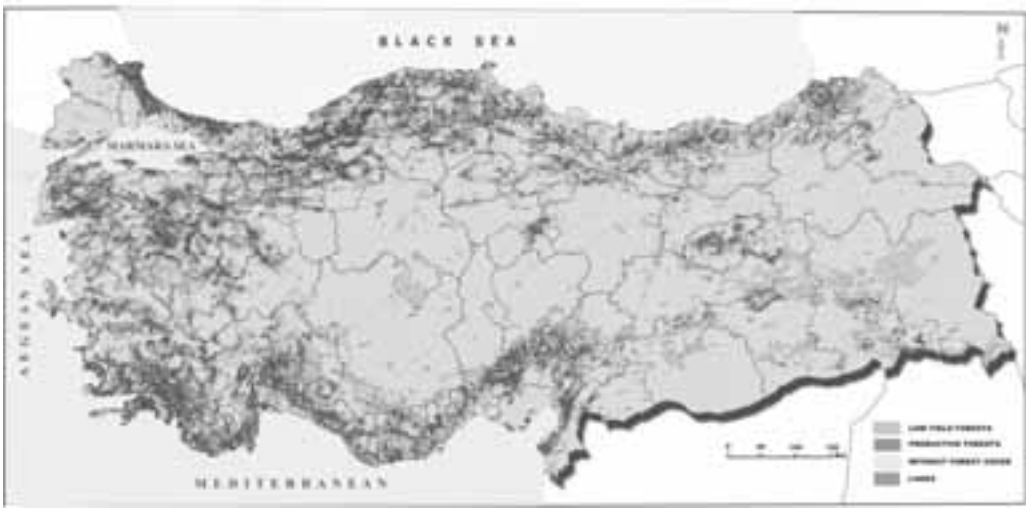

Fig. 3: Distribution of Forests in Turkey.
Source: OGM 2007.

As a result of various environmental conditions experienced, including climatic disparities, forests do not display a balanced distribution in the country. In this sense, while the geographical regions that consist of the coastal regions that are open to the effects of the sea contain a richer potential in terms of forest flora, Central, East and Southeast Anatolian regions have a weaker forest flora (Fig. 3).

When we look at how the approximately 21.2 million ha of forest in Turkey is distributed in terms of different regions, we can see that most forests are present in the Black Sea Region (23.7%). While the mentioned region is followed by the Mediterranean Region covering the south coastal areas of the country (19.4%), the Aegean Region concerning the western coasts (17.7%) and the Marmara Region (14.3%) also has important shares (Fig. 4).

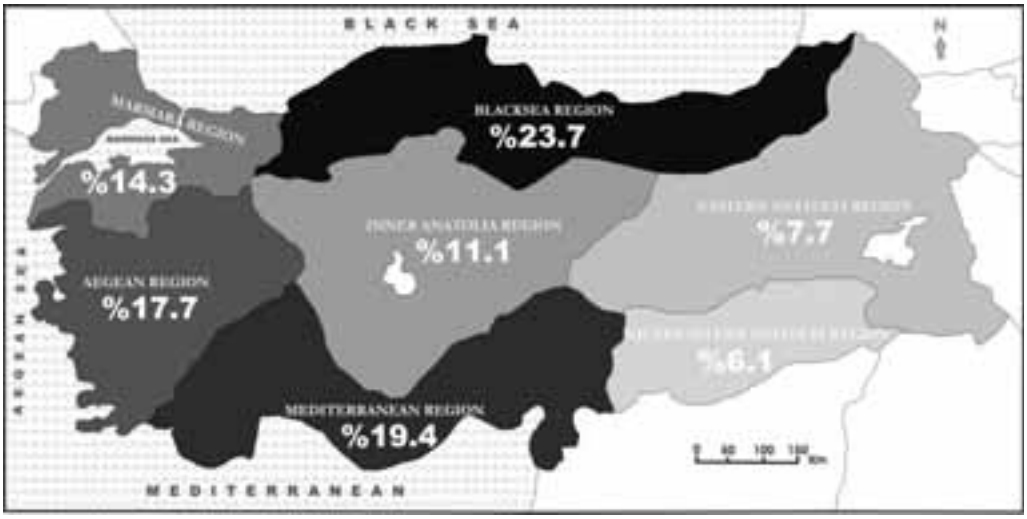

Fig. 4: Proportional View of Forests in Turkey In Respect of Geographical Regions.

As can be seen, Turkey's coastal regions, which are open to the effects of the sea and have a relatively wet climate, display similar values, while the Central Anatolian (11.1%), Eastern Anatolian (7.7%) and South-eastern Anatolian Regions (6.1%), which have arid climatic properties, have a small share of the country's forest assets. Consecutively, it can be seen that 75.1% of forests in Turkey can be found in coastal regions or regions close to shores.

Undoubtedly, as a result of its geographical location and the present data concerning the distribution of Turkey's forestry assets, evaluations also need to be made concerning the properties of the present forest flora. Within this scope, the first thing that can be argued about forests in Turkey is that the Anatolian peninsula has a floral diversity that only few regions in the world have. There are still 11,000 plant types present in Turkey, of which 3,150 are endemic species (Ministry of Environment and Forestry 2007a, 27).

Also, parallel to the general rural settlement order of Turkey, there are many rural settlements and populations in connection with forests. According to the 2007 data, there are 21,218 villages in Turkey with 7,096,136 people residing in these settlements (OGM 2009, 1).

4.1. Forest fires in Turkey

Standing amongst the most significant elements damaging forests and vegetation, forest fires are one of the top agents that endanger the sustainability of forests in Turkey. Every year, a great number of forest fires occur in the country. Only a small percentage of these occur from natural causes; while many of them are caused by human interaction and are effective on wide vegetation areas. Having the most suitable conditions for a wildfire to spread, regions under the strong affect of a Mediterranean Climate (namely most of Turkey) are initially amongst the constant victims of this kind of natural disaster. Roughly corresponding to the 51.4% of Turkish forest areas overall, 12.9 million hectares are located in the regions with a "very high risk" rate. Within the country, a high percentage of wildfires occur in areas across the Mediterranean and Aegean shores, which bear a "very high risk" rate (Fig. 5). Within the top regions suffering from the wildfires most, there reigns a drought effect at almost full scale during the wildfire seasons; this causes great risk of forest fires. Forest fires become intense in the June-October period, when the average temperatures are above 30 °C; however, the wildfires can occasionally occur during other months as well.

Fig. 5: Forest Fires Risk Map of Turkey.
Source: OGM 2008a.

It would be appropriate to classify wildfire causes in Turkey as carelessness, negligence, accidental, intentional, natural causes and unknown causes. Within those classifications, carelessness, negligence and accidental causes include throwing un-stubbed cigars or matchsticks in the woods, lighting an uncontrolled fire without taking the necessary precautions, burning undesired bushes in the agricultural areas in the woods or by the side of the woods, bushes kindled by sunlight reflecting from glass shards left in the woods, burning trash in or around the woods in order to dispose of the waste, leaving a picnic fire as it is without putting it out completely, electrical wires snapping off, cars burning in traffic accidents and shepherds or hunters leaving a campfire burning. The class of intentional causes includes burning the woods in order to open up new settlements, agricultural fields and pastures or to expand the existing ones, trying to cover up

illegal deeds or traces leading to criminal acts in the woods, setting a fire to leave the owner of an agricultural field in a difficult position and trying to banish wild animals. Leaving those out, some wildfires in the country are caused by natural causes such as lightning strikes, while the remaining percentage of wildfire causes are not exactly known.

In Turkey, approximately 2,000 to 2,500 wildfires occur per year on average, and approximately 10,000 to 15,000 ha of forests have been incinerated by those fires per year. As far as the official recordings go, throughout the period from 1937 to 2008, there have been 84,976 wildfire occurrences recorded, and 1,613,022 hectares of vegetation have been incinerated (Tab. 1). Although fire extinguishing processes are accelerated and wildfire occurrences are somewhat better controlled with each passing day, it is observed that as far as the official records go, overall wildfire occurrences in each decade have climbed incrementally, excluding the decade between 1946-1955.

Tab. 1: The Number of Wildfires and the Amount of Forest Spaces Affected in Turkey per Decade.

Period	Number of Fires	Incinerated Forest Areas (ha)
1937-1945	5 943	417 086
1946-1955	9 014	485 251
1956-1965	6 537	152 765
1966-1975	6 676	117 723
1976-1985	11 957	152 270
1986-1995	18 743	148 344
1996-2005	18 915	90 408
2006-2008 (3 years)	7 191	49 175
Total	84 976	1 613 022

Source: OGM 2009a.

When we carefully scrutinize the last three years for forest fire occurrences in Turkey, we see that the wildfire occurrences for the last 3 years encompass 38% of forest fires experienced through the period of 1996-2005 overall. This incremental leap regarding forest fire occurrence rates is reflected more significantly when we see the amplitude of the incinerated vegetation areas. Throughout the past ten years, more than half of the incinerated forest spaces (54%) have seemingly occurred within the previous three years.

When we examine the causes behind wildfire occurrences for the last 10 years, we see that the causes can be classified by the following percentages: 58% through accident, negligence and carelessness, 19% with unknown causes, 13% through intentional actions, and 10% by natural causes. In light of those findings, we can observe that 71% of wildfire occurrences are based on human actions. When it is considered that some percentage of unknown causes are probably based on human actions, we can easily state that forest fire occurrences are caused by human actions at a rate almost above 80%.

Throughout the last 3 years, we can observe that more than 2,000 wildfires have occurred in Turkey. In alignment with this, it can be observed that the amount of incinerated forest areas has been on an incremental rise. Through that point of view, the number of wildfire occurrences as well as the amount incinerated forest

areas has increased significantly. Although there has been a slight decrease in the number of wildfire occurrences in 2008 compared to 2007, the amount of incinerated forest areas has been multiplied by almost 3 (Tab. 2, Fig. 6).

Tab. 2: The Causes of Wildfire Occurrences and the Amount of Forest Spaces Affected in Turkey for the Last 3 Years.
Source: OGM 2009b.

Year	Amount of Incinerated Forest Areas (ha)	Number of Wildfire Occurred	Wildfire Occurrence Causes							
			Intentional Actions		Carelessness-Negligence-Accident		Natural Causes		Unknown Causes	
			Number	Area (ha)	Number	Area (ha)	Number	Area (ha)	Number	Area (ha)
2006	7 762	2 227	166	206	1 315	5 873	330	543	416	1 139
2007	11 664	2 829	292	1 705	1 642	7 994	407	243	488	1 722
2008	29 749	2 135	377	797	1 018	26 283	330	699	410	1970

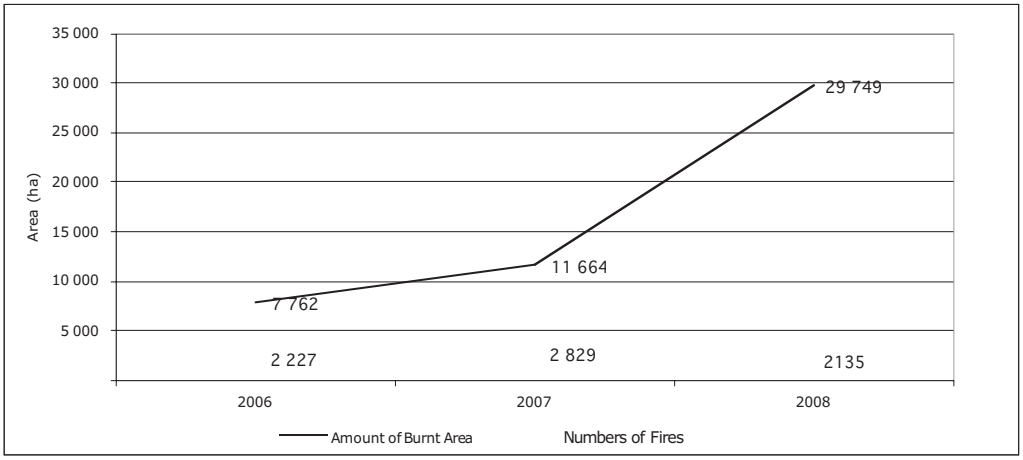

Fig. 6: The Number of Wildfire Occurrences and the Amount of Forest Areas Affected in Turkey for the Last 3 Years.
Source: OGM 2009b.

When data from 2008 is carefully inspected, it can be observed that in 2008, there was a respective decrease regarding the number of wildfire occurrences; but it can easily be seen that there was also a significant increase regarding the amount of incinerated area per each wildfire occurrence. In 2007, the amount of incinerated area per wildfire occurrence was 4 ha, while in 2008, this amount climbed to 14 ha. When we consider the causes of wildfire occurrences, we see that carelessness, negligence and accidents stand out in the foreground with a steep climb to 48%. Representing almost half of the wildfire occurrences overall, this 48% is followed by unknown causes with 19%, and intentional actions with a rate of 18%.

Considering the aforementioned causes, when we inspect the number of wildfire occurrences and general dispersion of the incinerated vegetation for the year of

2008 in Turkey, we see that 52% of the 2.135 forest fires have occurred within the region of the south western and western shoreline. Again considering the aforementioned causes, it can be observed that 91% of the incinerated 29,749 hectares of forest areas bears a "very high" risk rate for fires (Fig. 7, Fig. 8).

Fig. 7: The Dispersion of the Number of Wildfire Occurrences by Regional Forest Directorates in Turkey for the Year 2008 after they start.

Fig. 8: The Dispersion of the Amount of Incinerated Forest Areas by Regional Forest Directorates in Turkey for the Year 2008.

When we consider the number of wildfire occurrences in accordance with regional directorate boundaries, we can see that three regional directorates within the southwest of the country (Antalya, Mugla and Izmir) are significantly prominent. Considering the dispersion rate for wildfire occurrences in 2008 among those three, Mugla Regional Directorate has a share of 16%, Antalya Regional Directorate of 10%, and Izmir Regional Directorate of 7%. Considering all those rates, wildfire

occurrences within the boundaries of those three regions altogether constitute more than 33% of the total forest fire occurrences across the country.

The status we currently hold regarding the number of wildfire occurrences bears a great resemblance to the status of the amount of incinerated forest areas. Within that perspective, in 2008, 57% of the total incinerated forest areas were located within the boundaries of the Antalya Regional Directorate, 6% were located within Izmir Regional Directorate boundaries, and 2% were located within the boundaries of Mugla Regional Directorate. Considering all those rates, forest areas incinerated within the boundaries of those three regions altogether constitute more than 65% of the total damaged forest areas across the country.

Here, the point to be underlined is that although Mugla Regional Directorate takes first place with the highest rate of wildfire occurrences, the region is respectively at the back of the line with its low rate of incinerated forest areas. Unlike Mugla however, Antalya Regional Directorate has experienced a respectively lower rate of wildfire occurrences, while the rate of incinerated forest areas there reaches up to much higher levels. Within that scope, while the amount of incinerated area per wildfire occurrence is about 80 ha for Antalya Regional Directorate, that amount is approximately 2 ha per occurrence for Mugla Regional Directorate. Regarding that frame, another Regional Directorate to be highlighted is Mersin Regional Directorate, which is located due south, along the Mediterranean shore of the country. In this region, 93 wildfire occurrences were recorded in 2008, with the amount of incinerated forest areas reaching up to 5080 ha. This means that the amount of destroyed forest areas per occurrence is approximately 55 ha regarding the aforementioned region.

The fact that there will always be some natural causes behind wildfire occurrences proves that it will not be possible to stop those occurrences completely. However, the point to be highlighted here is that it is mainly human actions causing wildfire occurrences, rather than natural ones. Therefore, although it is not possible to prevent wildfire occurrences entirely, it is possible to prevent the wildfires, or to minimize the damage caused by human carelessness, negligence or intentional acts. Consequently, within contemporary sylvicultural approaches, it is important to take preventive and precautionary measures in order to hinder wildfire occurrences, and it is critical to conduct all necessary practices to extinguish fires as quickly as possible.

In Turkey, several strategic plans and programs are carried out to the implementation phase including conducting sylviculture activities more actively, ensuring sustainable utilization of natural resources, preventing wildfire occurrences and devising more efficient response methods. Within that framework, the "fire fighting strategy" has been implemented for a more efficient response rate against forest fires. That strategy consists of three basic phases: the first step is "preventing the fire where it may begin". Within that scope, as most wildfire occurrences have emerged due to the human element, education and informative activities for natural disasters should be implemented initially. Then, within the scope of this determined purpose, a variety of introductory short movies should be displayed, fliers distributed and campaigns supporting forest love and protection should be initiated; these are the frequently applied methods of preventing fire.

The second phase of the fire fighting strategy is "extinguishing activities". In this

phase, if a fire has started in spite of all precautions taken, the most rapid and efficient response should be provided against it. In order to do so, certain devices should be implemented and utilized, including a toll-free phone line, remote sensors and geographical information systems, early alert systems and rapid management methods (fire fighting planes).

The third phase that the Turkey fire fighting strategy is built upon is rehabilitation. The main purpose of that phase is to rapidly replant forests destroyed by wildfire occurrences. Within that scope, various replanting campaigns are implemented in cooperation between government agencies, the public sector and voluntary organizations in order to accelerate the sylviculture process of the burnt forest areas.

5. Conclusion

In consequence of land misuse due to rapid population increase, economical development and especially industrialization, forest and vegetation areas are diminishing, or their overall nature is deteriorating. Moreover, the damaged forest areas fail to conduct their functions exactly as expected. In consequence of those negative impacts, there are various problems arising or intensifying, such as pollution, erosion risk and many other environmental problems. This status brings a vicious cycle along with it. All these negative impacts only indicate how much "sustainable utilization" is required for forest areas. Moreover, this concept has now begun to take shape in the world agenda more than ever. Standing as one of the most significant natural resources, forests encompass many ecological, economical and social functions. As such, it is of utmost importance to protect these resources, enabling their continuity and growth in accordance with the sustainable utilization principle.

As approximately 13 million hectares of forests are destroyed each year all over the world, this causes serious problems in ensuring the ecological balance and environmental sustainability. Various perils create negative effects on forest areas, triggering one another. Those perils include greenhouse gases (carbon emission), which has emerged from rapid industrialization and urbanization and has caused global warming, along with drought and desertification. These threats also endanger biological diversification significantly, which may occasionally create disastrous environmental issues in turn.

Regarding the aforementioned issues, forest fires are one of the most essential topics that have effect on and are affected by environmental sustainability as both reason and consequence. The increasing rate of wildfire occurrences along with global warming now constitutes a higher amount of risk. Moreover, CO_2 and other gases emitted from fires also contribute partially to global warming.

Having a vast coverage of forests with 27%, Turkey encompasses rich flora diversity, containing a wide array of plant species, as well as a high rate of plants with endemic qualities. However, forests in Turkey face various dangers, as do most other regions in the world. The most prominent of these threats is forest fire. Being under the effect of a Mediterranean climate, the western and south western regions of the country are especially vulnerable to wildfire occurrences. Moreover, vast vegetation areas are devastated every year with a high rate of forest fires in the aforementioned regions.

Although many improvements are achieved each passing day regarding fire prevention and extinguishing strategies, the number of wildfire occurrences still reaches very high levels sometimes. This proves that fires will continue to constitute a threat to the natural environment and environmental sustainability and will continue to have a serious impact. However, the point to be underlined here is the fact that fires generally emerge from human actions in Turkey. This status proves that, although it is not possible to change the amount of fires started by natural causes, the rate of fires caused by human actions can be averted or diminished.

Consequently, uncontrolled human actions cause a specific range of disruptions that cause devastation for the natural environment. In turn, disruptions experienced in the ecological balance bring forth natural disasters. Consequently, the natural balance disrupted by humans should also be rebalanced by humans. In that respect, it is not possible to entirely hinder wildfire occurrences, which threaten the natural environment. However, it is in our hands to minimize the impact of those fires before it's too late.

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NEGATIVE IMPACTS OF FOREST FIRES ON ECOLOGICAL BALANCE AND ENVIRONMENTAL SUSTAINABILITY: CASE OF TURKEY

Summary

With their multiple functions, forests are one of the most efficient natural resources contributing to the continuity of ecological balance and the ensuring of environmental sustainability. On the other hand, forest fires are not new, but will always be one of the most damaging factors for forests.

Besides being an essential part of ecological balance, forests also have many economic and social benefits. "Ecological functions" cover the hydrological functions, erosion prevention, climate protection, biological diversity and preserving of wildlife functions. Forests are important not only for ecological purposes but also as an economic asset for the world economy. Since there are many products provided by forests, they are also considered to be raw material depots. Besides their ecological and economic functions, forests also have various social functions that directly affect social life. We can state these as community health, ecotourism, employment and aesthetic functions.

Forests, which fulfil multiple and diverse functions and are a key element of ecological balance, are also under intense threat by various factors. Forest fires, biotic factors, uncontrolled human interferences, abiotic factors and other harmful environmental factors, such as extreme weather conditions, are the main harmful factors that cripple and sometimes totally rule out the beneficial functions of forests.

A forest fire is one of the most important natural disasters directly concerning all countries with its effects and results. Fires, which are caused by various reasons, cause millions of hectares of forest to be destroyed each year, a large amount of forest fire fighting expenses, loss of recreational value and lives. Large scale forest fires not only cause the plant flora to be destroyed but also, as a result of depriving the land of flora, cause a serial reaction causing water resources to be spoiled, air pollution, desertification, and more frequent natural disasters such as flood, avalanche and landslip.

Turkey has rich natural resource diversity as a result of its mathematical and distinctive location. The country, which resides at the intersection of Asia and Europe, contains the specialties of Asia and Europe as well as the Black Sea and Mediterranean Basins in terms of geographical properties. The existing topographical characteristics and climate fractionations play an important role in the distribution of forests, and the various climate types that emerge in the country allow a very rich natural life to exist there.

The land use characteristics in Turkey have shaped parallel to the fairly uneven topography and climate conditions, showing alterations in short distances. The total land area shows many different utilization characteristics such as agricultural land, forest, grasslands, pastures, lakes, settlements, roads and other facilities. In the scope of this general land use, forests consist of 27%.

As a result of various environmental conditions experienced in Turkey, forestland does not display an equally distribution in the country. In this sense, while the geographical regions that consist of coastal regions contain a richer potential in terms of forest flora, the Central, East and Southeast Anatolian regions have a

weaker forest flora.

When we look at the distribution of the Turkey's forests (that means nearly 21 million hectares) in terms of different geographical regions, we can see that most forestland is present in the Black Sea Region (23.7%). That region is followed by the Mediterranean Region (19.4%), the Aegean Region concerning the western coasts (17.7%) and the Marmara Region (14.3%), which also has important shares. It can be seen that 75% of forestland in Turkey can be seen in coastal regions or regions close to shores.

Almost all forestland in Turkey belongs to the state; 99% is still under control of the state. 50% of this land is productive forest and the other half is low yield forest. Besides forestry assets, the Anatolian peninsula has a floral diversity shared by only a few regions in the world. There are still 11,000 plant types present in Turkey, of which more than 3,000 are endemic species. Also, parallel to the general rural settlement order of Turkey, there are more than 20,000 villages in connection with forests with about 7 million people residing in these settlements.

Having the most optimal conditions for a wildfire to spread, the regions under the strong affect of the Mediterranean Climate are initially amongst the constant victims of this natural disaster. Roughly 50% of Turkish forests are located in regions with a "very high risk" rate. Within the country, a high percentage of wildfires occur in areas across the Mediterranean and Aegean shores. The fires become intense between June and October, when average temperatures are above 30 °C.

When we examine the causes behind forest fire occurrences for the last 10 years, we see that the causes could be classified as 58% for carelessness and negligence, 19% for unknown causes, 13% for intentional actions, and 10% for natural causes. In light of these findings, we can observe that 71% of wildfire occurrences are based on human actions.

During the last 3 years, more than 2,000 wildfires have occurred in Turkey. In alignment with this, it could be observed that the amount of burnt forest areas has been on an incremental rise. From this point of view, the number of wildfire occurrences as well as the amount of burnt forest areas has increased significantly. Although there has been a slight decrease in the number of wildfire occurrences in 2008 compared to 2007, the amount of burnt forest areas has multiplied by almost 3.

Considering the aforesaid causes, when we inspect the number of wildfire occurrences and general dispersion of burnt vegetation in 2008 in Turkey, we see that 52% of the total forest fires have occurred within the region of the south western and western shorelines. Considering the number of wildfire occurrences in accordance with regional directorate boundaries, it can be seen that three regional directorates within the southwest of the country (Antalya, Mugla and Izmir), are significantly prominent. Wildfire occurrences within the boundaries of these three regions altogether constitute more than 33% of the total forest fire occurrences across the country.

Resembling the number of wildfire occurrences, of the burnt forest areas in 2008, 57% of the total burnt forest areas were located within the boundaries of Antalya Regional Directorate, 6% were located within Izmir Regional Directorate, and 2% were located within Mugla Regional Directorate boundaries. Considering all those

rates, forest areas burnt within the boundaries of these three regions altogether constitute more than 65% of the total damaged forest areas across the country.

The "fire fighting strategy" of Turkey has been implemented for more efficient responses against forest fires. The strategy consists of three basic phases; the first step is "preventing the fire where it may begin". Within that scope, as most wildfires emerge due to human actions, education and informative activities for natural disasters should be implemented to start. The second phase of the fire fighting strategy is "extinguishing activities". In this phase, if a fire has started in spite of all precautions taken, the most rapid and efficient response should be provided against it. The third phase that the Turkey fire fighting strategy is built upon is rehabilitation. The main purpose of this phase is to rapidly replant forests destroyed by the occurrence of wildfire.

Consequently, the natural stability disrupted by humans should also be rebalanced by humans. In that respect, it will never be possible to entirely stop wildfire occurrences. However, it is in our hands to minimize the impact those fires cause.

AGRICULTURAL HOUSEHOLDS IN MOUNTAIN AREAS IN PRE- AND POST-ACCESSION SLOVENIA

Štefan Bojnec
Ph.D., Full Professor
Faculty of Management Koper
University of Primorska
Cankarjeva ul. 5, p.p. 345, SI-6104 Koper, Slovenia
e-mail: stefan.bojnec@fm-kp.si

Kristina Knific
M.Sc.
Faculty of Management Koper
University of Primorska
Cankarjeva ul. 5, p.p. 345, SI-6104 Koper, Slovenia
e-mail: knific.kristina@siol.net

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Abstract
Agricultural Households in Mountain Areas in Pre- and Post-accession Slovenia
This paper analyses structural changes in agriculture and agricultural households in the mountainous areas of the Gorenjska region in Slovenia. The focus is on agricultural multifunctional roles, agricultural and agricultural households' structural changes pre- and post-accession of Slovenia to the European Union (EU) on the basis of datasets obtained by two in-depth surveys from 2001 and 2007. The analyses confirm adjustments of farm households to the use of subsidies and new regulations, and diversification of agricultural households' incomes. Short-term and long-term strategies of farm households vary depending on farms' natural factor endowments for agriculture, farm size and structures of farm households, availability of agricultural land and their rental values, diversification of incomes with self-employment and employment outside the farm household.

Keywords
mountainous areas, agricultural structures, income diversification, household strategies, multifunctional development, Gorenjska, Slovenia, European Union

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1. Introduction

Around 73% of agricultural land in Slovenia is situated in the less favourable areas (LFAs) for agricultural production (e.g. Dernulc et al 2002). Difficult natural production conditions for agriculture are reflected in lower production ability of agriculture and farms, limited selection of production of products, specialisation of production and adjustment of technologies, and higher production costs (IAMO 2003 and 2004). Due to this, farms in these natural LFA conditions are economically less competitive and less structurally adjustable, but can play an important role in multifunctional agricultural and rural development (OECD 2001; Abler 2004; Ballin et al 2005). In addition to the supply of safe and quality food with focus on ecological farming, the multifunctional roles of agriculture and farms are the preservation of landscape, social and cultural heritage, the development of supplementary activities on the farms and in non-agricultural activities particularly in mountainous areas.

There are rare studies to analyse and compare structural changes in agriculture and agricultural households in general and particularly in the mountainous areas during pre- and post-accession of Slovenia into the European Union (EU). Therefore, the aim of this paper is to analyse and open a policy debate on the most recent structural changes in agriculture, in agricultural households, and in rural areas in Slovenia by focusing at the mountainous areas in the Gorenjska region in Slovenia. The in-depth empirical analysis is conducted using a sample of the agricultural households categorized by the socio-economic types, by areas with different level of development, and by differentiated natural endowments for agricultural production.

2. Methodology

The empirical analyses of structural changes in agriculture, in agricultural households, and diversification of incomes of agricultural households are based on the survey sample of the agricultural households in one part of the Gorenjska region (areas around Škofja Loka) from the years 2001 and 2006. The surveys of the agricultural households were conducted in 2001 using a questionnaire which was prepared for the international research project: EC-PHARE, Project No P98-1090-R, EU Accession in the Balkans, Policy Options for Diversification in the Rural Economy. 60 agricultural households were included in the survey. The questionnaire used in April 2007 was prepared by Möllers (2007) for the GTZ Project 2002.3514.3-003.00, Croatia's EU Accession, Socio-Economic Assessment of Farm Households and Policy Recommendations (Möllers et al 2009). 34 agricultural households were included in the survey. The agricultural households were selected on the basis of proportional stratified sample according to socio-economic types of agricultural households. By 2007, some agricultural households stopped practicing farming, and some did not desire to participate again, which is why there is a smaller number of agricultural households in the sample.

The focus of the analyses and comparisons is on the diversification of households' incomes and factors that determine the decisions of agricultural households, the importance of subsidies for agricultural activities in mountainous areas and strategies of agricultural households. The socio-economic type of agricultural households is an indirect indicator of income diversification in agricultural households, which are divided into pure agricultural, mixed, supplementary, and elderly farms. On the basis of the changes in the socio-economic types of agricultural households between

the years 2001 and 2006, we have analyzed structural changes in agriculture and in agricultural households. The results of the two samples are compared to investigate the structural changes in agricultural households.

3. Explanation of empirical results

The number of farms, which are professionally engaged in farming in the analyzed mountainous areas, has declined (Knific and Bojnec 2007). One of the reasons is the increased number of farms, which practice farming for market oriented agricultural and food production. The speed and direction of the structural changes in agriculture and in agricultural households in the mountainous rural areas vary due to different micro natural conditions for agricultural production. In the areas with more favourable conditions for agricultural production, there are also a greater number of pure farms and supplementary farms. However, even in such natural factor endowments conditions, the number of pure farms is increasing, while the number of mixed farms is in decline.

Farms that deal only with agricultural production rent land to neighbouring farms, or sell it to other farms or to the state Fund of Agricultural and Forest Land. The pure farms can intensify their agricultural production by renting land, which is so far the most important determinant for the increase of the operational land farm size for the farms, which continue with farming. In the micro local areas with LFA conditions for agricultural production, there is the overall pattern of the decline in the number of pure and supplementary farms due to the abandonment of agricultural production, however, there is an increase in the number of mixed farms that combine sources of income from agriculture, supplementary activities on farms, and particularly off-farm employment of the households' members. The intensification of agricultural production in this mountainous area is hindered due to the difficult natural conditions for machinery use and due to the fact that in the land structure meadows and pastures prevail, which were in the past, during the traditional, agriculture used for livestock production (Knific 2008). Nevertheless, the supply of land for renting is relatively small, what is even more important, there is a considerable lack of interest for cultivation in agricultural households.

In the years 2001 and 2006, the sources of households' incomes from agriculture for most of the agricultural households were not big enough for the households' survival. Most of the agricultural households in the analysed mountainous areas covered their income needs by the diversification of incomes, by self-employment at the agricultural household and by regular off-farm employment. Only a small number of agricultural households allocated households labour only to agricultural activities.

Among socio-economic types of agricultural households we have not found comparable differences on the level of real and relative incomes of the analysed agricultural households between the years 2001 and 2006. The increased government subsidization and thus the higher level of the government subsidy supports for agriculture in the mountainous areas in the year 2006 was identified as the crucial determinant for the increase of income of the agricultural households from agriculture. Moreover, between 2001 and 2006, the relatively high rates of economic growth provided job opportunities for the off-farm employment of the members of agricultural households, which increased the incomes of the mixed agricultural households in the rural mountainous areas.

Between 2001 and 2006, differences were identified as regards the households' incomes among the socio-economic types of agricultural households (Knific 2008). There was a statistically significant increase in the income of mixed farms due to off-farm employment, and of farms in the LFA conditions for agricultural production due to the crucial role of the government subsidies. The share of the governmental budgetary support in households' incomes from agriculture between the years 2001 and 2006 increased substantially. In 2006, the share of governmental budgetary support in households' incomes was a very important source of households' incomes from agriculture, one of the main sources of income of pure farming agricultural households and also an important source of income of mixed farms, which are engaged in farming in the LFA conditions for agricultural production. However, an important source of income of mixed agricultural households in the mountainous areas is regular off-farm employment, and for some supplementary agricultural households also self-employment with supplementary activities in the agricultural households. During the pre-enlargement (in 2001), the implementation of the pre-enlargement SAPARD programme provided the implementation of the measures for investments in agricultural households and for diversification of agricultural households' incomes.

The attitude of the members of agricultural households towards the diversification of agricultural incomes with regular off-farm employment and with self-employment is statistically dependent mostly on education and age of the agricultural households' members. This finding is consistent with the finding of Bojnec and Dries (2005) as regards the whole Slovenia. The diversification of the households' incomes with self-employment was the most favourable for the members of agricultural households with vocational education and the members aged between 46 and 55 years. The regular off-farm employment was the most preferable among the members of agricultural households with secondary or higher education and the members aged from 16 to 25 years. The members of agricultural households decide for self-employment and regular off-farm employment due to the limited incomes of from agriculture that are needed for survival, as well as due to the opportunities for higher incomes from non-agricultural employment (see also Ashok et al 2002).

The results of the survey confirmed that between 2001 and 2006 the agricultural households' real incomes from the supplementary activities, which include incomes by the self-employment, were reduced by half (Knific 2008). The reason for such a sharp reduction in the agricultural households' incomes from the supplementary activities in the households was the implementation of the new legislation regarding quality and environmental standards. Several agricultural households did not comply with more developed marketing of produce or they had limited own capacities for processing of agricultural produce to comply with the new set of higher quality standards.

Nevertheless, the diversification of the households' incomes with self-employment is often present in the agricultural households. This employment is however less associated with food processing, and more with forestry and rural services related to agricultural mechanization and similar activities. The reasons for such self-employment activities are relatively low incomes from agriculture in agricultural households, market opportunities for forestry activities, and other market oriented activities which include more innovative products. Among economic opportunities there is also farm tourism and rural tourism with tourism associated rural services. These are additional cash flow income activities among the supplementary activities,

which have positive impacts on the increase of households' incomes and the living standards as a source of incomes for investments in the agricultural households and for the improvement of the overall economic situation of the agricultural households in rural mountainous areas.

The diversification of the households' incomes by the regular off-farm employment is also rather frequent in the agricultural households in the analysed mountainous areas. The main reason for the regular off-farm employment is to assure a higher income and a better living standard for the agricultural household. The regular off-farm employment also contributes to more efficient use of economic capacities in the agricultural household, particularly family labour, and provides opportunities for assuring economic sources for investments in personal development of the households' members, such as education and additional training.

The EU legislation and policy measures are on average positively evaluated by the agricultural households (Knific and Bojnec 2007). Three years after the entry of Slovenia into the EU, the agricultural households share a positive opinion on the impacts of the EU membership. Among the most frequently positive assessments are: the greater market size, the opened borders, the common currency (Euro), and particularly agricultural subsidies and policy measures for the mountainous rural areas. Among the negative implications of the entry of Slovenia into the EU is, according to the agricultural households, bureaucracy, rigorous legislation, the Single European Market associated with the higher degree of competition, which reduces the prices of agricultural produce. The agricultural household's adjustment to the EU regulations caused some difficulties for the agricultural households. The most emphasized are the adjustments to the set veterinary and fitosanitary standards, which require investments.

The agricultural households are successful in the applications for the subsidy measures for agriculture and rural areas. However, the procedures for the subsidy applications are evaluated as complicated. The agricultural policy measures for the agricultural households in the mountainous areas focus towards land concentration and market price support measures. Agricultural households in the mountainous areas are rather well informed about agricultural and rural subsidies and how to apply for them. Among the most important sources of information about the development of policies and support measures for agricultural households are TV, radio, agricultural advisory services and professional agricultural reviews. Less important sources of information for agricultural households are considered to be sources of information from Farmers Alliance and local markets.

Among the strategies of agricultural households the focus is on the strategies of responsiveness and the strategies of adjustments of agricultural households (Fig. 1, Fig. 2). The strategic behaviour of agricultural households is in an early stage of development. The reasons for this are lack of knowledge, relatively low mobility of production factors, and relatively limited investment resources. For most of the agricultural households significant impacts have caused changes in the enabling of macro-economic and local environment, and relatively low competitiveness of the agricultural households. The most often implemented strategies are the strategy of responsiveness with the lagged responses when the effects are already visible, and the strategy of adjustment with the up-to-day adjustments to the changes in the macro-economic and local environment. About half of the agricultural households in the sample use one or another main strategy. None of the strategies is typical for a

certain type of farming (pure, mixed or supplementary). Among measures of the strategy of responsiveness the important ones are those which contribute to the growth of the farm, improve the search for the off-farm employment, and contribute to investments in non-agricultural entrepreneurship.

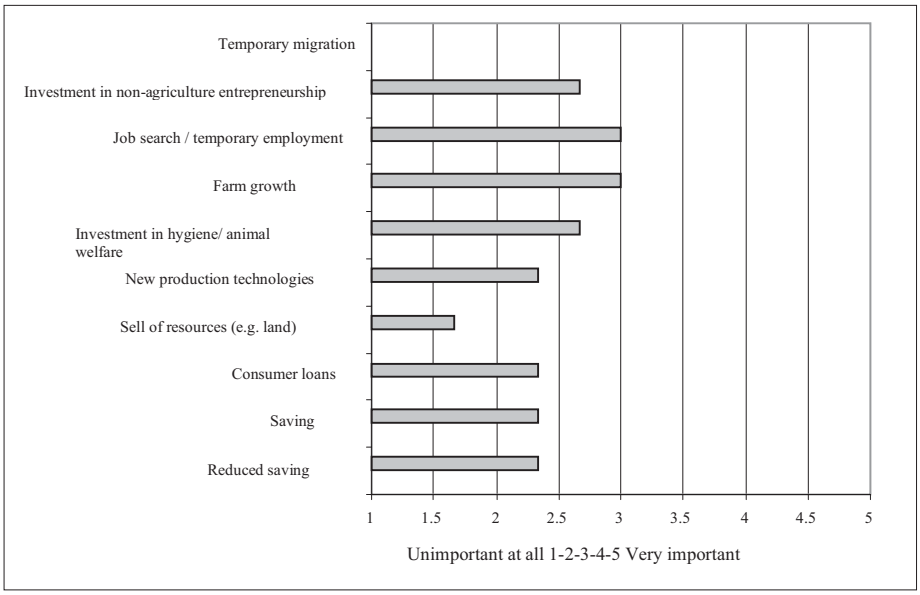

Fig. 1: Importance of measures for responsiveness strategy.
Source: Authors' calculations.

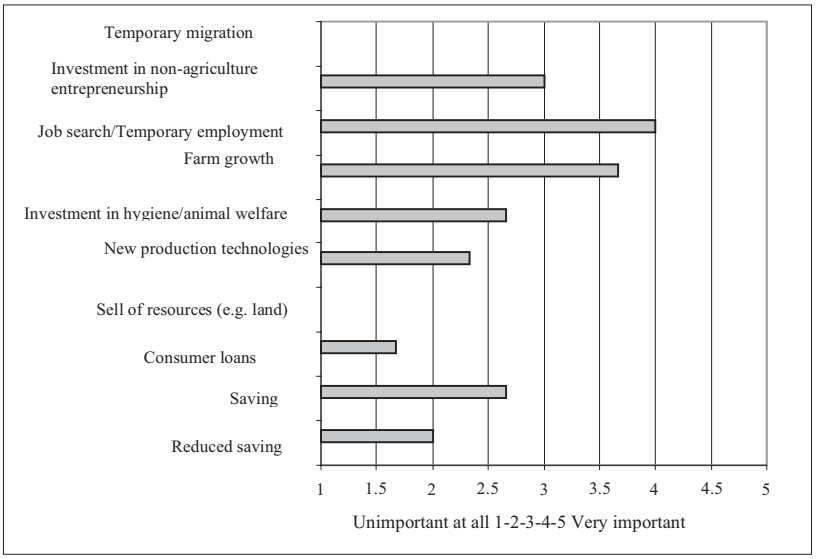

Fig. 2: The importance of measures for adjustment strategy.
Source: Authors' calculations.

The strategic decisions of the agricultural households in the sample to invest in agricultural activities are most frequently determined by the following factors: access to direct subsidy payments, agricultural price increases and assurance of selling of agricultural produce, and access to land. The other important factors to stop with the agricultural production in the analysed agricultural households are ranked in the following order: programmes for the early retirement in the agricultural household, better opportunities for the off-farm employment, and access to loan for investment in non-agricultural entrepreneurship in the agricultural households. The least important factors to stop with agricultural production are better opportunities for land sale.

On average, the agricultural households in the sample have expected to encounter difficulties related with the adjustments to the stipulated EU regulations and the increased competition from the enlarged EU markets (see also Kožar et al 2003). In general, the analysed agricultural households in the mountainous areas aim to maintain the farming activity. However, the future of the farming activity in the agricultural households on the long-term (20 years) is more or less unclear. The agricultural households in the mountainous areas do not have developed long-run strategies so far. The reasons are the inability to forecast future, immobility of production factors due to limited knowledge, and relatively limited resources for investments.

The objectives of the agricultural households are oriented towards preservation of the farm for the next generation, and the maintaining of the family tradition and life in rural areas. Due to a small farm size and the unclear future expectations, the agricultural households adjust ad hoc business strategies to the ongoing macro-economic, local and other changes, which come from the environment. The abandon of the farming activity is most likely to happen with the generational change of the head of the farm, and particularly if the incomes from the non-farm employment are enough for the survival of the agricultural household. The agricultural households live from the farming activity due to the small size of the farms and the limited incomes from agriculture for the household survival. The most important factor for the decision to stop with the farming activity is the better opportunities for the households' members to work outside the farm.

4. Conclusion

The farms in the mountainous areas in Slovenia are on average bigger than the average farm size in Slovenia. In the land structures in the mountainous meadows, pastures, and forest land prevail (Knific 2008). In addition, due to more difficult natural conditions for farming, agricultural production in the mountainous areas is more oriented towards livestock production on grass land.

We have presented the structural changes in agriculture on the sample of the agricultural households in the mountainous areas in the Škofje Loka's mountainous in Slovenia. We have highlighted the prevailing structures and structural changes pre- and post-accession of Slovenia into the EU. The empirical analysis is based on two in-depth surveys from 2001 and 2007.

The households' incomes from farming are not sufficient for the household's survival for around one-sixth of the agricultural households. The measures of the EU policies are in general positively accepted by the agricultural households in the mountainous

areas, but some reservations and shortcomings are found as regards adjustments to the EU legislation. The agricultural households are also well informed about the EU policies and state subsidies, which are invested in the agricultural activities for the growth of the farm or for self-employment.

Due to the limited incomes from the farming, the agricultural households have diversified their incomes by self-employment in the agricultural household, and by regular off-farm employment outside the agricultural household. Among the main reasons for self-employment are the internal households' factors (limited incomes and income variability from agriculture) and the external environment factors (market opportunities). Among the economic activities for self-employment, employments that are associated with forestry and rural services prevail. The self-employment contributes to higher incomes in comparison with agriculture as well as to a higher quality of employment. The diversification of the households' incomes through the regular off-farm employment outside the agricultural household is frequent for the sample of the agricultural households. Among the internal households' factors, limited households' incomes prevail, and among the external factors, the higher wages from the off-farm employment than from agriculture on the agricultural households prevail. Among the reasons for the regular off-farm employment, the prevailing are opportunities for additional resources for personal development and the more efficient use of the households' economic capacities.

Agricultural households in the analysed mountainous areas aim to maintain farming, but they have not developed long-run strategies. The objectives of the agricultural households are oriented towards the preservation of the farm for the next generation and the maintaining of the family tradition and the life in the mountain rural areas. Due to the small farm size and the unclear future expectations, the agricultural households ad hoc adjust business strategies to the ongoing changes. The household's abandon of the farming activity is the most probable at the generational change of the head of the farm, particularly if the incomes from the non-farm employment are enough for the survival of the agricultural household. The current economic recession with the job destruction in the region might give different short-run results. However, in the long-run we might expect that the most important factor for the household's decision in the mountainous areas to stop with the farming due to the small size of farms is the limited households' incomes from agriculture for the household's survival, better opportunities for the employment and incomes outside the farm as an issue for the future research.

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AGRICULTURAL HOUSEHOLDS IN MOUNTAIN AREAS IN PRE- AND POST-ACCESSION SLOVENIA
Summary

This paper analyses structural changes in agriculture and in the agricultural households at the mountainous areas in Slovenia. The research on structural changes in agriculture focuses on the empirical analyses of the income diversification on the sample of agricultural households in part of the Gorenjska region in the years 2001 and 2006. The number of farms, which are professionally engaged in farming, has declined. The number of farms, which live from commercial farming, has increased. In the mountainous areas with more favourable conditions for agricultural production, there are a greater number of pure farms and supplementary farms. The number of farms that live from farming has increased, whereas the number of mixed farms has declined. Farms that live from agricultural production rent land out or they sell it to pure farms.

For most of the analysed agricultural households incomes from agriculture were not enough for households' survivals. Most of the analysed agricultural households have covered their income needs by the diversification of incomes with the self-employment and regular off-farm employment. Only a smaller number of agri-cultural are oriented only towards agricultural activities on the farm. The increase of government subsidy supports for agriculture in mountainous areas in the year 2006 contributed to an increase in incomes of agricultural households from agriculture, but on the other hand the relatively high economic growth during the analysed years had provided opportunities for off-farm employment of the members of agricultural households.

An important source of incomes of agricultural households in the mountainous areas are regular off-farm employments, and for some agricultural households also self-employment with supplementary activities on the farm. The attitude of the members of agricultural households towards diversification of agricultural incomes with regular off-farm employment and with self-employment depends on the education and age of the agricultural households' members.

The agricultural households in the mountainous areas have not developed long-run strategies. The objectives of agricultural households are oriented towards preservation of farms for the next generation and maintaining of family tradition and life in rural areas. Due to relatively small farm size and unclear future expectations, the agricultural households ad hoc adjust business strategies to ongoing changes. The abandon of the farming activity is most likely to happen at the generational change of the head of the farm, particularly if incomes from non-farm employment are enough for the household's survival.

SUSTAINABLE DEVELOPMENT OF THE MORAVIAN COUNTRYSIDE

Antonín Vaishar
Ph.D., RNDr.
Mendel University of Agriculture and Forestry
Zemědělská 1, CZ-613 00 Brno, Czech Republic
e-mail: antonin.vaishar@mendelu.cz

Jana Zapletalová
Ph.D., RNDr.
Institute of Geonics
Czech Academy of Science Ostrava
Drobného 28, CZ-602 00 Brno, Czech Republic
e-mail: zapletalova@geonika.cz

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Abstract
Sustainable Development of the Moravian Countryside
This paper deals with problems of the contemporary Moravian countryside. It discusses the definition and perceptions of the countryside, its functions, current development trend, general characteristics and differentiation. Multifunctional development of the countryside is stressed. Problems of peripheral countryside are considered to be the most serious, and small towns in these areas play an extremely important role. The sustainability of some communes with less than 200 inhabitants seems to be endangered most. The future importance of the countryside is seen in it being an alternative to the urban way of life, in the maintenance and cultivation of the landscape and in preserving local and regional traditions in the era of globalization. The human factor is of great importance. Main research sights are indicated.

Key words
countryside, rural development, Moravia, Czech Republic

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1. Introduction

Until now, the countryside has stood in the shadow of the study of urban systems. Activity, population, innovation and progress are concentrated in cities. The countryside ensures mainly food, and more recently, some recreational opportunities. The countryside's demographic surplus during the era of the first demographic transition enabled the development of industrialization and urbanization. The current era, however, has brought significant changes.

Although cities are still the bearers of progress, current urbanization processes are heading towards population decreases in large and medium cities. Even in Czech Republic, a tendency toward counter-urbanization has begun to appear, which means a shift in the population from cities to rural areas. As opposed to during the preceding several decades, the ratio of rural population to the total population of Czech Republic is increasing, even in many peripheral regions.

A second important factor that has turned attention to the question of the countryside is the fact that the countryside has stopped being a mere base for agricultural production. It is just the opposite, as industrialized agriculture here has decreased to the benefit of the multifunctional development of rural space. Agriculture itself has ever greater significance more for landscape maintenance than for food production. This means that the countryside needs to be studied as a relatively complex whole. In the past, the countryside was a relatively isolated area, where innovation came slowly. Today, however, modern trends reach the countryside very quickly thanks to intense globalization processes. The aim of this paper is to discuss several aspects of the current countryside with the example of Moravia - one of the Czech historical lands. This paper was elaborated within the 7th FP project "Developing Europe's Rural regions in the Era of Globalization", financed by the European Union.

2. Definition and characteristics of the countryside

The definition of the countryside is above all connected to the question of its separateness from the city. This definition has historically evolved. Today, together with sprawling urban organisms, cities are freely expanding into the surrounding landscape. Halfacree (1993) divides definitions of the countryside into two groups. The first group attempts to characterize a corresponding type of rural area. The second group is based in the socio-cultural conception of structures of knowledge, which we use as rules and sources with the goal of giving sense to daily life. It seems that such a non-material definition may dominate over the alternative, based on location, in the post-modern era.

As opposed to cities, which represent points in the settlement system using a certain scale, the classically perceived countryside has regional scope. Experience has shown that small towns are integral parts of the countryside, as they are their centers. In peripheral areas in particular, small towns play an irreplaceable role in ensuring employment opportunities, services, social contacts, transport, etc. for the surrounding small settlements.

It seems that the main differences need to be searched for in the ways of life and in factors arising out of the smaller size of rural municipalities, which form several aspects of the inhabitants' environment. The level of societal control in the

countryside is considerably higher when compared to cities. Among other things, one important characteristic arises from this, a characteristic whose importance in the future will undoubtedly rise: Personal safety is higher in the countryside. However, the rural idyll (Cloke et al. 2003) is still being shifted into the background. This is related to quality of life in the countryside (e.g. Giarchi 2007).

The general perception of the countryside by society has fundamentally changed. Juska (2007) shows with Lithuania as an example how observing the countryside has changed over almost 15 years. In the 1990s, the Lithuanian countryside was stigmatized as a backward area, incapable of accepting changes and a place where the socialist mentality continued to exist. In the next decade, however, the countryside was already viewed as a healthy and attractive environment, under the influence of growing compatibility with the European Union with its suburbanization and counter-urbanization trends. It was and is similar elsewhere in Europe, but perhaps over a different timeline.

One of the basic studies on rural geography (Woods 2004) analyzes the definition of the countryside over 16 pages without the author coming to a definite conclusion. Nonetheless, this underlines the fact that rural research is a very necessary and topical affair.

3. Current development trends of the Czech (Moravian) countryside

Tab. 1 (Note: Moravia is neither an administrative nor a statistical unit. That is why we use the national data to describe general trends) shows the percentage of the population in each municipality size category since 1960. Looking at the table, it is apparent that extensive urbanization took place in the period 1960 - 1990, during which the percentage of the population in rural municipalities markedly decreased. It is interesting that small towns maintained a more or less constant percentage of around 30%, whereas the populations of medium and large cities grew. After 1990, we see the opposite trend: the percentage of the population living in municipalities with a population of up to 2000 grew, whereas the percentage of the population in medium and large cities decreased.

Tab. 1: The percentage of the population in each municipality size category.

Year	Up to 1,999	2,000 – 19,999	20,000 – 99,999	100,000 and more
1960	41.2	27.6	13.5	17.7
1970	34.8	30.0	16.4	18.7
1980	29.3	30.8	20.0	20.0
1990	21.1	30.7	22.8	25.4
2000	25.6	29.1	24.3	21.0
2007	26.3	29.7	23.3	20.7

Source: Calculation based on data from the Czech Statistical Office, Prague.

Between the censuses in 1991 and 2001, the number of inhabitants of municipalities with less than 2,000 inhabitants grew by 116,000, whereas the total population decreased. The ratio of the population in these municipalities to the population of Czechia grew by 0.8%. Despite the influence of administrative changes, there is no doubt that the countryside makes up an important part of Czech settlements.

It is necessary to mention that statistical growth does not always completely correspond to reality. Many young people in particular, who spend most of their time in cities either studying or as young professionals, remain registered in their home villages. The problem is the circumstance that the factual content of the term "permanent address" is changing, as this is detrimental to statistics. Young professionals often take some time to become stable and put off establishing a family and getting a true permanent address for a later date. Thus, their permanent addresses are nowhere else but in the place where they come from, although they spend a minimal amount of time there.

In the past, migration as a rule meant an improvement in the age structure of the population, because most people moved for work or to follow a partner when they became economically active. It appears; however, that today's model of moving to the countryside may be different. Often, after people have finished being economically active, they leave their urban apartments to the upcoming generation and retire permanently to the countryside to houses inherited from their parents. This type of migration, however, worsens the age structure of the rural population and may bring problems related to aging.

Another problem may be the qualification structure of the rural population. The countryside today is on the same level as the city in almost everything, except for cultural institutions in a broad sense. Thus, more educated people who want qualified work, a cultural life, and rich social contacts leave their rural home. This makes the qualification structure of the rural population worse. As a consequence, the general cultural level of the countryside is lowered in comparison with the city, but there is also a lack of suitable people for organizing village life. As a final consequence, these rural municipalities needing the most help cannot get it, as richer municipalities with more qualified populations are often more successful in gaining public contracts.

4. The function of the Czech (Moravian) countryside

As has already been indicated, agriculture, as a food-producing sector, has stopped being the dominant function of the countryside in regards to employment, the economy and way of life of the population. The percentage of those employed in agriculture decreased between the 1991 and 2001 censuses from 11.6% to 4.4% and today reaches 3.6%. The production of all main crops (with the exception of oil seeds) and all major types of livestock production are also in long-term decline.

The current role of Czech agriculture is maintaining a certain level of employment and landscape maintenance. Perhaps in the future it may be possible to speak about agriculture's contribution to ensuring the energy security of the state, but this goal still requires many legislative measures and economic changes. Moreover, it is currently a very controversial affair. Forestry has greater prospects in the primary sector, as in many areas it is a significantly more lucrative sector for municipalities and businessmen than agriculture. Despite this, most of the literature deals with the agricultural aspects of rural development, or at least in the Central Europe region. The studies by Věžník (2002), Bičík and Jančák (2005) and Bański (2007) can be named, for example.

The function of the countryside for the development of recreation and tourism is frequently discussed. The majority of tourism is directed at large cities, mountains,

spas and reservoirs. The countryside provides second homes to the urban population in particular. Cottagers have saved, in large part, the rural housing stock, which would have deteriorated without them. The coexistence of the local inhabitants and cottagers is a fundamental question. If they find common ground between them, then cottagers with their qualifications and contacts can be very beneficial for rural communities.

Considering the lack of capital in the countryside, the owners of many sites of agro-tourist equipment are urban dwellers or foreigners, who as a rule do not have a relationship with specific rural communities. On the other hand, rural dwellers are not always inclined to the development of such activities. It is necessary to realize that the aging rural population is interested in a quiet and conservative way of life, whereas their financial security is not connected with local activity, as this comes from state social resources.

In rural areas, we often find manufacturing plants of an industrial character that have been pushed out of cities. Whereas plants focused on processing agricultural production often follow the fate of agricultural enterprises, wood processing is more successful. Sometimes, these are the remnants of the "associated production" of collective farms; in other cases, they are new businesses located in the countryside due to lower property prices and a better bargaining position with municipal offices. Some manufacturing-type services that have large requirements for space and do not require frequent customer visits (hardware and furniture stores, used car dealerships, etc.) may behave similarly.

The sector of social services develops in correspondence with the demographic development of the state and countryside. Thus, schools are gradually disappearing from rural municipalities. For rural communities, the loss of schools also marks the end of the last cultural and educational institution in general, and with this, the irreversible cultural downfall of the community. On the other hand, the demand for social infrastructure is growing; including elderly housing, medical treatment centres for those with long-term illnesses and general senior services. The quiet environment of rural areas offers suitable conditions for the location of such facilities.

Housing is still an important function of the countryside. It is sought after by various groups of the population. In the hinterlands of large and medium cities, these are well-off families of productive age. Another group includes people who purposefully seek out homes in the countryside in order to change their lifestyle. Again another large group of people interested in living in the countryside are senior citizens after they have stopped being economically active.

The countryside is gradually catching up to the city in assuring technical infrastructure. However, in this context, it is necessary to solve the issue of the economic efficiency of building standard technical networks in micro regions with very small villages in hilly areas or where settlements are dispersed. Even small amounts of solid, liquid or gaseous waste may have very negative effects on the environment due to current packaging technology, the use of household chemicals, etc. Therefore, it would be suitable to find and introduce new technology for reducing the amount of and liquidating waste from very small communities.

Of course, alongside rural settlements, the rural landscape is changing as well (Palang et al. 2004). The practical culmination of this approach is the concept of

permaculture (Holmgren 2002).

5. The differentiation of the Moravian countryside

The current Moravian countryside can be broken up into three basic types. The countryside in the hinterlands of large and medium cities is a suburbanizing area. In many cases, the boundaries between cities and rural settlements have been washed away. This may lead to the loss of identity of small towns and villages in the hinterland of large and medium cities. The coexistence of the newly arrived population, who are above all involved in activities in the city, and the original rural population with its different demographic and social structure is often a problem.

The motives of individual actors involved in suburbanization are not without interest. Is it really all about leaving the polluted city behind and getting closer to nature, or is it, rather, an attempt to get private property in a safer area in a relatively simple way? On the other hand, there are some cases where a certain disappointment has begun to appear. Not all expectations have been met. People spend most of their free time travelling to and from the city, and inside their home. There is no time, nor motivation, to take advantage of the nearby natural surroundings, and contact with neighbours is missing. Moreover, transportation is ever more expensive, and its accompanying phenomena make the environment worse. This disappointment certainly does not dominate, but it will be necessary to take it into account in the future.

The easily accessible countryside of Moravian valleys is characterized by relatively large rural settlements. These settlements have their own local markets, ensuring the existence of basic services, and often have their own economic base as well. Because they are easily accessible, their population can quite simply deal with its requirements for employment opportunities, services and social contacts in larger towns, while they often have several alternatives to choose from. On the other hand, sometimes, thanks to their advantageous accessibility, activities forced out of cities are located here.

A current peculiarity of this type of countryside as regards settlement structure development is the gradual surpassing of micro regionalization. Small towns in these regions face competition both in neighbouring towns and large rural settlements, and in large hypermarkets and other activities in farther away, but still comfortably accessible, large and medium cities. Therefore, for their development, the division of labour is more relevant than central function in regards to the hinterlands.

The peripheral countryside is located in the border regions and inland mountains. Small rural settlements with limited local markets and without basic facilities make up the typical settlement structure here. No substantial investments are aimed at these regions, which results in higher unemployment as a rule. On the other hand, the landscape of these areas (which is in many cases the object of large-scale protection) offers potential for development of the tourism industry, which, however, is often limited by lack of investment funds and a poor infrastructure.

Small towns, as the centres of peripheral regions, are poor centres, but as a result of the lack of competition from larger, more easily accessible centres, are often unequivocally the centres of their rural surroundings, which, as a result of the lack

of social infrastructure facilities, must fulfil the needs of their population in these small towns. Therefore, in peripheral regions, small towns are the key to sustainability of rural settlements.

Because a part of the peripheral countryside is situated on the state border, the question of possible cooperation with foreign partners arises. In other words, this is a question of whether mutual cross-border cooperation could help overcome domestic marginality or not. Unfortunately, Moravia neighbours with such regions of neighbouring states that, so far, do not form the background for economic development on the basis of cooperation.

6. The Moravian countryside's prospects

It is necessary to realize that Moravia is, to a certain extent, a rural country. Measured by the criteria of the industrial age, this would indicate that it is a less progressive land. Today, however, industrial development as a whole no longer represents the main measure of progressiveness. It is measured by education, research and culture - thus quaternary activities. These activities are concentrated in a few selected centres. We have shown, however, that almost the only area in which the countryside hitherto lags behind cities is cultural infrastructure. In this regard, the countryside is still less progressive than cities.

What has changed is the relationship between the city and the countryside. The Czech population is no longer separated into urban and rural. Urban activities have expanded to the countryside; thanks to increasing mobility they are accessible to an ever-larger group of the rural population. Urban inhabitants take advantage of the countryside for their free time activities. The city and countryside are no longer opposites, but are becoming more and more parts of a unified space. In this sense, the conception of the backwardness of rural life dies away.

We have shown that the countryside has several important functions. It offers an alternative to the urban way of life, either for permanent living or for spending free time. Another function of the countryside is the maintenance and cultivation of the landscape. In the era of globalization, the Moravian countryside contributes to preserving local and regional traditions. Thus, within the unified urbanized system, the countryside supplements the cities in many important functions and its preservation is extremely desirable.

This opens up the question of quality of life in the countryside. Quality of life can be evaluated based on "objective" indicators or hard data, with the assistance of which, individual physical, economic and social aspects can be compared, and through the assistance of "subjective" opinions, which can be evaluated based on using sociological methods. Quality of life, although its evaluation is markedly problematic, is the key to understanding the living preference of the population who choose the alternative of life in the countryside.

Of course, the risk of some very small rural settlements gradually dying out exists. However, this does not appear to be a mass phenomenon. Instead, it is more a reduction of the current still surviving services in these communities and their transformation into conglomerates of purely residential buildings gradually turning into cottages. This will of course depend not only on objective bases but also on human factors. People capable of supporting the sustainability of their communities

are, on this level, one of the determining factors.

7. State administration and self-governance in the countryside

After 1990, many small communities pulled away from the municipalities with which they were integrated in the 1970s and 1980s. This fact is understandable, but it is an anachronism. The reform of the state administration that took place in several stages after 1990 was not too successful and was attributed more to political pressure and interests than to the criterion of effective territorial administration. European self-governance and state administration lead mainly to integration. It is apparent that very small municipalities have problems with ensuring the basic aspects of daily life and administration.

The problem of state administration has been dealt with by creating a network of offices with extended competence and authorized municipal offices, whose job is to ensure the functions of state administration on a professional level for which small municipalities are not equipped. State administrative districts created in this way are incorrectly labelled small districts, even though there is not a relationship of superiority and inferiority between municipalities and authorized offices. On the other hand, this could be the first step to future integration, which this time should happen on the basis of democratic methods.

The problem of self-governance has been dealt with by combining municipalities into associations. These associations are created either for a specific aim or for general cooperation, and have differing legal statuses. Several specific groups have gradually developed, such as the Euro regions or LEADER+ local action group regions. Thus, a relatively rich mosaic of regional associations, built on a voluntary basis, is drawn out. A problem, of course, is the voluntary nature of these associations, whose activities rely on voluntary work, which is dying out, possibly meaning the associations' demise, fracturing or as is most often the case, passing into passivity.

8. Conclusions: main research sights connected to rural development

An important task for starting up rural development as a field of research is creating a theory of rural development. It seems that there are a great number of smaller works and studies, but more comprehensive works do not exist in Czech literature. For this reason, it is necessary to define the subject and study methods in the field, and to introduce the main theses and hypotheses. This step is dependent both on the definition of the countryside and also on the disciplines that will be involved in the research. It is clear that the change in orientation from agriculture to countryside has brought a fundamental difference in the theoretical-methodological approach, as agriculture is the problem of a specific field, and the countryside is a wider interdisciplinary affair.

If, as a starting point, we use the definitions emphasizing location, territory and region, the basic theoretical postulates and methodological approaches will be based in geography, which is capable of understanding the countryside in a regional context. Besides rural geography, disciplines working with the landscape are applicable in this approach (landscape ecology, landscape architecture, landscape planning). When perceiving the countryside as a way of life is preferred, sociology in particular is used. Demography and disciplines dealing with gender issues are

related. In these regards, indispensable disciplines are those that deal with economic and technological questions of sectors and activities at work in the countryside, i.e. agriculture, tourism, services, housing, etc.

A wide palette of rural research methods will arise from these disciplines. Quantitative, qualitative and field methods should mutually complement each other: while the first grouping of approaches will be based more on the empirical analysis of tangible aspects, the second group will certainly emphasize qualitative and biographical approaches.

However, to overcome the point of view and tendencies of these fields, which lead to specialization in each discipline over and over again, will require significant effort. The new and otherwise successful economic and social geography textbook by Toušek, Kunc and Vystoupil (2008) analyzes agriculture in 33 pages, whereas the countryside is mentioned in four lines. A relatively expansive anthropogeography textbook (Heineberg 2004) dedicates a large part not just to agriculture, but also to rural areas, but this takes place in two different chapters that are not connected to each other. Moreover, rural settlements are conceived as almost a pure analysis and typology of rural settlements. A collective work edited by Cloke, Marsden and Money (2006) and anthologies edited by Plut (2006) and Surd and Zotic (2007) attempt to draw attention to the multifunctional of rural questions.

The study of the transformation of the post-socialist countryside represents a special chapter (e.g. Buchhofer and Quaisser 1998; Baumann 2008; and many others). The question ponders to what extent the Moravian countryside is still post-socialist, discussing whether it is already post-industrial and globalize. Considering the fact that the countryside, as opposed to cities, better reflects regional, natural, as well as historical and ethnographic conditions and peculiarities is still a legitimate question.

If we were to look for the main differences between the city and the countryside in the social sphere, we would need to turn to sociological studies. Important questions are where the countryside is headed, in what direction it should develop and what instruments could be available to influence this development. Moseley (2003), and from a somewhat different perspective Tapiador (2008), offer more practical publications.

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SUSTAINABLE DEVELOPMENT OF THE MORAVIAN COUNTRYSIDE

Summary

The ratio of the rural population of Czechia reached 26% in 2001. Between the censuses in 1991 and 2001, the number of inhabitants of municipalities with less than 2,000 inhabitants grew by 116,000, whereas the total population decreased. The ratio of the population in these municipalities to the population of Czech grew by 0.8%. The countryside has stopped being a mere base for agricultural production. Changes in the rural space occur under influence of globalization, which brings unified modes of production and consumption directed from a few world centres.

The definition of the countryside is based on its separateness from the city. But current cities are expanding into the surrounding space. Today, both rural and urban inhabitants are mostly employed in services. Urban-type villas have penetrated in the countryside. The main differences need to be sought out in the ways of life and the factors arising from the smaller size of rural municipalities. Thus, some definitions are based in the socio-cultural conception. It seems that such a non-material definition may dominate in the post-modern era. The countryside today is on the same level as the city in almost everything, except for cultural institutions. Thus, more educated people who want qualified work, a cultural life, and rich social contacts leave their rural homes. This makes the qualification structure of the rural population worse. Other people who purposefully seek out homes in the countryside are well-off families of productive age in the hinterlands of cities and people who want to change their lifestyle.

Productive agriculture has stopped being the dominant function of the countryside in regards to employment, the economy and way of life. The current role of Czech agriculture is keeping a certain level of employment and landscape maintenance. Forestry is a significantly more lucrative sector than agriculture in many areas.

The countryside provides second homes to the urban population. Considering the lack of capital in the countryside, the owners of many sites of agro and rural tourism are urban dwellers that do not have a relationship to specific rural communities. On the other hand, rural dwellers are not always inclined toward the development of such activities. The aging rural population is interested in a conservative way of life.

In relation to demographic development, schools are gradually disappearing from rural municipalities. The loss of schools marks the irreversible cultural downfall of the community. But, the demand for social infrastructure is growing, including elderly housing, medical treatment centres, and general senior services.

The current Moravian countryside can be broken up into three basic types: suburbanized countryside in the surroundings of large and medium-size cities, the easily accessible countryside of Moravian valleys and peripheral rural regions.

Urban activities have expanded to the countryside. They are accessible to an ever larger group of the rural population. Urban inhabitants take advantage of the countryside for their free time activities. Thus, the conception of the backwardness of rural life is dying away. On the other hand, the countryside has several important functions; it offers an alternative to the urban way of life. The maintenance of the landscape is another function of the countryside. In the era of globalization, the Moravian countryside contributes to preserving local and regional traditions.

Czech is a country of very small communities. Problems with ensuring the basic aspects of daily life are apparent. The problem of state administration has been dealt with by creating a network of offices with extended competence, whose job is to ensure the functions of state administration on a professional level for which small municipalities are not equipped. The problem of self-governance has been dealt with by voluntarily combining municipalities into associations.

There are a great number of partial studies, but comprehensive studies do not exist in Czech literature. Using definitions emphasizing location, territory and region, the research approaches will be based in geography. Besides rural geography, disciplines working with the landscape are applicable in this approach. When perceiving the countryside as a way of life, sociology in particular is preferred. Demography and disciplines dealing with gender issues are related. In these regards, peripheral, but indispensable disciplines include those that deal with economic and technological questions of sectors and activities at work in the countryside, i.e. agriculture, tourism, services, housing, etc. Quantitative, qualitative and field methods should mutually complement each other.

RESTRAINTS AND OPPORTUNITIES OF THE ROMANIAN RURAL AREAS

Vasile Surd
Ph.D., Professor
Faculty of Geography
Babeş-Bolyai University
Clinicilor Street 5-7, 400006 Cluj-Napoca, Romania

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Abstract
Restraints and Opportunities of the Romanian Rural Areas
Although Romania disposes of an extremely valuable agricultural land, it has proved to be insufficient and irrationally exploited in the last two decades, as a direct consequence of the programme for returning the agricultural areas to the former individual landowners. The lack of technological agricultural means for cultivating the land, its excessive allotment, as well as the rather inappropriate involvement of the political factor in the decision making process and the invasion of imported agricultural products have generated a continuous process of degradation of the rural life as a whole and certain repercussions on the food safety. Currently, more than 50% of the Romanian agricultural area is not being cultivated, while the state imports more than 70% of alimentary products every year.

Key words
urban-rural space, rural state, rural policy infrastructure, agricultural land, Romania

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1. Introduction

Romania has a surface of 238.391 km^2, out of which, from the administrative point of view, 214.552 km^2 or almost 90% are represented by rural areas (Romanian Statistical Yearbook 2007).

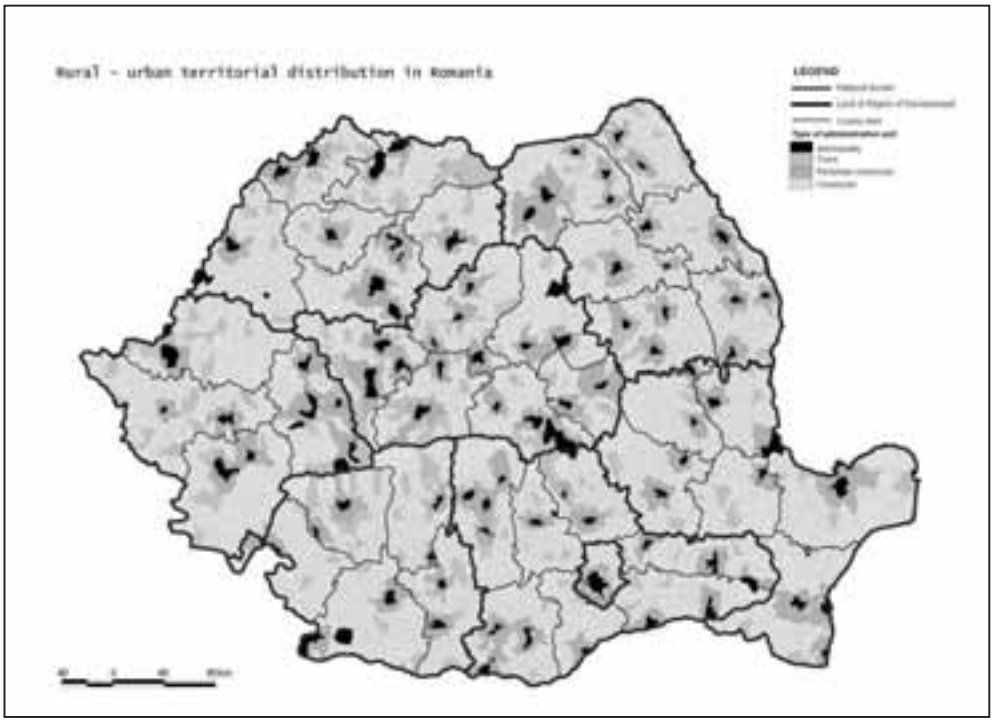

Fig. 1: Rural-urban territorial distribution.
Source: Romanian Statistical Yearbook 2007.

The entire surface, divided by use, consists of three main categories: agricultural land (64%), forestry land (25%) and other categories of land (11%). The agricultural land has a surface of 14.836.585 ha and its structure consists of: arable land 62%, pastures 24%, hayfields 10%, vineyards 2% and orchards 2% (Romanian Statistical Yearbook 2007).

The most extended arable areas are located in the Southern and Western plains of the country, while the highlands are dominated by pastures and natural hayfields. Vineyards and orchards are mostly located in the hilly areas of the Sub-Carpathians and the Transylvania Depression. As regards the climate conditions, the average temperatures are between 8 ^{0}C and 11 ^{0}C in the hilly and plain areas and the precipitations register values are of 500-600 mm/year.

Both the temperature and the hydrological conditions create an appropriate environment for practicing a diverse agriculture. Only in the Southern and South-Eastern areas of the country the frequent droughts and the quantitatively reduced precipitations impose the intensive use of irrigations, so as to assure stable crops every year.

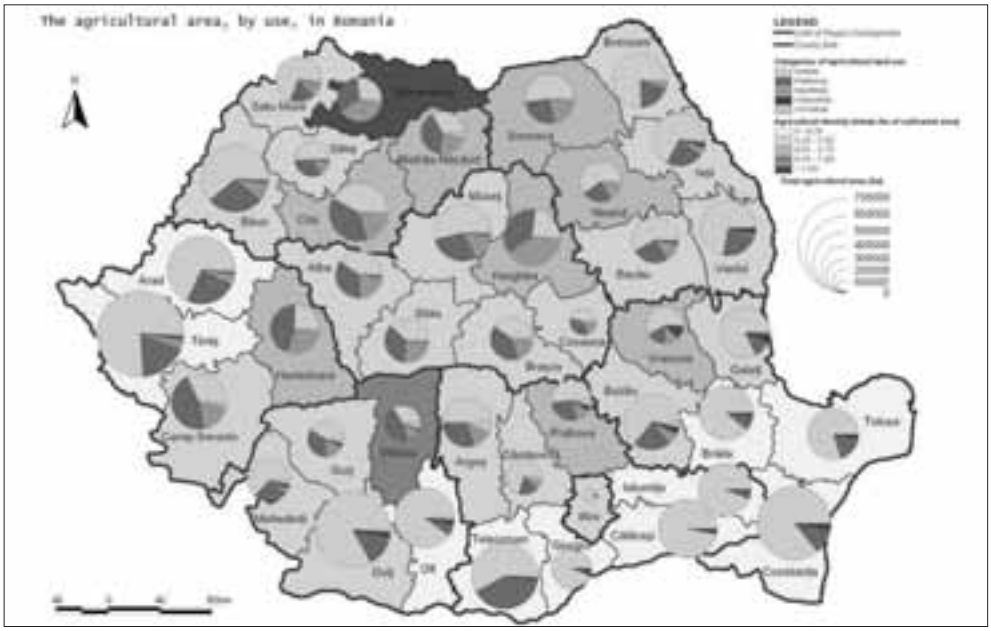

Fig. 2: The agricultural area, by use, in Romania, by counties.
Source: Romanian Statistical Yearbook 2007.

1.1. Methodology

For the purpose of this paper, specific methods were used for study and documentation (such as the cartography method, the statistic method, the questionary method and the modelling method). By using the map, I underlined the extension of the rural space at the national level and the structure of the agricultural land, as well as the administrative structure with its main units – the counties (*judeţe*). I took as an example the climatic map of Romania to attest the diversity of agricultural potential by climatic factors.

In order to demonstrate the changes of the habitat potential in the last 50 years, I chose the Certeze village, located in the Satu Mare County (North-Western part of Romania), where in half a century three generations of houses have been built (the last between 1995 and now). The financial income has represented the main reason, for the majority of the families had been working abroad. The case study about the actual state of the rural households was made in the Miceşti village, the Tureni commune, the Cluj County (Rural Development in Romania 1998; Wingert 2009).

The rural system of the settlements was highlighted by the building of a diagrammatic model, which shows the state of inter-rural connections by a differentiated distribution of functions and facilities for the public interest (needs), such as schools, shops, town hall, post office, police department, health care centre, etc. It was very useful for me to take into account the study entitled "Rural Development in Romania", 1998, elaborated under the aegis of the European Union and the Romanian Government. I was involved in this study, which analysed the rural space from the Centre and the Western of Romania.

1.2. Terminology

For the rural city hall, I believe it is better to use the word town hall (in Romanian language "*prim rie"*), because the majority of the rural communal centres are smaller than the cities. Anyway, the town means a smaller urban settlement category than the city. In Romania all urban settlements are called "*oraşe*". However, in the official documents for bigger urban settlements and for those with complex function we use the term of municipality "*municipiu*".

The main administrative unit in Romania is "*judeţul*" (a county) and for the rural area is "*comun "* (a commune). Each county comprises more than 20 communes and more than 4 towns (cities). I have stated the price in the Romanian currency (Leu), but I have made the necessary adjustments in Euro.

2. Villages and rural population

The rural population of Romania is of 9,670,427 inhabitants (representing 44,8% of the total population). From the administrative point of view, rural areas are divided into 2,854 administrative-territorial units, communes, which comprise 12,951 villages. A commune usually consists of an average of 4 or 5 villages and 3,388 inhabitants. As regards the territory, the surface of a commune is 75,175 km^2, a village is thus located on an average surface of 16,566 km^2 and has a population of 746 inhabitants.

We have to mention that the size of the Romanian villages, in terms of rural population, ranges from 1 or 2 inhabitants per village to 10,000 inhabitants per village. The lowest values may be explained by the fact that some rural settlements have lost their demographical potential due to massive emigration, mainly abroad, high mortality or natural calamities. Administratively, there are communes which are either formed by only one village or by over 20-30 villages. For example, the commune with the maximum number of villages is the Cornereva commune, in the Caraş-Serverin County, which consists of 41 villages.

Over 50% of the Romanian villages are small-sized, with a population of no more than 250 people. The category of the population aged 60 years and more represents 22.8% of the total rural population. The feminine population represents 51.2% of the total population. As a matter of fact the training level is not represented in the rural areas, due to the fact that stable intellectual models are completely inexistent in most of the villages, the only intellectuals working here are included in the category of commuters.

The majority of the actual rural 60 year old population has a double socio-professional status, that of workers (employees) - peasants and that of peasants - workers (employees), as a result of the fact that before 1989, they used to work as commuter employees in the urban industry, and today they benefit from the state retirement funds, more consistent than the financial retributions received by people who worked in agriculture only (in the former Agricultural Cooperatives of Production- CAP).

3. The agricultural land

The Act no. 18/1991 and its subsequent modifications stipulate the restitution of the

old land proprieties, registered before the agriculture collectivization (1962), to the former land owners or their successors and the dissipation of the estates agricultural structures. This process has led to the establishment of 8,254,294 new individual agricultural exploitations, formed of over 60 million plots. Each private agricultural exploitation has the average size of about 2 hectares, divided into about 8 plots. The average size of a parcel is 0.25 ha. Yet, there are cases when a land propriety disposes of 15-20 plots, all scattered on the entire territory of the village.

The Act No. 18/1991 stipulates the restitution of the agricultural land to the former owners or their descendants, according to exactly the same land organization, registered before the time of collectivisation. Still, it was decided that the maximum size of agricultural land per owner that can be reattributed is 10 hectares (Act 18/1991), even though some of the former landowners previously registered larger surfaces in their propriety.

This fact may be justified by the fact that in numerous cases the land registered in the official inventories did not correspond with the real situation previously established in terms of size, therefore the landowners declared more reduced size land surfaces in order to pay smaller estate duties, especially during the period between 1945-1958, when Romania had to pay major war financial claims to the former USSR. Hence, in several villages it was registered as a "surplus of agricultural land" which currently has been the object of land speculation between the representatives of the local commissions for land restitution, such as mayors, politicians and other people representing the local administration. Thus, we can explain the "passion" for handling public functions in Romania, which often go along with major corruption phenomena.

The Act No. 18/1991 and its way of being applied (see above), e.g. allowing the local administrations to measure the land by their own empirical means, has led to the separation of agriculture from its natural and economic perspectives and aims, and has eventually transformed Romania in a country that massively imports agricultural products.

The main impediment against modernization and efficiency of agriculture in Romania has proved to be the excessive allotment of the agricultural land for exploitation and the lack of an efficient, safe and stable association system in the process of land exploitation as a means of production.

The number of persons/rural household is 1.8, the fact that indicates a poor level of active labour force in agriculture. The surveys applied in several pilot communes regarding rural development in 1997 reveal that in over 50% of the cases the householder is represented by women, usually above the age of 60. In many cases, the propriety titles, emitted by administrations on a legal base, are full of uncertainties, a fact that systematically drags the rural people in legal trials for regaining their land proprieties. In more than 25% of the cases, the new landowners live in the city; therefore they abandon or rent their agricultural land. The land trade in general and especially the trade with agricultural land in rural areas represent a current practice that has generated the class of newly enriched people in Romania. The poor technological means of practicing agriculture stand for another issue that proves to be very difficult to solve by the "new land owners".

The agro-technique and infrastructure of the former State Agricultural Enterprises

(IAS) and Agricultural Cooperatives of Production (CAP), mostly outdated and physically overused has been sold at small prices in the years subsequent to the fall of the communist system. The barns, the stock buildings for agricultural products, the farms used for breeding, the irrigation installations, the forage barns, as well as the animal shelters have been, in most of the cases, destroyed or stolen, due to the weakness of the state authority and the very active "revolutionary enthusiasm". Therefore, many rural inhabitants returned to physical work, as regards land cultivation, they starting to use animal traction again. Hence, in only a few of the smallest rented agricultural exploitations we can notice agricultural practices comparable to the modern ones. As we have mentioned before, more than 50% of the national agricultural land is left unused, the rest of it being mostly cultivated by rudimentary technological means, specific to the interwar period. This, under the circumstances in which currently Romania can provide agricultural products for a population of 85-90 million inhabitants, if it stabilizes itself at an average level of productivity, in case of an integrated exploitation of the agricultural land.

4. The rural infrastructure

The Romanian villages, as well as the entire country are tributary to a very poor transport infrastructure. Of the 63,670 km of county and communal roads, only 7.7% are modernized. This is why even the villages located in the proximity of the main cities have a difficult access to the urban services due to the poor state of the roads. The situation becomes even more severe in case of rain or in the winter, when many of the rural settlements remain isolated. At the level of each commune, about 10-15 km of roads needs to be modernized or rehabilitated.

There are numerous situations in which stone and gravel quarries are located nearby, but there is a complete lack of interest from the local administration representatives who are more preoccupied to maintain their job in administration than to manifest more interest regarding the local community. Of 12,951 villages, only 1,682 (13%) are connected to the centralized distribution networks of drinking water (Romanian Statistical Yearbook 2007). In the mountainous and hilly areas, in the Western part of Romania, almost every household has either its own source of drinking water (well), or they use the drinking water provided by the local springs. Despite this „natural gift" only 10-15% of the rural households are equipped with bathrooms and indoor drinking water delivery systems.

The main part of the buildings in rural areas are in good state. Over 90% of the rural houses have been built in the last 50 years by the peasants who used to combine the work in the urban industry with the work in agriculture. The building materials were cheap. We have to mention the fact that most of the villages are electrified, and only 346 small villages located in the mountainous area have no electricity yet. In many cases we find "deserted houses" (without inhabitants). On the other hand, in many villages where the population has left abroad for work, manifested and generalized second and third generation of houses have appeared in the last 50 years, having the most exigent aesthetics and comfort. These villages are empty most of the year. Their inhabitants have left for work, and twice a year they come back, usually for Easter and Christmas celebrations. During the rest of the year their houses are locked and secured by local guards or by other relatives remained in the house. In some of the cases, the invasion of new houses has cancelled the touristic potential of some rural settlements, for example Certeze, Satu Mare County.

Fig. 3: Certeze Village: old houses.
Source: Author.

Fig. 4: Certeze Village: the 2nd generation of houses.
Source: Author.

As a result of the low price of the land, the unaltered natural support and several conjunctures, many urban inhabitants and foreign citizens have built houses in the Romanian villages. Despite the urbanity, the villages in Romania dispose of a significant potential for inhabitancy and exceptional ecological conditions for living (clean air, individual water sources, individual gardens and good protection).

Fig. 5: Certeze Village: the 3rd generation of houses.
Source: Author.

5. Public interest equipment

Every communal centre disposes of a set of mandatory public endowments, such as local administration hall (town hall), post office, police department, nursery school (school garden), secondary school (1-8 grades), general store, medical centre, community home. In some of the communal centres we can also find restaurants, hotels, drugstores, vocational schools and dentist's consulting room. Other villages of a commune dispose of only a primary school, a general store and a church. Some villages that until 1968 functioned as communal centres and are inhabited by a larger number of people, among them a large number of pre-school children, can dispose of a secondary school, while most of the small villages do not have any significant public facilities, except for a church and possibly some pubs.

Based on the quantitatively and qualitatively, differentiated distribution of the public endowments (facilities) with a central role in the territory (polarizing potential), we can reflect the connections established between the settlements, which represent the basis on which the systems of rural settlements are formed. Thus, in Romania, we can distinguish three categories of systems of rural settlements, such as:
∞ Rural systems with supracommunal polarizing centres
∞ Rural systems with communal polarizing centres
∞ Rural systems with subcommunal polarizing centres.

The rural systems with supracommunal polarizing centres are extended on the territory of two or three communes, rarely more, disposing of technical equipment superior to that of the commune. These usually have high schools, drugstores, hospital and hotels. Gradually, these centres become towns. Through the services they provide, they attract population of two or more communes. The rural communal systems are formed by the villages of the same commune, which are oriented towards the communal centre due to the obligatory basic services it provides (school, administration, police, post, healthcare). Lately, the transportation of school children by bus towards the schools located in the communal centre has

become regularity. The subcommunal systems have not more than one or two public facilities, thus they have a more reduced spatial cohesion.

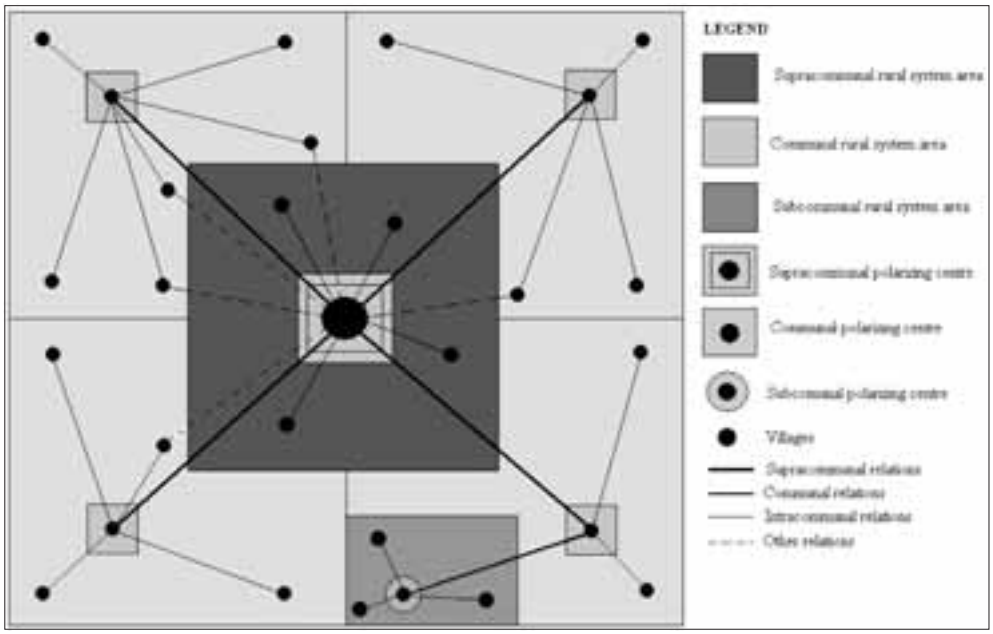

Fig. 6: The rural system of settlements in Romania.

6. The economic state of a rural household. Case study.

Here we mention the situation of a typical rural household, which is located 25 km from the big city (Miceşti, Cluj County). The agricultural land of the family is 2.75 ha. Now the family comprise of two persons only (3 children live in the city and are married), both over 70 years old.

Out of the 2.75 ha, 0.70 ha are cultivated with wheat, 0.5 ha with corn, 0.5 ha with potatoes and 0.50 ha is used as hayfield. About 0.5 ha is not cultivated and is left for the recovery of fertility by applying the biannual rotation system wheat-corn. The 2.75 ha of land are split into 11 plots. Other agricultural activities include animal breeding with the following characteristic: 1-2 cows, of which 1 is for milk and one baby beef; a horse used for animal traction and agricultural practices, 1-2 pigs, of which one is for personal needs and one for sale; 20-30 chickens for eggs and meat and 10 sheep for cheese (wool is not currently processed and economically valorised due to the rarity of cloth factories in the country.

The agricultural technique comprises a plough with a horse, a car for transportation and other tools for agricultural exploitation**,** to which other specific tools are added. The fertilizer manure is used instead of fertilizers. Land cultivation is made by plough and manually; the same manner can be found for practicing all agricultural activities. For harvesting, the beating machine is used which is driven by specialized persons. By the house there is a garden where vegetables and some fruit trees are cultivated. Speculative plants such as medicinal or technical plants are not

cultivated. The owners receive monthly retirement retribution of about 600 Lei, which is 150 Euros (out of which 50 Euros from the former agricultural work practiced by the wife, and 100 Euros from the work of the city industry as commuter – husband). They usually spend the money to buy some products such as sugar, oil and other, and for paying the utilities, especially electricity. Annually, they make alcohol from plums and apples (about 50 l) in their particular way of processing. Other supplementary income is provided by wood and fodder transportation for other inhabitants of the village.

The household consists of a house built in 1968, a stable, a pork coop, a chicken coop and a stall for sheep. The house has two rooms and a kitchen. From May to October, cattle and sheep are pastured on the public territory of the village, for which they pay a fee at the administration hall and to the shepherds. They do not read anything and go to church only formally, twice or three times a year. They usually watch political or folk shows on TV. Daily, the local milk collection centre receives about 3-5 litres of milk form every household at the price of 1 Leu (about 0.20 Eurocents). Selling the milk in the city is not an option, because the expenses for transportation to the city and back do not cover the price of the milk.

By revealing this model of a common household we try to highlight the autarchic character of the rural households in Romania. And yet, over 70% of the food needs of the country are solved by imports. The attempts for voluntary association of the farmers are weak and prove their distrust in a new manner of collectivization. Much more, the projects for rural development, with all their apparently philanthropic character, hardly succeed and finalize due to the bureaucracy and lack of interest of the public administrative representatives, able to support the applicants of these projects. This is how we can explain the low Romanian rate of absorption of the European non-refundable financial aid, of about 18% of the 6 billion Euros, invested in projects for rural development, in the last 6 years (Alexandru 2008).

7. Instead of conclusions

For most of the Romanian rural inhabitants the agricultural land represents a means of protection against extreme poverty and not a valuable means of production that could provide income. The modernization of rural areas cannot be efficiently and rapidly accomplished without a strong intermediation of the state by a legislative system that would enforce the managerial and professional abilities of the agricultural engineers excluded after 1989 of the rural economic life and by a reunification in optimum size plots of the current agricultural land, mostly left unused, yet maintaining the private propriety of the land.

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RESTRAINTS AND OPPORTUNITIES OF THE ROMANIAN RURAL AREAS

Summary

Although Romania disposes of an extremely valuable agricultural land, it has proved to be insufficient and irrationally exploited in the last two decades, as a direct consequence of the programme for returning the agricultural areas to the former individual landowners. The lack of technological agricultural means for cultivating the land, its excessive allotment, as well as the rather inappropriate involvement of the political factor in the decision making process and the invasion of imported agricultural products have generated a continuous process of degradation of the rural life as a whole and certain repercussions on the food safety. Currently, more than 50% of the Romanian agricultural area is not being cultivated, while the state imports more than 70% of alimentary products every year.

For most of the Romanian rural inhabitants the agricultural land represents a means of protection against extreme poverty and not a valuable means of production that could provide income. The modernization of rural areas cannot be efficiently and rapidly accomplished without a strong intermediation of the state by a legislative system that would enforce the managerial and professional abilities of the agricultural engineers excluded after 1989 of the rural economic life and by a reunification in optimum size plots of the current agricultural land, mostly left unused, yet maintaining the private propriety of the land.

INFLUENCE OF TERTIARY ACTIVITIES ON TRANSFORMATION OF THE RURAL SETTLEMENTS IN BOSNIA AND HERZEGOVINA

Rahman Nurković
Ph.D., Associate Professor
Department of Geography
Faculty of Science
University of Sarajevo
Zmaja od Bosne 35, 71000 Sarajevo, Bosnia and Herzegovina
e-mail:rahmannurkovic@hotmail.com

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Abstract
Influence of Tertiary Activities on Transformation of the Rural Settlements in Bosnia and Herzegovina
In Bosnia and Herzegovina, tertiary activities strongly affect the modern spatial and functional structure of rural settlements. In economic and social life they are complementary, which is a good prerequisite for general development of the country. They are followed by specialised shops (bank services, legal services, higher educational institutions, large market, diverse manpower, extensive public services, car show rooms, gas stations, furniture shops, commercial centres, hotels, motels, computer equipment, and alike).

Key words
tertiary activities, new rural development of the settlements, restructuring of economic activities

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1. Introduction

Recently, particularly after 1995, big spatial changes occurred in rural settlements of Bosnia and Herzegovina due to a fast development of tertiary service activities, which had a strong influence on the transformation of rural settlements. Our research shall focus primarily on the development of rural settlements, but also on the expansion of the new tertiary activities in rural settlements, diverse housing constructions and traffic infrastructure development. The mentioned processes have a strong influence on modern spatial and functional structure of rural settlements in Bosnia and Herzegovina.

For the needs of this research, data from secondary sources were used, gathered by using three basic methods: field surveys, surveys of citizens and interviewing of the employees. The data on the type of services in the mentioned tertiary activities were gathered in the field. The planning and implementation of the survey research have given receptive results of the demanding task in spatial distribution of tertiary activities in Bosnia and Herzegovina.

The new rural development of the settlements is connected with other smaller towns into an interacted urban system, in which each of them provides services and products for its surrounding, the attached region and its hinterland. They are followed by specialised shops (bank services, legal services, large market, diverse manpower, extensive public services, car show rooms, computer equipment, furniture shops and alike). A strong pressure of foreign and local investors leads to poor quality construction and illegal construction of the buildings in the rural settlements, which are expanding along the traffic routes. In this paper, development of tertiary activities after 2001 was analysed, from the period of the housing crisis, programmed construction, to the prevailing uncontrollable construction at the beginning of 2009.

The characteristics of the new development of tertiary activities in rural settlements have been shown. The development of the countryside to a large degree depends on decentralized development of rural regions. With the reestablishment of functional and integral relations between towns and rural regions a successful process of structural changes and independent development of the countryside is underway (Lorber 2006).

The newer, uncontrolled development of tertiary activities leads to the devastation of environment and the deepening of the economic and social problems in Bosnia and Herzegovina.

2. Transition, respective restructuring of the economic activities

It is believed that economic forces have a dominant influence on development of tertiary activities in rural settlements. The urban scientist Brian Berry conveniently said: "We are creating the urban civilization without cities." Today, tertiary activities in Bosnia and Herzegovina are developing on locations that have already been marked by pre-war industrialization. Tertiary activities are strongly expanding and occupying new areas in rural settlements. Primary, secondary and tertiary activities were developing in municipalities in Bosnia and Herzegovina in different time periods and in different conditions, with different intensity and different concentration. The consequence of such development is not only unequal structure

of these activities, but also of their territorial distribution. Spatial distribution of tertiary activities coincides at most with spatial distribution of industrial, respectively urban city centres, and less with rural settlements (Hallsworth 1994).

The depicted relations in economic structure of Bosnia and Herzegovina are even more evident when analysing the participation of the active population by sectors in the period from 1961-2009. Namely, in Bosnia and Herzegovina the highest participation of the active population was in the secondary sector with 74.5%, followed by the tertiary sector with 23.3% and the primary sector with 2.2% (Tab. 1, Fig. 1).

In 2009, 63.9% of all active residents of Bosnia and Herzegovina were in the tertiary sector, 33.4% in the secondary sector and 2.7% in the primary sector. Economic crisis, which started after 1981, was reflected most expressively in industry, which still had a primacy among all the activities. At the end of 1991, closure of industrial firms and firing of workers occurred in Bosnia and Herzegovina. Due to the gradual restructuring from planned economy to market economy, the economy of Bosnia and Herzegovina has been suffering from the anticipated problems in the last few years: decrease in the volume of production, deteriorated export routes, increase of unemployment, and still insufficiently determined and rapid processes of privatisation and development of new tertiary activities in rural settlements.

Tab. 1: The employment share (%) in activity sectors and the urban population share of the population of Bosnia and Herzegovina, 1961-2009.

Year	Primary sector	Secondary sector	Tertiary and quarterly sectors	Urban population share
1961	8,0	72,4	19,5	9,2
1971	5,1	71,8	23,1	13,3
1981	2,2	74,5	23,3	16,7
2001	4,2	39,4	56,4	38,2
2003	3,9	35,4	60,7	40,1
2006	3,1	36,8	60,1	42,0
2007	2,7	32,2	65,1	43,2
2009	2,7	33,4	63,9	46,5

Source: Statistical Yearbooks of Bosnia and Herzegovina 1961- 2009.

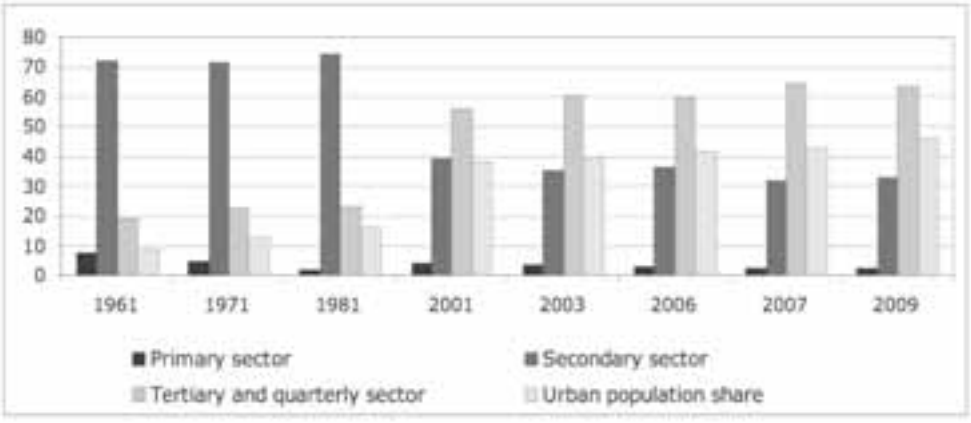

Fig. 1: Employment share in activity sectors and the urban population share of the total population of Bosnia and Herzegovina, 1961-2009.

Among the cities of Bosnia and Herzegovina, Sarajevo has the highest participation of around 65% of total employment in tertiary activities. This is expected because the tertiary activities are well developed in the capital, which is the administrative, economic, educational, scientific, cultural, health and sports centre of the country. In the centre of the city, there are eight commercial centres, whereas at the crossroads of the main city roads and in the vicinity of road junctions there are around twenty commercial centres. Uneven regional development is a general lawfulness of tertiary activities development which is, in certain developmental stages, particularly expressed in polarization of economic activities, population and income. At the same time, some sections of the country remain at the periphery, poorly or insufficiently captured by general development of new tertiary activities. The national development plan as a strategy of regional development of Slovenia (erne 2003).

Tertiary activities are generally more developed in larger than municipalities of Bosnia and Herzegovina. Besides in Sarajevo, they are the most developed in Banja Luka, Mostar, Tuzla, the District of Br ko, Bijeljina, Travnik, Bihać, Tešanj, etc. On the other hand, they are less developed in smaller centres, such as Foča, Goražde, Bihać, Trebinje, etc. Smaller, undeveloped municipalities have less developed tertiary activities, primarily commerce, insufficient needs for crafts and catering services, fewer apartment buildings in public sector, etc. On this basis, they have lower employment rate and, in general, less developed tertiary activities.

3. Important tertiary activities

Right next to the commercial activity is the catering trade present both in big cities and small towns, which appears independently and with other functions in rural settlements. Where commercial activity starts to develop in Bosnia and Herzegovina, new suburban settlements are always found. Thus, we have a turnabout of population from municipal centres in rural settlements, which were first identified in Bosnia and Herzegovina in 2009. Important tertiary activities of Bosnia and Herzegovina according to employment share in both sectors in 2009 were lined up as follows: catering industry around 35,656 or 10.5% of employed persons, traffic and connections around 48,434 or 14.2%, finance around 47,981 or 14.1%, compulsory insurance around 76,623 or 22.5%, education around 64,272 or 19.7% and health and social security 67,272 or 19.7% of employed persons. The consequence of such development of tertiary activities in Bosnia and Herzegovina is not only unequal structure of these activities in rural settlements, but also their territorial distribution. Spatial distribution of tertiary activities coincides mostly with spatial distribution of industrial and urban core centres (Tab. 2, Fig. 2).

Tab. 2: Estimation of employment in tertiary activities in Bosnia and Herzegovina, 2009

Activity	Number of employed people	%
Catering industry and tourism	35.656	10.5
Traffic and connections	48.434	14.2
Finance	47.981	14.1
Compulsory insurance	76.623	22.5
Education	64.751	19.0
Health and social security	67.272	19.7
Total	340.717	100

Source: Statistical Yearbooks of Bosnia and Herzegovina, 1961- 2009

In more developed municipal centres there is a significant increase in commerce and catering industry, which is dictated not only by demand of numerous permanent residents but also by periodical prospective customers, in dependence of the importance and function of regional and municipal centre. Today these activities also have strong influence on the transformation of rural settlements and development of new commercial centres, gas stations, hotels and restaurants, and increased number of employed workers in these activities.

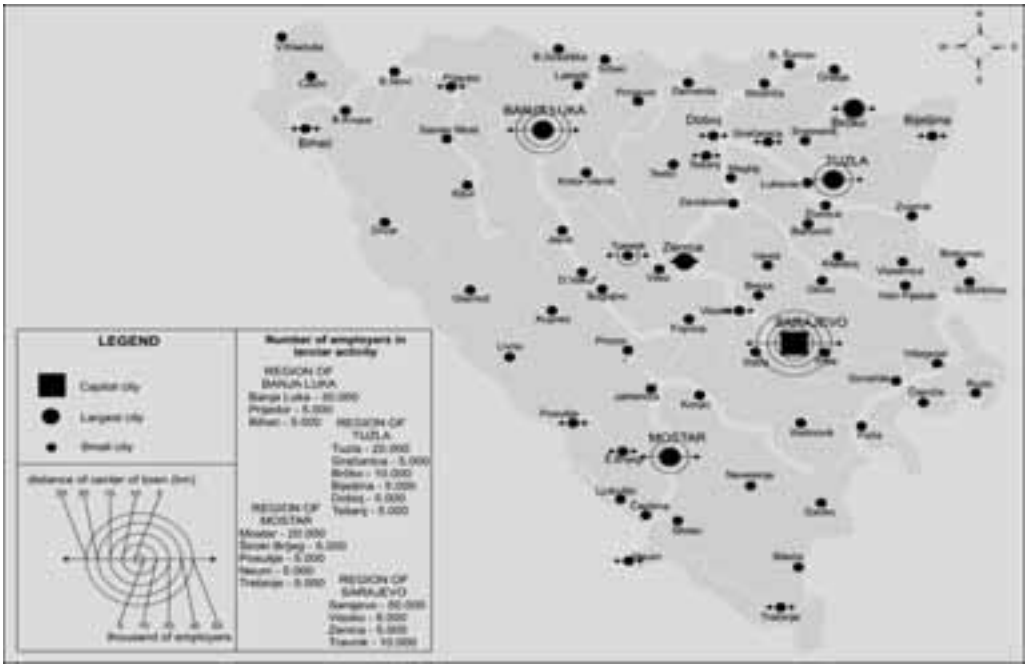

Fig. 2: Geographic distribution of tertiary activities in Bosnia and Herzegovina, 2009.

Today, Bosnia and Herzegovina there is also a bigger share of employed people in housing and public services of more developed municipal centres. They have higher number of residents, bigger accumulation of funds for housing construction and public utilities; therefore they have a more intense housing construction, more apartments in private ownership, more different organizations for offering various services for housing and public construction, for urbanism, planning etc. In smaller and undeveloped municipal centres the situation is the opposite. Huge domestic administrative apparatus and insufficient investment of foreign capital into Bosnia and Herzegovina is an additional problem, which needs to be solved as soon as possible, because the European Union is expanding faster than expected. Our neighbours will, naturally, know how to use this and thus the European Union will become our first neighbour, but with a closed door until the situation improves to comply with the European principles and economic and other standards (Pacione 2001).

In conditions of economic and socio-economic development of Bosnia and Herzegovina, traffic developed intensely and increased largely due to increased needs for transportation of workers, raw materials and final products, needs which were dictated by developed cooperative relations, needs imposed by education,

administration, health, commercial and tourist services, crafts and other services. Highway traffic of Bosnia and Herzegovina differs from that of neighbouring countries.

There are big differences between the branches recovering from war damages more rapidly and those that are still non-functional. Highway traffic has, despite the difficulties and the inherited bad structure, largely started with expansion, whereas the railway transportation is still non-expanding and is run with a very little capacity. Until the middle of 2003, Bosnia and Herzegovina was the only country of the South-East Europe that did not have a single kilometre of modern highway, and by 2007 around 45 km of highway were built. Road network in Bosnia and Herzegovina, including the capital of Sarajevo, is one of the worst in Europe. The roads are obsolete, badly maintained and dilapidated claim the European Union experts who analysed them in detail in 2005.

4. Conclusion

The new rural development of settlements is encompassed together with other smaller towns into an inter-connected urban system in which each of them provides services and products for its surrounding, the attached region and the hinterland. This is followed by the emergence of specialised shops (bank services, legal services, large market, diverse labour force, voluminous public services, car show rooms, computer equipment, furniture and alike). The strong pressure of foreign and domestic investors leads to poor quality and illegal construction of buildings in rural settlements which are expanding along the highways.

Tertiary activities are generally more developed in larger than in smaller municipal centres of Bosnia and Herzegovina. Apart from Sarajevo, they are the most developed in Banja Luka, Mostar, Tuzla, the District of Brčko, Bijeljina, Travnik, Bihać, Tešanj, etc.

On the other hand, they are less developed in smaller centres, such as Foča, Goražde, Bihać, Trebinje, etc. Smaller, undeveloped municipal centres have less developed tertiary activities, primarily commerce, insufficient needs for crafts and catering services, as well as fewer apartment houses in the public sector etc. Thus they have fewer employed people and, in general, poorly developed tertiary activities. A huge domestic administrative apparatus and insufficient investment of foreign capital in Bosnia and Herzegovina is an additional problem, which needs to be solved as soon as possible, because the European Union is expanding faster than expected. Our neighbours will, naturally, know how to use this, and thus the European Union will become our first neighbour, but with a closed door until the situation improves in order to comply with the European principles and economic and other standards.

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INFLUENCE OF TERTIARY ACTIVITIES ON THE TRANSFORMATION OF RURAL SETTLEMENTS IN BOSNIA AND HERZEGOVINA

Summary

The new rural development of the settlements in Bosnia and Herzegovina is connected together with other smaller towns into an interacted urban system, in which each of them provides services and products for its surrounding, the attached region and its hinterland. This is followed by the emergence of specialised shops (bank services, legal services, large market, diverse manpower, extensive public services, car show rooms, computer equipment, furniture shops and alike). The strong pressure of foreign and local investors leads to poor quality construction and illegal construction of buildings in the rural settlements, which are expanding along the traffic routes. The development of the countryside depends to a large degree on decentralized development of rural regions. Today, tertiary activities are developing on locations that have already been marked by pre-war industrialization. They are expanding to a large degree and occupy new areas in rural settlements.

At the end of 1991, the closure of industrial firms and the firing of workers occurred in Bosnia and Herzegovina. Due to gradual restructuring from the planned to the market economy, the economy of Bosnia and Herzegovina has been suffering in the last few years from the anticipated problems: decrease in volume of production, deteriorated export routes, increase in unemployment, and rapid and still insufficiently determined processes of privatisation and development of new tertiary activities in rural settlements.

Among the cities of Bosnia and Herzegovina, Sarajevo has the highest participation in tertiary activities with around 65% of total employment. This is expected because the tertiary activities are well developed in the capital which is also and the administrative, economic, educational, scientific and cultural centre of the country. At the same time, some sections of the country remain on periphery, poorly or insufficiently captured by general development of new tertiary activities. Tertiary activities are generally more developed in larger municipalities of Bosnia and Herzegovina. The consequence of such development is not only unequal structure of these activities in rural settlements, but also their territorial distribution.

Today, in Bosnia and Herzegovina, there is a bigger share of employed people in housing and public services of more developed municipal centres. In smaller and undeveloped municipal centres the situation is the opposite. A huge domestic administrative apparatus and insufficient investment of foreign capital in Bosnia and Herzegovina is an additional problem, which needs to be solved as soon as possible. In conditions of economic and socio-economic development, traffic developed intensely and increased to a great extent due to increased needs for transportation of workers, raw materials and final products, needs which were dictated by developed cooperative relations, needs imposed by education, administration, health, commercial, tourist, crafts and other services. Highway traffic of Bosnia and Herzegovina differs from that in the neighbouring countries. There are big differences between the branches recovering from war damages more rapidly and those that are still non-functional. Despite the difficulties and the bad inherited structure, highway traffic has been expanding quickly, whereas the railway transportation is still not expanding and is run with a very little capacity. The road network in Bosnia and Herzegovina, including the capital Sarajevo, is one of the worst in Europe.

NEOENDOGENOUS IN- AND OUTPUT OF SELECTED RURAL AREAS: THE CASE OF ECONOMIC CYCLES IN SLOVENIA

Irma Potočnik Slavič
Ph.D., Assistant
Department of Geography
Faculty of Arts
University of Ljubljana
Aškerčeva 2, SI–1000 Ljubljana, Slovenia
e-mail: irma.potocnik@ff.uni-lj.si

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Abstract

Neoendogenous In- and Output of Selected Rural Areas: the Case of Economic Cycles in Slovenia

The article focuses on neoendogenous rural development that enables development of endogenous potentials of rural areas (human, social, economic, environmental etc. as development resources of the local territorial level) and external resources (i.e. RD programmes on national and EU level). Four Slovenian case study areas were chosen to test the existence, functioning and outcomes of economic cycles. The survey was undertaken on the smallest spatial-social unit (household), additionally existing voluntary local network (associations) and locally and widely connected economic structures (entrepreneurship) were observed. The research partly confirmed that the activation of endogenous potentials of rural areas is evident through the empowerment of (regional) economic cycles.

Key words

rural areas, neoendogenous rural development, development potentials, economic cycles, Slovenia.

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1. Introduction

The form and focus of rural development policies have shifted over the past decades. In most cases, the main emphasis of different approaches to rural areas regeneration is no longer on attracting external investment, but rather on enhancing and exploiting local endogenous resources - also known as endogenous development (Woods 2005, 149). Two interrelated notions are central to the concept of endogenous development. These are local resources and local control. The endogeneity of rural economies refers to the degree in which local and rural economies are:

∞ Built on local resources (Note: We regard the concept of resource as a relative one. To be considered as a resource, something has to be recognized by someone as potentially useful and able to fulfil his/her objectives.).
∞ Organized according to local models of resource combination (which also implies local control over the use of these resources).
∞ Strengthened through the distribution and reinvestment of the produced wealth within the local or regional constellation (van der Poleg and Marsden 2008, 53).

However, endogenous rural development is not a panacea for all rural ills. Not all rural localities are equally able to regenerate themselves through the enhancement of their endogenous resources, and not all rural communities are equally equipped to compete successfully for external funding and support (Woods 2005, 158). The principles of the new rural governance suggest that responsibility for shaping the future of rural areas has been shifted from the state to communities themselves. For many communities this shift has been empowering, but, as Herbert-Cheshire (2000, quoted in Woods 2005, 171) notes, communities "could not be (unfairly) held responsible for any failure to improve their own conditions because they were regarded as deficient in entrepreneurial skills because they were reluctant to self-change".

Contemporary Slovene rural areas are a very heterogeneous, dynamic and complex, multifunctional, fluid, hybrid and globalize space, not a definite and closed category, and not geographically limited. They do not have their own problems. Therefore, Slovene rural areas require small-scale in-sight research which will try to explain their restructuring and help develop sustainable rural governance of their endogenous potentials.

1.1 Terminology

Relevant literature usually employs terms such as »bottom-up approach, indigenous approach, participative approach, grass-roots approach, mixed exogenous-endogenous development approach, integrated rural development or territorial approach« to embrace the idea of endogenous development (Table 1). On the other side Ray (2006, 278-291) applies the term neoendogenous rural development:

∞ The endogenous part refers to the animation of development along bottom-up approach that is when the search for development resources and mechanisms focuses on the local territorial level.
∞ The »neo« part identifies the roles played by various manifestations of the extra local (for example actors in the politico-administrative system in EU and other localities); extra locals are potentially recruitable by localities in support of their regeneration strategies (Ray 2006, 279).

The neoendogenous approach is based on the idea that socio-economic well-being (of the presently disadvantaged rural economy) can best be brought about by restructuring public intervention away from individual sectors in favour of a mosaic of local/regional territories. It is an alternative to the practice of central authorities and of designing interventions which deal with sectors of social and economic life in isolation from each other and/or which assumes that socio-economic problems can be solved by standard measures, regardless of location or culture. According to this viewpoint, vulnerable or less-economically developed territories need to resign themselves to being victims of broad, exogenous, political and economic forces; potentially, localities can effect change in their favour. Central to the approach is that a local area has, or must acquire the capacity to assume some responsibility for bringing about its own socio-economic development.

Tab. 1: Selected Features of Neoendogenous Development Approach.

NEOENDOGENOUS DEVELOPMENT	New approach for sustainable rural development in economically developed countries in 21st century.
Synonyms	- bottom-up approach, also indigenous approach - participative approach - grass-roots approach - mixed exogenous-endogenous development approach - integrated rural development - territorial approach
Time frame	- first origins in late 1970s and early 1980s - limited scale in 1980s and 1990s (objective 5b, LEADER) - starting point of EU development policies
Basic values/imperatives	- heterogeneity - sustainable development - regional solidarity
Objectives	- local economy re-vitalisation - local (rural) community revival - activation, re-evaluation and sustainable use of local endogenous potentials of rural areas - new rural governance/decentralization of management - regional disparities diminishing
Conditions	- intensive interaction among actors, local population and authorities - information flow - equilibrium between inner and outer elements of endogenous development - motivated local actors and developed participation approach - active networks
Effects (expected)	- tangible (less), intangible (especially on sociocultural field) - new evaluation and use of various local resources (material and human) - local capacity empowerment, local identity - strengthening of local initiatives - public interventions restructuring - infrastructure development - strengthening of economic diversity - responsibility for actions among local population - formation of development of public-private partnerships
Special features	- adoption of dynamics and orientation of development process to the expectations of local population and cultural features of the area, respecting local values - benefits returned into local environment - respecting the concept of heterogeneity

Critiques	- danger of development disparities increase between rural areas due to unequal capacities - huge responsibility for local communities - neoclassical economic policy (public interference seen as protectionism)
Examples	- Swiss Alps, Austria, Tuscany, Emilia Romania, Upper Franconia, Bavaria etc. - LEADER (various examples from EU member states)

In terms of rural development, the neoendogenous approach has two other primary characteristics:

∞ First, economic and other development activity is reoriented to maximize the retention of benefits within the local territory by valorising and exploiting local resources;

∞ Second, development is contextualized by focusing on needs, capacities and perspectives of local people.

This means that this approach offers the prospect of local areas assuming greater influence over their futures by reorienting development around local resources and by setting up structures to sustain the local development momentum following an initial official intervention (Ray 2006, 278-279).

1.2 Methodology

The regional policy for rural areas introduced bottom-up concepts in 1970s, strategies and measures of regional policy for rural areas in 1980s, and in 1990s the »promotion of regional economic cycles with intensification of intraregional good flows and order exchanges. The other executive step was the LEADER approach after 2000, with »building up and protecting regional economic cycles with products from fields such as landscape conservation and ecological cultivation, supporting pilot projects for marketing of local products from rural areas close by agglomeration areas, etc. (Maier 2001).

In the economic theory, the term "economic cycles" is described as a representation of economic relationships (production, processing, consumption, recycling) between aggregated units – private households, enterprises, state and foreign country/ies, and is seen as a result of division of labour (Fig. 1). But in reality these product and capital flows between economic units are not, as described, closed, but open to their environment. At present, we can argue that local/regional economies do not enhance enough local/regional resources (energy, raw materials) nor are the processing capacities used sufficiently. Nowadays practiced economic cycles are more oriented outwards than inwards also at the end of the production process (waste disposal). The region itself is also not involved enough and in a proper way from the sustainable development perspective. The actual situation is characterized by the production of raw material and energy from outside, small scale processing and marketing of intermediate products in the region, and an export of final products. At the same time intermediate and final products, which could mostly be produced in the region, are imported.

There are long-lasting disputes over this theory, especially by neoclassical economists, but contemporary EU rural development policy has been encouraging them for the last twenty years, with special emphasis in the period 2007-2013. The strengthening of the (regional) economic cycles aims at reducing the raw materials

demand and waste volume at the end of the consummation process, it is headed towards covering of regional demand and strengthening of regional identity, a larger focus is on the local added value, as they are based on regional co-operation and activation of regional production-, marketing-, processing possibilities.

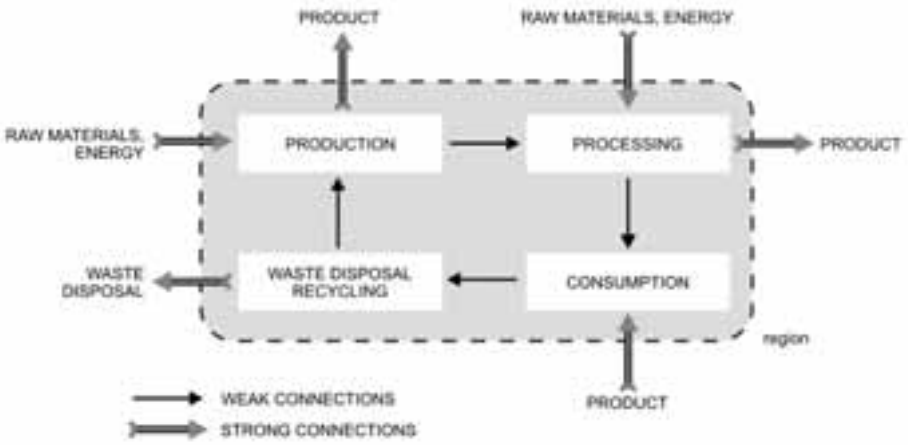

Fig. 1: Schematic model of today's economic cycles.

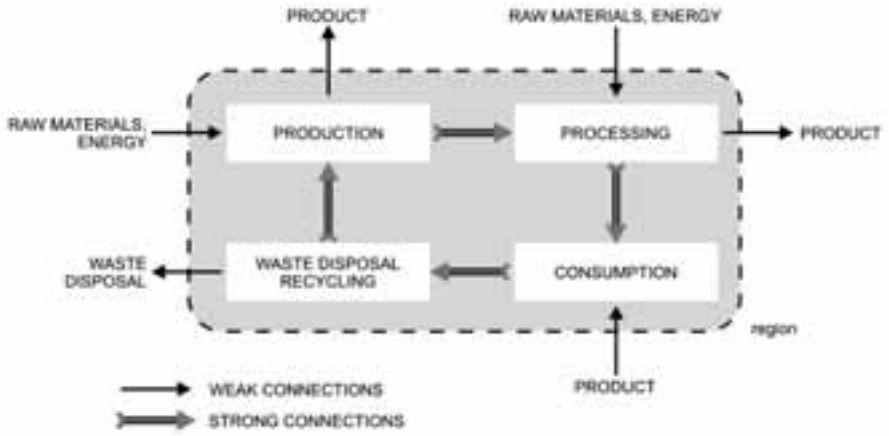

Fig. 2: Strengthening of inner-economic relationships of the future economic cycles.

Regional economic cycles support the reduction of transport costs, include the developments inside the region, have positive impacts on local labour market; this

kind of economy creates more transparent production circle and closer participation of social groups as well (Maier 2001). The targeted situation is characterized (and seen by the ideal model in Fig. 2) by clear strengthening of the economic relationships inside the region

The fundamental criticism emerges mostly from the neoclassical economic theory/policy, whose advocates identifies the supporting of regional concepts as an intervention in the market regulations and strictly rejects it as a "protective" measure. But since the shift in rural development policy, where the endogenous development approach has received support from both rural development professionals and neo-liberal politicians seeking to restructure the state, there has been "a green light for the implementation of this type of projects".

How can we argument this by empirical research? There are some individual studies of local initiatives - for example PRIDE study of local partnerships or LEADER projects evaluation. Some empirical examples are to be found in the studies of Spehl (1994) on wood industry in Rheinland-Pfalz in Germany, and production of beef (Maier 2001). An excellent survey (Bätzing et al. 1999) was performed in the Bavarian district Neumarkt in the fields of market potential, regional self-supplying and regional in-out put relationships between different agricultural and commercial products (milk, dairy products, and beef). Our article will focus on analysis of (regional) economic cycles with examples from four different Slovenian rural areas.

2. Case study areas

We have deliberately chosen different types of rural areas that are mostly considered as border or peripheral (Fig. 3):

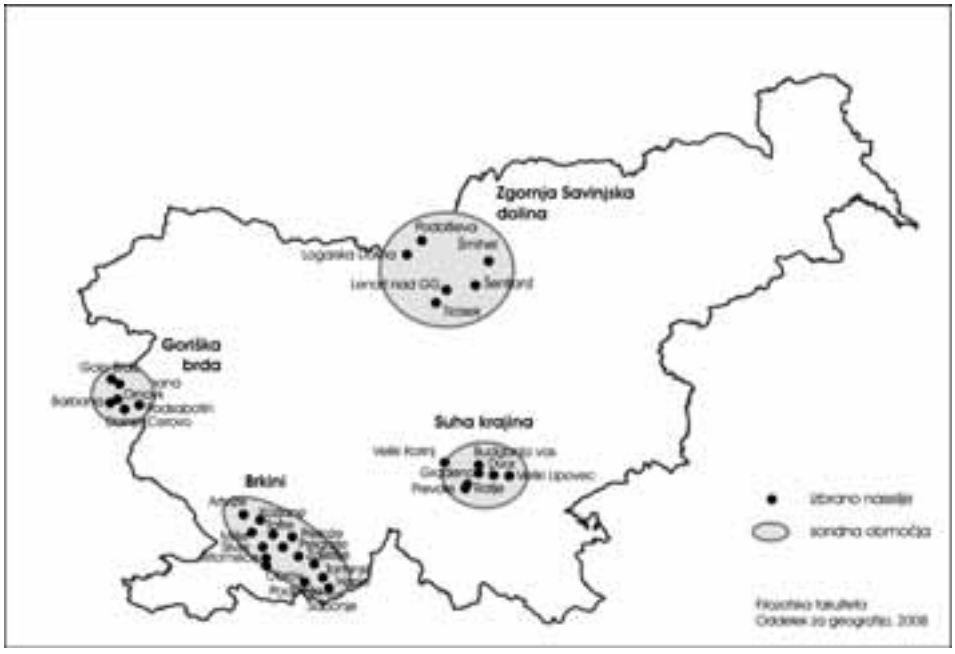

Fig. 3: Selected Case Study Areas.

∞ A typical border rural area (in political as well as climatological and cultural sense) is the hilly area of Goriška Brda, up to 250 metres high, a winegrowing region next to Italy with approx. 5,800 inhabitants joined in a small municipality and with an extraterritorial road connecting it to Slovenia, but with a very pronounced local identity and strong attachment to land.
∞ Brkini, a hilly area up to 800 metres high, not suitable for winegrowing, but with excellent conditions for fruit growing, for centuries being the hinterland of Trieste port. After the London memorandum in 1950s, the area was cut-off from the core region and started to be more and more peripheral and marginal.
∞ The Suha Krajina region with karst features and the Krka River Valley as a dominant economic axis was high-tech region in the 19th century. It was deprived of railway and highway connection, as the invasive industrialisation of mid 20th century avoided the area due to political reasons and put economically active population in a daily commuting relation.
∞ The Upper Savinja Valley (Zgornja Savinjska dolina in Slovene language), a typical Alpine valley with upper part being peripheral from transport view, is an amenity based area of 7 municipalities: tourism in a unique Alpine region and 95% of the area covered by forest represent the economic base of the region. Regarding Slovenian circumstances, it is usually labelled as a fertility island; however the inhabitants are proud of their local identity.

3. Former and contemporary wood-processing in the Upper Savinja valley

Rare literature on economic cycles proposes wood industry as suitable for this kind of research. We managed to indicate two development periods: one before 1989 (Fig. 4) and the second reflecting the present situation. Before 1989, wood was a common property, and after WW2 (established in 1953) specific firms were established - like Wood Management Company in Nazarje that was responsible for concentrated primary and secondary large scale wood-processing: huge saw mill, furniture industry, and other products. Also smaller firms for wood- processing were established: wooden cottages, two saw mills, industrial wood for the mine in Velenje, a few smaller craftsmen. More than 70% of the raw material, cut in the area, was processed inside the region. Other products were directed mostly to Yugoslavian market and export. The forest that was managed by the mentioned company (16.5 ha) was nationalised from private owners and the Ljubljana Archdiocese. The firm took care of cut-off planning, reforestation, marketing and sale, but also for forest infrastructure. The employees were also included in public infrastructure set-up (road, telephone, electricity in this area with dispersed settlement). The forest represented regular employment and income source mostly for the men in the region, but was also important in a wider sense. It had 380 (up to 500) employees, mostly local population, so it had besides economic and ecosystem also exposed social and development function. The development of transport activities was connected with wood – mostly men from farms would consider that as important, suitable source of income which helped with farm modernization and gave the very first entrepreneurship experience to the locals.

In the year 1989, the moratorium on wood-cutting in state owned forests was implemented; it caused disturbances in wood industry supply. Huge problems appeared, such as new market economy, primary sector crisis, denationalization, financial receivables, over dimensioned wood-processing industry, and it was hard to adapt to new circumstances. The polygon for the mentioned firm declined to only 300-500 ha, also the number of employees declined (to 50 before liquidation in

2008). Nowadays, the wood-supply market is dispersed, the same as purchase and processing: 30 bigger purchasers, there is no opportunity for stronger wood centre set-up, which would be capable to compete on the EU market. This valley is now more fragile and can be easily grabbed by better organized, capitally rich and adaptable systems (especially Austrian wood-system). Private owners consider the forest as a reserve for rainy days. Official services nowadays play rather an administrative role; the supervision service does not operate efficiently. Small and big forest owners and church authorities are cutting down the wood. Raw material is now exported to Austria, some to Bosnia and Slovenia. We are faced with shortage regarding final wood-processing in the Upper Savinja Valley.

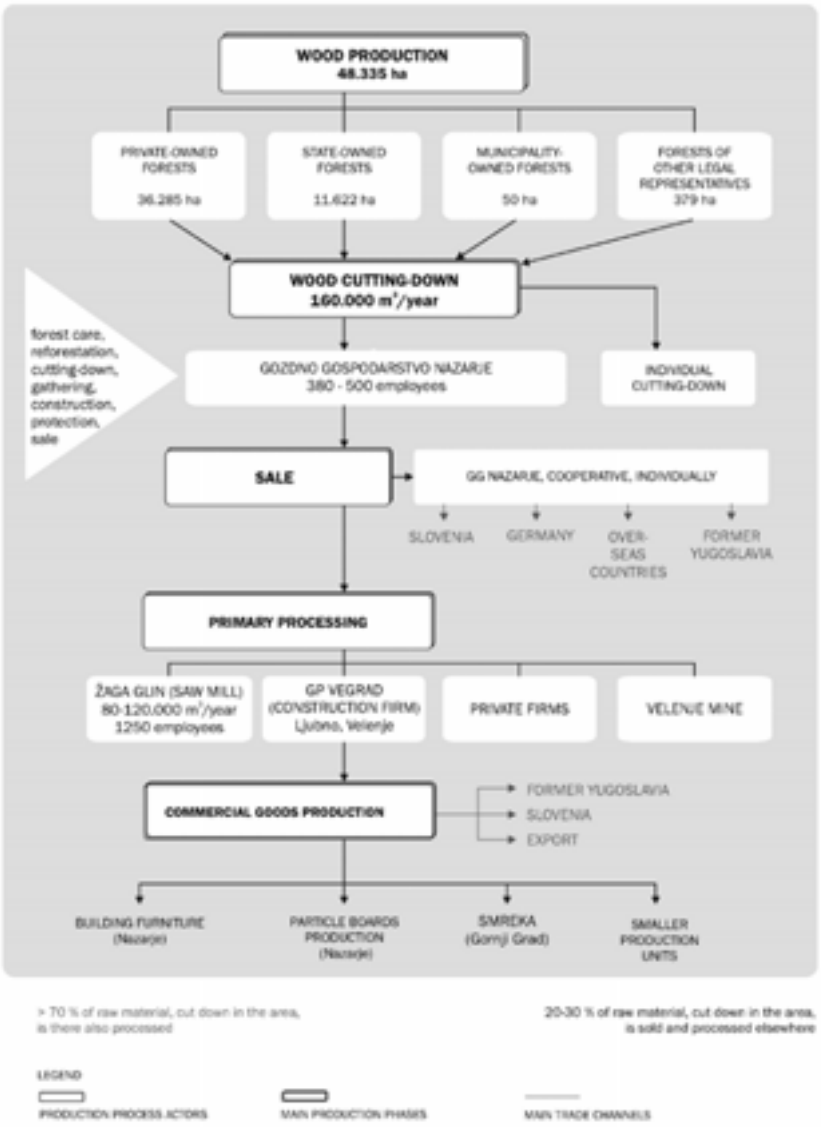

Fig. 4: Wood-Processing in Upper Savinja Valley before 1989.

The wood of the Upper Savinja Valley is evaluated as of extremely high quality because of long-term sustainable wood development, but this competitive advantage can be easily erased. Former employees found jobs in domestic appliances firms, but are not used to in-door jobs. There has been also a wood auction as an innovative market channel, but traditional market channels prevail. The use of biomass is quite popular for public heating in some municipalities, but dispersed settlements prevail – so smaller and more innovative systems should be introduced. We consider contemporary wood potential exploitation as regressive in comparison to the former one.

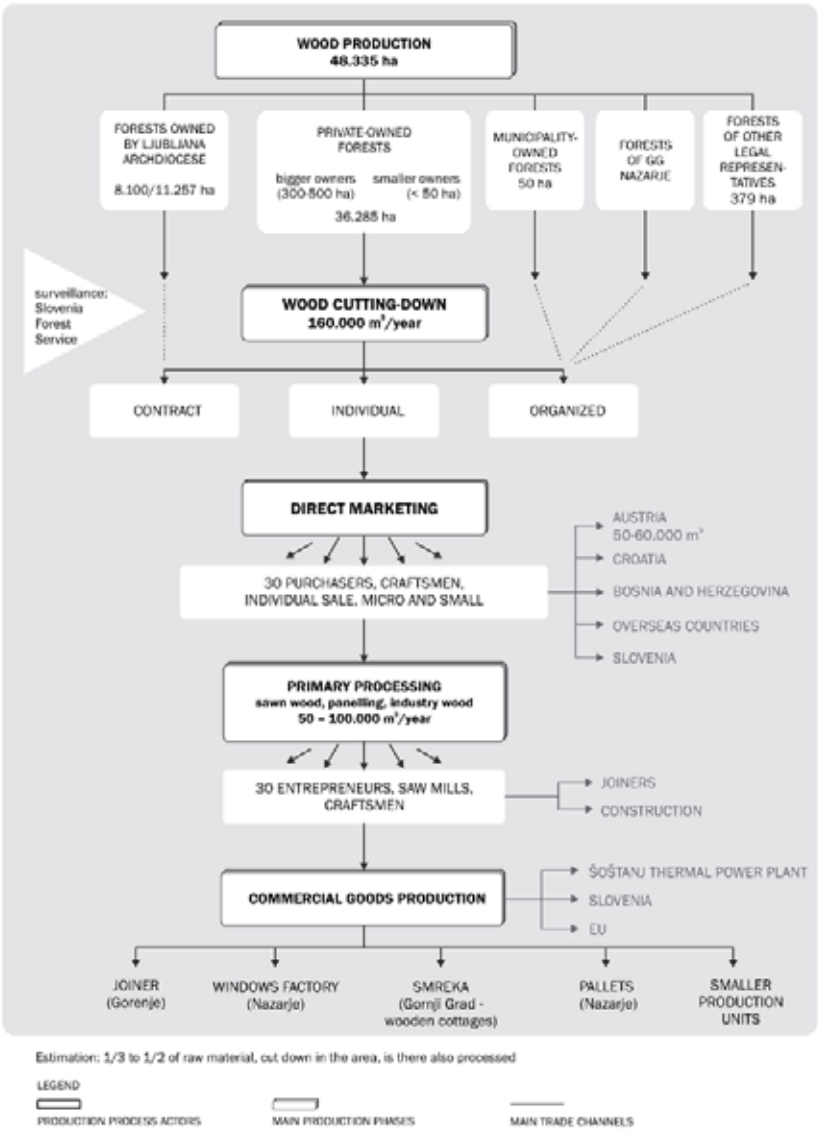

Fig. 5: Contemporary Wood-Processing in the Upper Savinja Valley.

4. Goriška Brda: specialization in wine-production

There are approx. 2,000 ha of vineyards in Goriška Brda, 1,400 ha are private owned with 700 owners as co-operants of wine co-operative Goriška Brda, established in 1957 (Fig. 6). Co-operants usually own 2 ha of vineyards (considered as »very big« for Slovenian circumstances), the biggest one measures 20 ha. An average co-operant is a part-time farmer, besides a regular job he is dealing with wine- and fruit growing and olive trees. The former monostructural directions were unsuccessful; nowadays polystructural orientation and specialization prevail. 600 ha of vineyards are private owned (approx. 100 farmers), bigger with 10-15 ha.

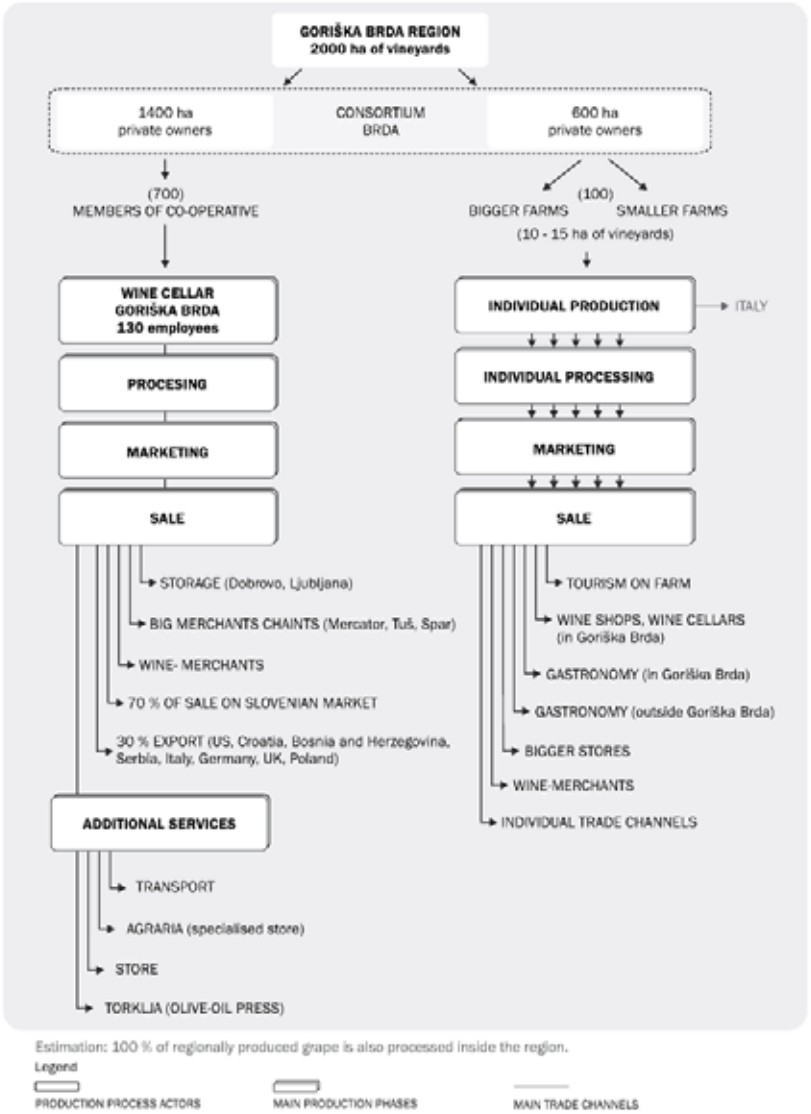

Fig. 6: Organization of Wine Production in Goriška Brda.

Individuals had more land at the time when the specific semi-feudal system decay occurred in the 1950s; they got more land in the period of agrarian reform. More successful and known are those with entrepreneurial experiences from the beginning of the 1990s: using the national subsidies they decided for a change - they changed the prevailed fruit growing for high-quality vinery, mostly individually owned, with individual procession, filling, labelling, marketing and selling. Those, whose small patches of land did not enable them an individual path, have decided for a co-operative: they pay regular contribution, they regularly deliver grape and are registered under common trade mark. The wine cellar processes only the grape that is produced inside the Slovenian part of the region Brda/Italian Collio (one third of the region is in Italy). Nowadays, they sell 70% of their wines in Slovenia, they export 30% (the biggest Slovenian wine exporter): to the USA, the former Yugoslavia, Italy, Germany, UK, Poland and Israel. The trade channels: their own store in Goriška Brda (next to the wine cellar), big stores in Ljubljana, hypermarkets (Mercator, Tuš, Spar) and wine merchants. The 130 co-operative employees are locals (40 work in cellar), they practice also transport activities, specialised store and sales experts on the field. Innovative ideas came from Italy. Nowadays the producers from Italy are keen to buy grape on the Slovenian side due to higher quality.

100% processing of grape inside the region, existing trade channels, positive regional image, high quality products, local identity, innovation implementation, co-existence of wine- with fruit growing and tourism on farm and local gastronomy are part of transparent and good-functioning territorial/regional economic cycle with huge potentials (spa formation, hotels in renovated castles, casino approved by locals etc.).

5. Suha Krajina: artificial formation of rural periphery

The area was deprived of beneficial development impulses after WW2 and fell into semi-colonial relationship. Small local firms were established in 1950s (wood-processing), 1960 (metal industry) and 1970s (textile industry), which tried to stop active population out-migration. As in the past, the labour force is today still strongly attached to daily commuting towards the central part of Slovenia as well as towards other regional/local employment centres. The small business area in Žužemberk is a successor of the former dislocated industry; there are no bigger employment firms in Suha Krajina. The majority of entrepreneurs are concentrated in the area of the Krka Valley, which is at the same time also a main transport and demographic axis. We consider entrepreneurship development as positive from mid 1990s, although it started a bit late! But the entrepreneurs are focusing on the local market; firms are micro or small scale, also limited in capital. Out-migration lasted for decades, with huge effects on cultural landscape: intensive forest overgrowing. Wine-growing is self-sufficient and contributes to landscape attractiveness. It is also an element that attracts the return-migration of elderly people, but also an important element of tourism image. The empowerment of specific elements is needed: local population activation, the set-up of infrastructure, high quality products promotion, strengthening of local identity.

6. Cellular capacities for endogenous potentials activation

250 years of integral dependency on the port of Trieste, partly and later also on the port of Rijeka (Croatia), when the area produced numerous food- and wood

products for nearly 220,000 inhabitants of Trieste, being also the area of labour force origin, shows that this type of mechanisms have their date of expiry which can easily be cut-off due to political reasons and have unexpected huge and fatal impacts on landscape – it has not recovered after a few decades of local re-vitalisation and state support. A fundamental role of extra locals is needed here: reanimation of eroded human capital, modern revitalisation of traditional sustainable economic activities (cheese and wood products), which might in long-term animates local identity, contribute to better image of the area which could be observed through new job opportunities and return migration.

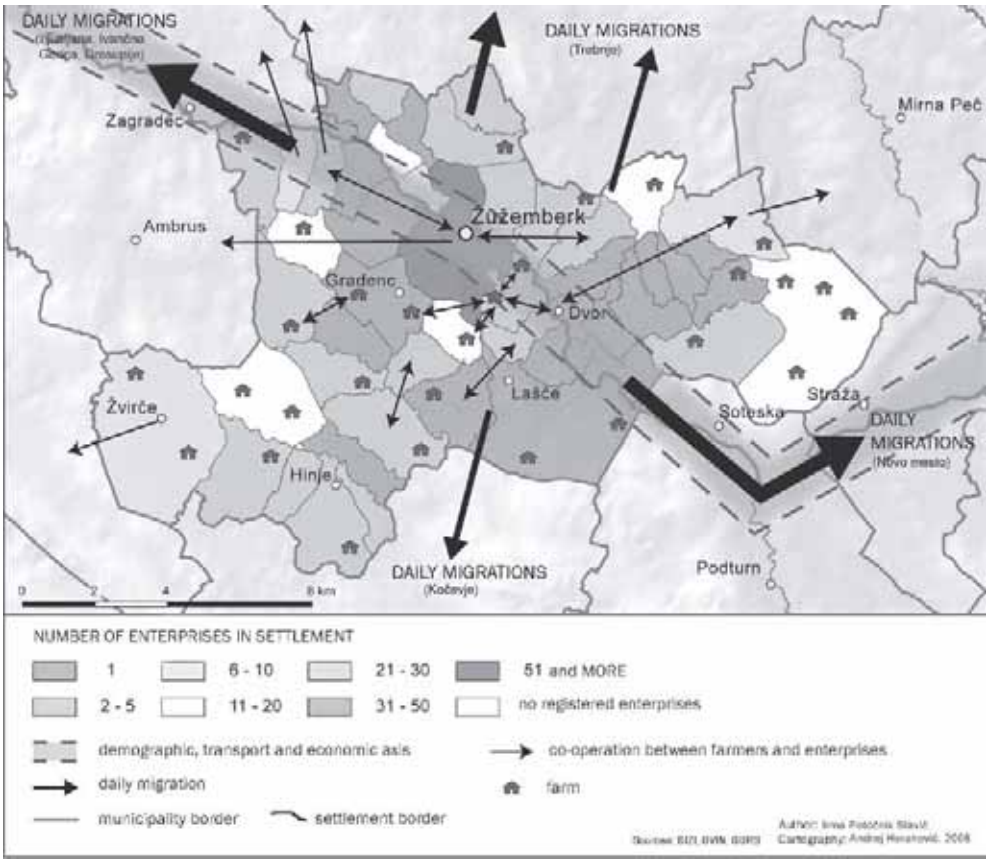

Fig. 7: Entrepreneurship Set-up in Suha Krajina.

7. Conclusion

Positive development impulses are to be seen through the activation of economic cycle in the Goriška Brda region (wine production); a kind of stagnation is evident in the Upper Savinja Valley region (wood-processing). Due to long-term attachment to outside economic cycles, the situation is slowly improving (the Suha Krajina region), or their factors, actors and potentials are so weakened (although they were very strong in the past) that nowadays they do not appear in a recognized form (the Brkini region). There are also rural areas which activate and empower their development potentials, but are not involved in economic cycles for various reasons

(e. g. tiny product quantities, limited recognisability, fear of fast changes on the world market and awareness of the fragility of rural areas etc.). Slovene rural areas constitute enormous endogenous development potentials that should be developed by neoendogenous development approach, enabling its sustainable use, but also demand the appropriate restructuring of national/regional/local institutions, local population activation and responsible acting of all stakeholders.

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NEOENDOGENOUS IN- AND OUTPUT OF SELECTED RURAL AREAS: THE CASE OF ECONOMIC CYCLES IN SLOVENIA

Summary

Rural development territories have multiple functions: they are units in which government, European and NGO policies are implemented; they are geographical clusters of potential collective strategic activities; many are the domain of new organizations (for example local action groups) which function as interlocutors between locality and its politico-economic environment; and they provide rationales for reviving or inventing local cultural identity (Rye 2006). The notion of pure endogenous development in which change is animated solely by local actors independent of assistance from external agents is useful but only as a heuristic device. The theorization of rural development should go beyond endogenous and exogenous models by focusing analysis onto the dynamic interactions between local areas, their component actors and political, economic and natural environments in which they unavoidably exist. Neoendogenous development retains a bottom-up core in that local territories and actors are understood as having the potential for (mediated) agency, yet understands that extralocal factors, inevitably and crucially, impact on – and are exploitable by – the local level (Rye 2006). Neoendogenous development is, essentially, a manifestation of the contemporary fashion in what is fast becoming mainstream European politics.

We partly confirmed that the activation of endogenous potentials (economic, human, social, cultural, environmental and organizational) of rural areas is evident through the empowerment of regional economic cycles. Their activation was surveyed on the smallest spatial-social unit (household), later on with the existing voluntary local network (associations), as also on locally and widely connected economic structures (entrepreneurship). Positive development impulses are to be seen through the activation of regional economic cycles in the Goriška Brda region (wine production); a kind of stagnation is evident in the Upper Savinja Valley region (wood-processing). In both cases, we noticed that local community has network capacity for endogenous potentials activation. Due to long-term attachment to outside economic cycles, the situation is slowly improving (the Suha Krajina region with zone capacity) or their factors, actors and potentials are so weakened (although they were very strong in the past) that nowadays they do not appear in a recognized form (the Brkini region with cellular capacity of endogenous potentials activation). There are also rural areas which activate and empower their development potentials, but are not involved in regional economic cycles for various reasons (e.g. tiny product quantities, limited recognisability, fear of fast changes on the world market and awareness of rural areas fragility etc.).

Our survey pointed out that only a few of the numerous possibilities of regional economic cycles are used and the potential for an increase in regional added value is immense. Maier (2001) states that the most important reason for this is the large-scale structure of the distribution and the trade with extensive up to global function strategies which are rarely integrating regional peculiarities. There is tremendous pressure on rural locales to construct their own unique "niche" to attract development, but at the same time they are caught in the conflict of interests. This contradictory process is full of interesting and provocative lines of research.

Slovene rural areas constitute enormous endogenous development potentials that should be developed by neoendogenous development approach, enabling its

sustainable use, but also demand the appropriate restructuring of national/ regional/local institutions, local population activation and responsible acting of all stakeholders.

Therefore, it has been confirmed again that contemporary Slovene rural areas are at present in the exceptional situation in which the traditional elements (either in anachronistic or in revitalized modern form) are interwoven with the contemporary trends (heterogeneity, fluidity and hybridization). We confirm at the same time that at least part of its heterogenic structure will turn up as a constant also in the future, but in a slightly different form - therefore constructing a basic starting-point for planners of modern rural development policies. If they choose the uniformed approach, they would/could damage, hinder or even destroy the existing activation capacities of (neo)endogenous development potentials; this would be an irreparable damage, as the factors, structure and networks of their activation is usually a long time process.

CONSERVATION OF RICE TERRACES IN JAPAN – ROLES OF THE SAKAORI RICE TERRACE CONSERVATION ASSOCIATION

Koji Kobayashi
Ph.D., Professor
Department of Geography
Faculty of Education
Gifu University
Yanagido 1-1, Gifu-Shi 501-1193, Japan
e-mail: kojik@gifu-u.ac.jp

Chisato Harada
Elementary School Teacher
Iwami Elementary School
Kurokawa-Cho 3738-4, Hamada-Shi 697-0024, Japan
e-mail: mienai-chikara.7.ecshmm@docomo.ne.jp

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Abstract
Conservation of Rice Terraces in Japan - Roles of the Sakaori Rice Terrace Conservation Association
Since the 1960s, many farming fields have been left abandoned in Japan. However, rice terrace conservation activities have been spreading extensively in recent years as many people have reconfirmed the multi-functionality of rice terraces in Japan. This paper introduces rice terraces in the Sakaori District of Gifu Prefecture in Japan, and describes the current state of conservation activities as well as challenges ahead that people will face in preserving rice terraces in Japan. It is shown that the efforts and contributions of the Sakaori Rice Terrace Conservation Association members are the primary driving force for conservation and development of the rice terraces in the Sakaori District. However, it is also noteworthy that the farming workforce supporting the Sakaori Rice Terrace Conservation Association is continually diminishing and that the aging of this workforce is causing serious problems as well.

Keywords
rice terrace (tanada), farming villages, the Sakaori Rice Terrace Conservation Association, rice terrace ownership system

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1. Introduction

1.1 Research Objectives and Methods

The basis of Japan's regional policy in the post-war period has been to redress the gaps between urban and rural areas (central and local areas). Though the income gap between urban and rural areas narrowed during the nation's robust economic growth period from the mid-1960s, the gap between the two started to widen again after the burst of the asset-inflated bubble economy in the 1990s (Okuno 2008, 153-155).

Farming villages in Japan have been left behind in the rapid economic growth in urban areas and remain underdeveloped even now. In such rural areas, local businesses and industries have kept on declining and thus offer fewer job opportunities. Worse still, because of a declining birth rate and a growing population of elderly people, depopulation is posing a great threat to survival of these farming villages. The number of abandoned fields and the amount of fallow land keep on rising, causing the disappearance of many beautiful and idyllic farming landscapes. A number of crucial functions of farming villages are already gone. Multi-functional roles that these villages used to play for local communities and society have also diminished to a considerable degree.

However, in recent years there are some movements aiming to revive farming villages in Japan. When we take a closer look at already-revived farming villages, we come to understand that a lot of local citizens are actively engaged in these movements. They are putting their natural environment and human resources to good use for the conservation of traditional farming villages.

In this paper, the authors introduce rice terrace ("*tanada*" in Japanese) conservation activities as an example of Japanese people's efforts to reinvigorate farming villages. The numerous steep slopes of Japan's traditional rice terraces represent some of the unique aspects of the nation's geography. Since the 1960s, due to the dwindling workforce, many farmed fields were left abandoned. Among other things, farmers gave up tending rice terraces one after another because of poor geographical conditions such as lack of sunshine, distance from villages, plots of land so steep and so small that farmers could not manoeuvre agricultural machines and tools, all in addition to poor harvests. Despite all these disadvantages, rice terrace conservation activities have been spreading extensively in recent years as many people reconfirm the multi-functionality of rice terraces in Japan. Strong public awareness of rice terrace conservation can be attributed to people's ardent efforts to combine preservation of beautiful rice terrace scenery and regional revitalization (Haruyama 2004, 15-29; Nakanishi 2007, 154-155).

In this paper, the authors describe current rice terrace conservation activities in the Sakaori District of Gifu Prefecture, Japan, as well as note the challenges ahead that people would be faced with in preserving them.

A rice terrace is defined as "a small plot of terraced paddy field with an average inclination of one-twentieth or more" (Ministry of Agriculture, Forestry and Fisheries of Japan). As of 2005, rice terraces were found in 54,000 different locations, with a combined total area of 138,000 ha and accounting for 8% of the total paddy fields in Japan.

Rice terraces in the Sakaori District of Gifu Prefecture were selected as one of the "Best 100 Rice Terraces in Japan" in 1999 by the Ministry of Agriculture, Forestry and Fisheries (Nakajima 2004, 69-74) (Note: The Ministry of Agriculture, Forestry and Fisheries of Japan selected rice terraces in 134 regions to be the "Best 100 Rice Terraces in Japan" with the aim of making them popular tourist destinations).

The terraces in this district have been well preserved and developed for years by the members of the Ena City Sakaori Rice Terraces Conservation Association (hereinafter called, "Sakaori Rice Terrace Conservation Association"). The Sakaori District is located near the centre of Japan in the southeast of Gifu Prefecture. Its terraces lie on both sides of a small valley at the foot of a mountain, at an altitude of 500 to 600 meters above sea level (Fig. 1).

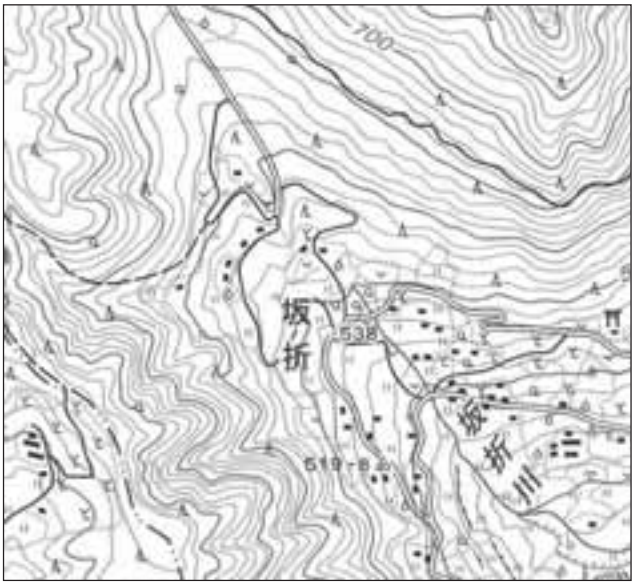

Fig. 1: Research Area (Sakaori).
Source: Topographical Map (1:25,000).

Our research on these rice terraces was carried out by interviewing some members of the Sakaori Rice Terrace Conservation Association and the officials of the Ena Municipal Government and by making direct observations of the present state of land use and of rice terrace scenery in the Sakaori District.

1.2 Outline and Characteristics of the Sakaori Rice Terraces

As of 2008, the area of the Sakaori rice terraces was 14.2 ha, the number of rice terraces was 360, and the average area per rice terrace was 3.8 a. The number of farm households owning rice terraces was 35, but 11 farm households had already moved out and their rice terraces were leased to other farmers. This means that only 24 farm households are tending their rice terraces today.

The Sakaori rice terraces have four main features:
∞ The walls supporting the terraces are made of stacked rocks and stones.
∞ The terrace slopes are steep; the slope angle varying from 1/4-1/7 (Fig. 2).

∞ Cold water from nearby streams or springs is used for irrigation. For this purpose, water channels like the Ato Channel and the Shimizu Channel were built decades ago. Fig. 3 shows cold water coming from the nearby streams or springs via the Shimizu Channel.

∞ In 2000, the rice terraces were divided into 4 different zones. Zone 1: Readjusted rice terraces. These terraces have rather large plots of land. Some parts of the stone walls had already disappeared. The area of this zone is 5.8 ha, which accounts for 40.9% of the total area of the Sakaori rice terraces. Zone 2: Traditional rice terraces with repaired farm roads. The area is 3.2 ha, accounting for 22.5% of the total area. Zone 3: Traditional rice terraces with no man-made changes. The area is 4.9 ha, accounting for 34.5% of the total area. Zone 4: Rice terraces already transformed into dry fields producing different agricultural products. The area is 0.3 ha, accounting for 2.1% of the total area.

Fig. 2: A steep slope (1/4 - 1/7).
Source: Ena City

Fig. 3: Nearby streams or spring water are brought through the Shimizu Canal.

The purpose of this zoning is to make the following three goals compatible with one another; to enhance agricultural productivity, to make more effective use of the workforce, and to preserve rice terrace scenery.

2. Activities of the Sakaori Rice Terrace Conservation Association

2.1 Objectives of the Sakaori Rice Terrace Conservation Association

This association was established by the residents of the Sakaori District in 2000. It was later reorganized and renamed the Ena City Sakaori Rice Terrace Conservation Association (henceforth called the Sakaori Rice Terrace Conservation Association) in 2006.

The objectives of the Sakaori Rice Terrace Conservation Association include rice terrace conservation, continuation and development of agriculture as well as creation of a prosperous and lively local community (Article 1 of the Sakaori Rice

Terrace Conservation Association). The number of Association members reached 113 in 2008. They include Sakaori residents as well as people from other prefectures and regions such as Tokyo and Kyoto.

The Organization of the Sakaori Rice Terrace Conservation Association is managed by two groups, a Board and a Planning Committee. The Board is composed of one president, twelve board members and two auditors. The Planning Committee consists of 33 members as of 2009, and it drafts and proposes action programs for the Association. These action programs are finalized and approved at the General Meeting. In short, these two meetings determine various programs and put them into action.

2.2 Main Activities of the Sakaori Rice Terrace Conservation Association

The main activities of the Sakaori Rice Terrace Conservation Association fall into five main areas:

∞ Conservation of rice terraces: This includes a masonry workshop, a rice terrace biotope, a rice terrace experience program, recovery of abandoned fields, and a rice terrace newsletter issued 4 times per year.

∞ Human exchanges between urban and rural areas: This includes a rice terrace ownership system, a rice terrace music concert, a rice terrace photo competition, and creation of rice terrace calendars.

∞ Development and sale of rice and rice wine as Sakaori brand items.

∞ Cultural inheritance activities: This includes education of volunteer persons, enabling them to pass on for future generations the great achievements made by people of the past.

∞ Participation in the Japan Rice Terrace Summit meeting every year.

(Note: A Japan Rice Terrace Summit was held for the first time in 1995 in order to promote networking between local residents, municipalities with rice terraces, organizations and individuals engaged in rice terrace conservation and to support their activities. Since 1994, the Japan Rice Terrace Summit meeting has been held regularly. It was hosted by the Sakaori District in 2002.)

3. Uniqueness of activities of the Sakaori Rice Terrace Conservation Association

In this chapter, some of the unique activities of the Sakaori Rice Terrace Conservation Association are described in detail. These are: rice terrace ownership system, rice terrace photo competition, creation of rice terrace calendar, masonry workshop and rice terrace experience program.

3.1 Rice Terrace Ownership System

The rice terrace ownership system brings together two types of participants, owners of rice terraces and those who lease some paddy fields from the owners. The leasers are mainly urban residents, who can then engage in various agricultural activities. Through this system, both urban residents and local people can jointly promote conservation of rice terraces and mutually exchange their ideas and experiences. The leasing fee is 30,000 Yen (about 230 Euros) per acre per year.

Agricultural activities range from rice planting, weeding, and harvesting to joining

harvest festivals. These events and activities are held four times a year from June to October. Special gifts are given to the leasers, including 30 kg of rice and other agricultural products harvested from the Sakaori Rice Terraces. The number of participants in 2008 was 102.

Fig. 4 shows the age structure of the participants in 2008. While younger persons in their 20s and 30s account for almost 50% of all the participants, a large number of senior citizens in their 70s and 80s are also participating. The level of satisfaction of the participants in the rice terrace ownership system is high. The percentage of those who feel very satisfied stands at 21%, satisfied 63%, unsatisfied 16% and very unsatisfied 0% (Note: Based on a questionnaire by K. Kobayashi and C. Harada which was carried out in 2008). This indicates that most of the participants are content with the rice terrace ownership system.

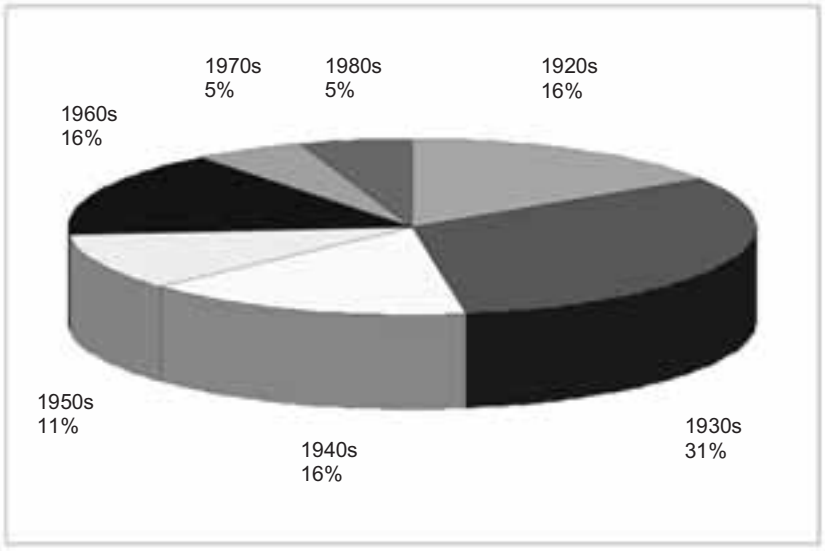

Fig. 4: Age of rice terrace leasers.
Source: Kobayashi, K. / Harada, C. Questionnaire 2008.

3.2 Photo Competition and Rice Terrace Calendar

The Rice Terrace Photo Competition is an annual event. First, a public announcement of competition is made, including the theme, "Four Seasons in Sakaori Rice Terraces." Every entry is screened and the winners are finalized and announced. In 2008, 17 photos were awarded out of 139 entries from 52 people. Prize-winners and their photos were introduced in local newspapers and the Ena City Government webpage. Prize-winning photos were also used for rice terrace calendars.

3.3 Masonry Workshop

Participants in a masonry workshop can acquire traditional masonry skills. They study traditional techniques of masonry under the guidance of skilled masons. Their activities include conducting inspections and recording the current state of the stone walls, removing damaged or collapsed stone walls, and building new walls with

stones and rocks. Masonry workshops are held for two days in November. The number of participants is 20 to 30, and those who have completed this workshop are given the "Certificate of Masonry Engineer".

3.4 Rice Terrace Experience Program

The rice terrace experience program gives local senior high school and elementary school students a great opportunity to experience various agricultural activities such as rice planting, weeding of stone walls, cleaning up roads, etc. The number of participants is about 80; 40 senior high school students and 40 elementary school students. Senior high school students participate in this program in June and elementary school students in May and September (Fig. 5, Fig. 6).

Fig. 5, Fig. 6: Rice Terrace Experience Program (elementary school children).
Source: Ena City

Tab. 1: Main Activities of the Sakaori Rice Terrace Conservation Association.

Main activities	2003	2004	2005	2006	2007	2008
Masonry workshop				x	x	x
Rice terrace biotope					x	x
Rice terrace experience programs	x	x	x	x	x	x
Issuing of rice terrace newsletters				x	x	x
Rice terrace ownership system				x	x	x
Rice terrace music concert		x	x	x	x	x
Rice terrace photo competition					x	x
Rice terrace calendars					x	x
Development and sale of Sakaori brand items (rice and rice wine)					x	x
Training of volunteers					x	x
Participation in the "Japan Rice Terrace Summit"	x	x	x	x	x	x

Tab. 1 lists the activities of the Sakaori Rice Terrace Conservation Association from 2003 to 2008. Their activities have been gaining impetus since 2006, the year when the Association became the present Sakaori Rice Terrace Conservation Association. Their activities have been strongly supported by many related bodies or organizations (Fig. 7), for instance, by the Rice Terrace Lease System. The Sakaori Rice Terrace Conservation Association leases rice terraces to local residents, companies and NPOs, etc. In return, they work hard for the conservation of rice

terraces. It is hoped that the participants in this system will settle down in Sakaori as farmers in the future.

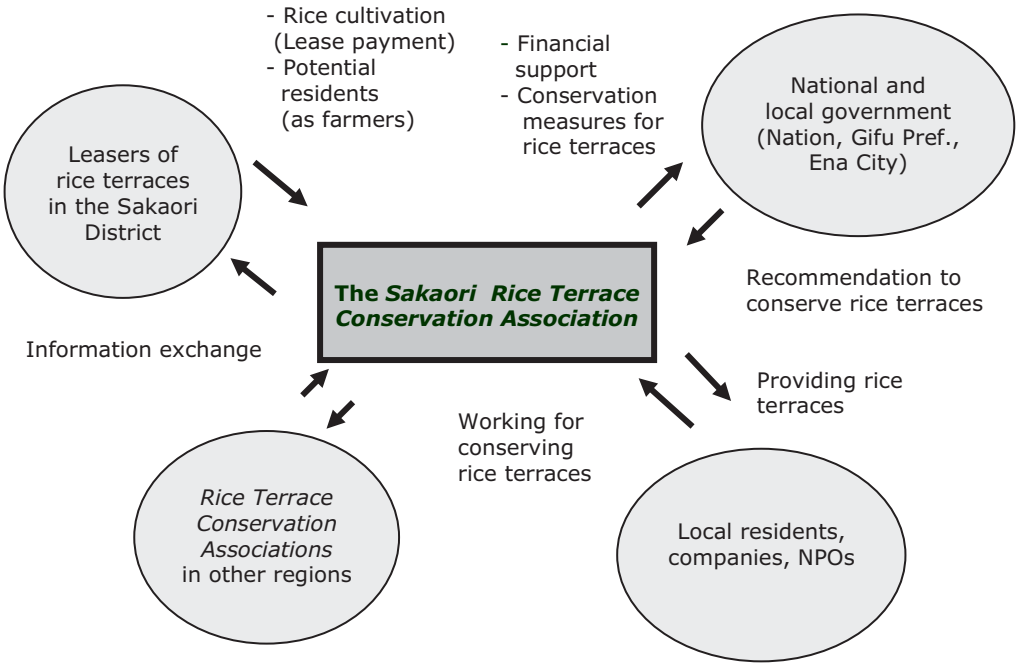

Fig. 7: Relations between the Sakaori Rice Terrace Conservation Association and Related Bodies/Organizations.

4. Characteristics of the Sakaori District Regarding Its Rice Terraces

The Sakaori District displays three main characteristics. First, diverse and unique activities are initiated by the members of the Sakaori Rice Terrace Conservation Association. Second, the workforce in farm households is decreasing and aging.

Tab. 2: Agricultural Labour Force in 24 Farm Households in the Sakaori District.
Source: Kobayashi - Questionnaire 2008.

House-hold	Sex	Age	Working situation	House-hold	Sex	Age	Working situation
1	M	82	Full-time	13	M	80	Full-time
2	M	62	Full-time	14	F	71	Full-time
3	F	76	Full-time	15	M	75	Full-time
4	M	83	Full-time	16	M	72	Full-time
5	M	62	+ Carpenter	17	M	72	Full-time
6	M	83	Full-time	18	M F	81 77	Full-time Full-time
7	M	78	Part-time	19	M	58	Full-time
8	M	72	Full-time	20	F	60	Part-time
9	M	54	Part-time	21	M	60	Part-time
10	M	62	Full-time	22	F	60	Part-time
11	M	68	Full-time	23	M	57	Full-time
12	F	74	Full-time	24	F	75	Full-time

Tab. 2 details the situation in 24 farm households in the Sakaori District. Note that in almost all the farm households, only one person is engaged in agricultural work. Aging in the workforce is also quite serious. Farmers aged 70 years and older account for 60% of the total farm workforce in Sakaori. Third, there are many visible changes in the traditional rice terrace scenery. For instance, some parts of the stone walls have collapsed and disappeared. Fallow land has emerged in many different locations. Rice fields have been replaced with orchards where kiwi fruit and chestnuts are being produced. Many new modern houses are being built whereas traditional farm houses are disappearing. Coniferous trees are increasing in the mountains surrounding the rice terraces. The traditional rice terrace landscape that is paddy fields with rock and stone walls, traditional farm houses and broad-leaf trees on the mountains are now undergoing significant changes in Japan.

5. Conclusion

The members of the Sakaori Rice Terrace Conservation Association have long been engaged in their various activities: preservation of rice terrace scenery, human exchanges between urban and rural areas, development and sale of Sakaori brand items, cultural inheritance activities, etc. These activities have been carried out through continued support and assistance from the central and local governments, local citizens, NPO members, local businesses and industries, landowners of rice terraces, and other rice terrace conservation associations in Japan. Information sharing with related bodies and organizations has been indispensable to the activities of the Sakaori Rice Terrace Conservation Association. It is now shown that the efforts and contributions by the Association members are the main driving force for conservation and development of the Sakaori Rice Terraces.

However, it is important to note that the farming workforce supporting the Sakaori Rice Terrace Conservation Association continues to diminish and that the aging of this workforce is causing serious problems. The Sakaori Rice Terrace Conservation Association, therefore, needs to reinforce its ties with the central and local governments, local citizens, etc., and secure supporters of rice terraces all across Japan, encouraging them to take part in various rice terrace conservation activities.

Japanese traditional rice terrace scenery is comprised of not only rice terraces but also surrounding areas including old stone walls, agricultural roads, farm houses and forests. In short, Japanese rice terrace landscapes should be maintained and preserved as comprehensive, all-inclusive scenery and be handed down intact to future generations.

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CONSERVATION OF RICE TERRACES IN JAPAN - ROLES OF THE SAKAORI RICE TERRACE CONSERVATION ASSOCIATION

Summary

Since the 1960s, due to a dwindling farm workforce in Japan, many farming fields have been left abandoned. Among other things, farmers gave up tending rice terraces one after another due to poor geographical conditions (lack of sunshine, distance from villages, small plots of land with steep inclination, which makes it hard for farmers to maneuver agricultural machines and tools) in addition to poor harvests. Despite all these disadvantages, rice terrace conservation activities have been spreading extensively in recent years as many people reconfirm the multi-functionality of rice terraces in Japan. Strong public awareness of rice terrace conservation could be attributed to people's ardent efforts to combine preservation of beautiful rice terrace scenery and regional revitalization. This thesis introduces rice terraces in the Sakaori District, Gifu Prefecture, Japan, and the current state of conservation activities as well as challenges ahead that people will be faced with in preserving rice terraces in Japan.

This paper details that the efforts and contributions of the members of the Sakaori Rice Terrace Conservation Association are significant major driving force for conservation and development of the Sakaori rice terraces. However, the farming workforce, which is being supported by the Association, is diminishing and aging as well, which are serious problems. The Sakaori Rice Terrace Conservation Association therefore needs to reinforce its ties with the central and local governments, local citizens, members of NPOs, local businesses and industries, landowners of rice terraces, and other rice terrace conservation associations in Japan. The Association also needs to secure supporters of rice terraces across Japan and encourage them to take part in various rice terrace conservation activities.

Japanese traditional rice terrace scenery is comprised of not only rice terraces but also the surrounding areas, including old stone walls, agricultural roads, farming houses and forests. These traditional rice terrace landscapes are going through significant changes these days, but they must be maintained and preserved in their wholeness as comprehensive, all-inclusive scenery for future generations.

NEW CHALLENGES FOR THE ORGANIC FARMERS IN INDIA – TOURISM, SPICES AND HERBS

Ana Firmino
Ph.D., Associate Professor
Department of Geography and Regional Planning
Faculty of Social and Human Sciences
New University of Lisbon
Av. de Berna, 26-C, 1069-061 Lisbon, Portugal
e-mail: am.firmino@fcsh.unl.pt

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Abstract
New Challenges for the Organic Farmers in India – Tourism, Spices and Herbs
Organic Farming can offer the Indian farmers the possibility to get an added value to their products. Those operating in the Ponda region/Goa benefit from an historical background and highly preserved biodiversity that may entitle them in the future for a GIAHS (Globally Important Agricultural Heritage Systems) project which will prevent these scenic landscapes to be destroyed. The spice plantations are a live Natural Sciences and History lesson for everybody and an attraction for the tourists who find here a pleasant environment, rich flora and fauna, rural tourism, ayurvedic medical care and an array of leisure activities in contact with Nature.

Key words
organic farming, spice plantations, sustainable development, rural tourism, India

The editor received the article on 15.1.2010.

1. Introduction

"In essence, the economic signal to organic aid is a policy signal towards a more sustainable economy and society." (O'Riordan and Cobb 2001, 34)

The reputation of organic farming as a sustainable mode of production has been a recurring object of quarrel mainly between those who deeply believe in its capacity to build up an efficient and reliable production system, whose advantages go beyond the environmental, economic and social benefits, contributing as well to a better health and harmony of all the living beings, and those who claim that it would condemn mankind to famine and ecosystems decay. In-between there is an array of others who position themselves in a less endeavoured way!

It is curious but understandable that in a period of deep economic and social crisis organic farming (as a mode of production, even if not certified) has been able to expand and diversify its offer. In my opinion the reason for this apparent incongruity, that contradicts those who assert that organic products are only accessible to rich people, lies on the search for a new paradigm based on a short cycle, i. e. locally produced (less food miles), fresher and healthier (nutritional concerns), less inputs (own compost and plants solutions to spray) which contributes to the reinforcement of the local production structure with less capital and less impact on the environment as well as for the strengthening of the community.

Thus it is not surprising that more and more studies point out the importance of sustainable agricultural systems, namely in the outskirts of the cities (urban agriculture), contributing to food security, poverty alleviation and ecological services.

In the case-study that I will present, the Ponda region in Goa, India, the historical background, biodiversity and sustainable production system of the plantations may also entitle them in the future as a "Globally Important Ingenious Agricultural Heritage System" (GIAHS), a project with the partnership of FAO, GEF, UNDP, UNESCO, CGIAR, ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) IUCN (World Conservation Union), ITC (International Indian Treaty Council) UNU-PLEC (People, Land Management and Ecosystem Conservation), governments, non-governmental organizations and indigenous peoples´ organizations (www.fao.org/landandwater/giahs).

In 2002 FAO started this initiative for the conservation and adaptive management of GIAHS in order to safeguard and support world's agri-cultural systems. It aims "to establish the basis for international recognition, dynamic conservation and adaptive management of Globally Important Agricultural Heritage Systems (GIAHS) and their agricultural biodiversity, knowledge systems, food and livelihood security and cultures throughout the world" (www.fao.org/nr/giahs/en/). The most striking threats to the existence and functioning of GIAHS are namely rapid global technological and socio-economic changes. This explains that GIAHS project envisages the creation of a separate category for World Heritage for agricultural heritage systems.

In the case of the spice plantations in the Ponda Region, they are the live testimony of the importance that spices and herbs had in the past and portray the biodiversity achieved with the dissemination of new species. Correia wrote (2006, 354) that the "Portuguese played an extremely significant role in the exchange of plants between

the Continents, in the resulting effects on their economies, in the development of agriculture and in the change of dietary habits. This can be considered as the most outstanding success in the spectrum of Portuguese achievements because agriculture is the base of a complex socio-cultural life". Furthermore this author refers that "some of these plants have become extremely important to the economies of the territories where they were introduced, so much so that the inhabitants find it difficult to do without them" (idem., 355).

Ferrão also emphasizes the importance of the exchange of plants between continents during the Portuguese Discoveries in the 16th and 17th centuries, as "it has undoubtedly had some of the most marked and long-lasting scientific, technical, economic and social repercussions" (Ferrão 1994, 5) as this case-study illustrates. Goa was particularly important as a platform of adaptation and export of plants, namely spices, to other parts of the world, being many of them now shown to the tourists in the spice plantations.

The goal of this study is to present an example of rural development in Ponda, Goa, and discuss the validity of the multi-functionality implemented in these spice plantations in order to adapt them to the new concepts of tourism, namely rural tourism and nature conservation, combined with ecological services and beauty and wellness care.

2. Methodology

The fieldwork carried out in Goa in the beginning of December 2008, was an added value to get the information near the grassroots but most of all to feel the wholeness. As Bortoft explains "when things are seen in their context, so that intrinsic connections are revealed, then the experience we have is that of understanding. Understanding something is not the same as explaining it, even though these are often confused… The single phenomenon on its own is an abstraction. The aim must be to see the belongings of the phenomena, and so to encounter the phenomena in the mode of wholeness instead of separation. This wholeness, which begins to be experienced through seeing comprehensively, is then recognized as being a higher dimension of the phenomena." (Bortoft 1996, 290–291).

During the fieldwork in the Ponda Region I had the opportunity to make interviews to the managers and/or owners of the 3 largest spice plantations that offer tours to the visitors, participate in these tours and talk to some tourists. It was also important to feel the scents, sounds and emotions, as well as the flavour of the traditional Goan food served in the farms.

The remaining information was collected in the archives of the public library in Panjim, Goa, and in different publications in Portugal, as well as in internet sites.

3. Livelihood in Goa: a touch of history

There is not much information about the first communities that inhabited Goa. Mendes (1997, 142-143) quoting a monk interviewed by him at the Madre de Deus do Pilar Coventry in Goa Velha (on the 29th January 1863) informs that the first inhabitants in Goa constituted families (called *vangôres*) and these were classified according to the services that they supplied to the community. Later on they divided

the territory in provinces (*málos*) and villages (*gáos*). A certain number of families worked together in communities (*gaumpona*) and each family was represented in the agrarian council with one vote. Communities constituted by several villages (*gãocarias*) gave rise to quarters (*vaddó*) whose soils were divided into first and second quality. In the best soils they produced rice, the most important food in their staple diet, also used in religious ceremonies. The soils of second quality (*moródas*) were occupied by cocoanut trees (*cocus nucifera*), mango trees (*mangifera indica*) cashew trees (*anacardium*), betel nut palm (*areca catechu*) and other fruit trees. In Chronica de Bisnaga (1525, 96) there is a reference to the large presence of orchards and vegetable gardens with many fruit trees, most of them being mango trees, betel nut palms and jack-fruit (quoted in Dalgado 1988, 28). Fonseca (1986, 29) mentions chillies (*Capsicum frutescens*) ginger (*Zinziber officinale*) turmeric (*Curcuma longa*) onions (*Allium coepa*) and certain vegetables of daily consumption "as being extensively cultivated in some villages". All these plants are still quite present today in the spice farms in Ponda.

Dalgado, in his Glossário Luso-Asiático (1988, 27-29), makes large use of quotations dating from 1525 up to 1836, where the qualities of the mangos, especially from Goa, are reckoned as being the best. It is interesting to note in one of these quotations (Annaes Maritimos 1842, 270) the reference to the Jesuits for having grafted the mango trees and thus improved their quality.

According to Gracias (1994, 122) the Jesuits managed the Royal Hospital in Goa since 1579. In 1759 they were sent away and the hospital was taken over by the Government and renamed Hospital Militar (ibid, 126). This author refers that "Goa abounds in myriad herbs, plants, spices which have great therapeutic value and have played an important role in the accumulation of medical knowledge… Herbal medicine consisted of roots, bark, leaves, flowers, fruits, seeds, juices and gums of plant (Gracias 1994, 171). It is further mentioned that "Allopathic physicians made use of herbal medicine and indigenous medicine was sent from Goa to various Portuguese Feitorias (ibid, 171).

Garcia de Orta, a Portuguese physician and naturalist, who arrived to Goa in 1534, was one of the savants who contributed to the study of these plants and their medicinal use, benefiting from the knowledge that he got from the Ayurvedic practitioners, as one can read in his book "Colóquio dos Simples". According to Gracías he was surprised "to find that vaidyas were well versed in medicinal plants and several peculiar diseases. Many of the European travellers who visited the city of Goa in the first two centuries of the Portuguese regime were unanimous in praising the native physicians." (Gracías 1994, 154). The Vaidyas were practitioners of ayurvedic medicine; criticised and mocked by some authors (Mendes 1997, 107-114, for instance) they are praised by others like Orta, Gracías and Linschoten (who lived in Goa between 1583 and 1589).

In the 16th century Goa was an important political, religious but mainly trade capital, which contributed to its cosmopolitanism. "Via the Cape route, coral, linen, wool, foodstuffs, wine and arms were exported to Goa. And, via the Asian routes, Goa saw the arrival of products that were then to be shipped on to Portugal, products as varied as spices, fabrics from Gujarat, Bengal and other parts of India, cinnamon from Ceylon, Chinese silks, indigo and Indian furniture, Chinese and Japanese chests, ebony, diamonds, cowrie shells, coconuts and rice from several parts of Asia" (Disney 1981, 38; quoted by Santos 1998, 105).

"As someone remarked", writes Percival Noronha, Secretary Indian Heritage Society, "the greatness of Goa perhaps lies in its smallness" and concludes that "this tropical paradise has its roots firmly entrenched into the hoary past and diverse culture" (Fernandes 2006, foreword).

4. The Spice plantations in Ponda: past and present

Ponda (Fig. 1), actually with about 17,700 inhabitants, is only 28 km Southeast of Panaji (or Panjim - today the capital of Goa with 58,800 inhabitants), but five centuries ago the accessibility was poor and the region was hidden in dense forests; thus here the Portuguese did not destroy so many Hindu and Muslim Temples as it happened in more central areas. From this former period the Safa Shahouri Mosque, built in 1560 only 2 km West from Ponda, is perhaps the most important attraction of the city. Contrarily to the Christian the Hindus, who found in Ponda a safe place to keep much of the religious symbols that they could take with them during their flight, assimilated Muslim and European architectural styles and decoration elements that they incorporated in their temples. Most of the temples that are today mentioned in the tourist guides (see American Express Guide 2006, 410-11), such as Shri Nagueshi (1780), Shri Lakshmi Narasimha or Shri Mangesh Temples date from the 18th century.

Fig. 1: Ponda Region, Goa: Location of the spice farms (Scale 1:285,000 approx.).
Source: Google Earth.

According to Mendes (1997, 53) the Portuguese started ruling in the Province of Ponda in 1763, after having helped the former King of Sundem to fight back the Marathas. Some of the plantations that still exist in the region were formerly in the hands of Portuguese, as the Pascoal farm that was visited during the fieldwork.

In the case-study information collected in three of the spice plantations in the area that also offer tourist activities was used. These units correspond to 75% of farms with the same characteristics in the Ponda region, if my sources are reliable. They represent different types of farms, but all have in common the fact that they produce fruits, spices and herbs and combine several touristic activities, taking

advantage of the favourable natural resources and cultural diversity and monumentally. Among the large diversity of plants that are found in these farms, the most common spices are: cloves, nutmeg, cardamom, cinnamon, pepper, all spice, turmeric, ginger and vanilla. As tropical fruits there are jackfruit, breadfruit, guava, papaya, mango, pineapple, sapota, etc. Bettlenut palms, coconut palms and banana trees are also to be seen.

4.1 The Pascoal Spice Village

The Pascoal Spice Village belonged to a Portuguese called Augusto Henriques, who abandoned it in 1961, after the independence. In 1992 this farm was considered to be the best farm in Goa. It is a family farm with an area of 50 acres (1 acre is equivalent to 4,046.84 m^2) and was bought in 1982. The owner is proud of having launched the first ecotourism unit in Goa, in 1993. He offers 11 cottages and a restaurant. In order to keep an idyllic environment, far from noise and pollution, he does not receive large groups of tourists, nor advertises as his neighbours. Visitors enjoy the quietness and beauty of the place walking around, watching the birds or paddling along the river in a canoe. He sells flowers and herbs in Goa. He is not certified as organic but he asserts that his production is organic since they practice the traditional agricultural methods (www.pascoalfarm.com).

4.2 The Tropical Spice Plantation

The Tropical Spice Plantation, located at Keri, is a 350 years old mixed plantation (spices, fruits, nuts and herbs), occupies about 150 acres and is owned by the third generation of a Goan family. Nearly 120 people work in a joint venture of three farms, including this one, in a total of 250 acres. They sell spices to cooperatives in Goa (most of this raw material will be used in medicines). Although they advertise their spices as being organic they just started a process of conversion into this mode of production which will be concluded in approximately three years.

Fig. 2: Tropical Spice Plantation: Explaining how "Feni" (cashew liquor) is distilled.
Source: Author.

In 1995 the family decided to start a project to diversify the activities and take advantage of the touristic flow that usually visits Goa. They offer a guided tour in

the plantation during which the names and main characteristics of the plants are explained. They also introduce the visitor into the art of "Feni" distillation (a liquor produced from the juice of cashew apples). The visit includes the "Goan Tarzan", who climbs and swings from tree to tree, and a traditional Goan meal. In the shop there is handicraft made from coconut shell and wood and also fresh oils extracted from the various spices and herbs grown in the plantation. They offer a leaflet "Living with Spices & Herbs" in several languages, including Portuguese, in which they explain how to use the different plants and their medicinal virtues.

In the last five years they introduced different touristic attractions such as the elephant bath (during which a visitor sited on an elephant will be flushed with the water that the animal pours from his nose) and last year they intended to show how to grind spices with old instruments.

The owner of this plantation also expressed his wish to control the visits to the farm. They only receive between 100 and 150 tourists per day, mainly foreigners but also schools, in order not to disturb the birds (about 75 species of birds are sighted in the plantation). Even so this represents about 50,000 visitors per year. In the future they will offer 5 to 10 cottages for the tourists who wish to be in contact with the Nature (tropicalspice@redifmail.com).

4.3 The Sahakari Spice Farm

Finally the Sahakari Spice Farm, in Curti, which exists for more than 300 years, occupies 130 acres and gives work to 70 people. There are three years that they are "totally" organic, which means that they already overcame the conversion period and are certified as organic. They have cross-bred cows that nor only give milk but also contribute to "the mini compost generation unit with the recycling of animal and vegetative waste in pits to produce compost. A bio-gas (Methane) plant attached to dairy unit is worth seeing" (Sahakari farm leaflet).

Fig. 3: Organic Spices from Sahakari Spice Farm.
Source: Author.

They started the visits to the plantation 10 years ago and are prepared to receive large groups of visitors, namely bus tours. They work together with an Ayurvedic

doctor, who is available for consultation. Body massage is also possible by appointment. They sell several medicines, oils and locally produced spices and herbs, as well as handicraft. After the tour a traditional meal is served in the farm. As added attractions they have elephant feeding, washing and ride, crocodiles sighting, bird-watching, walks along the garden and traditional dances and songs. (www.sahakarifarms.com).

As I had the opportunity to write in another article (Firmino 2009, 114) these examples are a lesson of multi-functionality and rationality in the use of resources, allowing an added value resulting from a myriad of activities centred on the spice production and, directly or indirectly, on Ayurvedic medicine. At the same time they create jobs, protect Nature by adopting sustainable farming methods and preserve gastronomic and cultural traditions.

5. New Challenges for the Organic Farmers in India

An analysis of India's agro exports to the European Union in 2007, published by APEDA (Agricultural and Processed Food Products Export Development Authority, Ministry of Commerce and Industry, Government of India) shows that EU is India's largest trading partner accounting for about 20% of India's global trade. In the year 2007, India exported the goods worth euro 29,4 billion to EU and imported the goods worth euro 26,2 billion. Netherlands, Germany, UK and Spain were the European top four countries and together imported more than 57% of agriculture products purchased by EU from India. Spices accounts for the second place (together with coffee, tea and mate represent 15%) of the 10 major group head products exported from India to EU (these 10 major groups constitute 84% of India's exports to the EU).

The agricultural export of India's major product groups to Europe has grown by 12.9% between 2006 and 2007. Spices (cardamom, ginger, saffron, turmeric) and essential oils registered one of the highest growths (+25%). Some other agricultural products of interest are cashew nuts, medicinal plants and other extracts, namely used primarily in perfumery, medicaments or for insecticidal, fungicidal or similar purposes; and also pepper, seeds of anise, badian, fennel, coriander, cumin or caraway, juniper berries, bay leaves, curry powder (www.apeda.com/apedawebsite/ trade_promotion/study_report/).

In what concerns the organic farming "India is bestowed with lot of potential to produce all varieties of organic products due to its various agro climatic regions. The market is growing steadily; both the domestic as well as the export market" (www.organic-world.net/).

The cultivated land under organic certification is around 2.8 million ha (2007-08). This includes 1 million ha under cultivation and the rest is under forest area (wild collection). In 2006 India was fifth among the ten developing countries with most organic agricultural land (528,171 ha), which corresponded to 0.3% of total agricultural area and 44,926 organic farms, and was sixth among the 10 countries with largest wild collection areas (2,4 million ha) (Willer et al 2008, 36-40).

The EU regulation on organic production "considers the collection of wild plants and parts thereof, growing naturally in natural areas, forests and agricultural areas as an organic production method – provided that those areas have not, for a period of at

least three years before the collection, received treatment with products not allowed under the regulation. Furthermore, the collection must not affect the stability of the natural habitat or the maintenance of the species. The regulation also foresees standards for the collection of wild seaweeds and parts thereof" (Willer et al 2008, 36).

India produced around 396,997 MT of certified organic products, namely Basmati rice, pulses, honey, tea, spices, coffee, oil seeds, fruits, processed food, cereals, herbal medicines. And also not edible items such as organic cotton fibre, garments, cosmetics, functional food products, body care products, etc.

In 2007-2008 India exported 86 items with a total volume of 37,533 MT (from which 16,503 MT accounts for cotton) mainly to EU, US, Australia, Canada, Japan, Switzerland, South Africa and Middle East. The export of organic products in the amount of 100.4 million US$ registered a 30% growth over the previous year. (www.apeda.com/apedawebsite/organic/Organic_Products.htm)

According to APEDA "organic farm produce enjoys a good demand in European Union (EU) market and India has an opportunity to export its organic produce to this market. The demand for organic products has risen because the EU consumer has become more health conscious and greater environmental awareness. The demand for organic food in the EU has now penetrated even to the rural areas." (www.apeda.com/apedawebsite/trade_promotion/study_report/)

Also in India, as the Indian Centre for Organic Agriculture (ICCOA) states, "a major reason for the growth in organic farming is increased awareness among consumers in the country, even though until recently food was mainly being exported. But over the last couple of years, the domestic market has started growing" (Willer et al 2008, 109).

The Indian Government, recognizing the difficulty smallholders face to access third party certification launched a national participatory guarantee system program, with the support of the FAO India office to facilitate organic assurance. Furthermore, it is "implementing a National Project on Organic Farming (NPOF) for production, promotion, certification and market development of organic farming in the country. Financial assistance is being provided for the capacity building through service providers, setting up of organic input production units, promotion of organic farming through training programs, field demonstrations, setting up of model organic farms and market development" (Willer et al 2008, 109).

Goewie (2002, 5) based on his experience with organic production worldwide states that this "is most auspicious in regions where local stakeholders (e. g., regional government, farmers, consumers, nature and environment protection organisations and research institutes) cooperate closely together".

India is apparently in conditions to offer these conditions and the results are expressed in the continuous growth of its organic production. "In several parts of the country, the inherited tradition of organic farming is an added advantage." (www.apeda.com/apedawebsite/organic/OrganicProducts.htm). Indeed in 1878, Fonseca wrote about the agriculture in Goa: "Manure, consisting of ashes, fish and animal excrement, is largely employed as a fertilizer of the soil" (Fonseca, 1986, 27). Thus it makes sense that farmers like the one at Pascoal farm, consider that they practice organic farming, although they are not certified, since they use the

traditional agricultural methods that are also followed by organic farmers.

Going back into the origins of the organic movement we find the work of Sir Albert Howard (1940) entitled "An Agricultural Testament", which resulted from his research in India in the 1920s. "According to Howard, the role of agricultural science should be to explicate the reasons for the success of traditional methods and to find ways to improving them. Understanding the workings of the natural order would enable humanity to work with nature and realize her potential abundance" (Conford 2001, 19). The farmers of the spice plantations in Ponda, who participated in this study, are embedded in this spirit as the Sahakari farm illustrates, since they present it as "a creation of generations with a touch of scientific and traditional farm practices put together".

6. Conclusions

As a first concluding remark I would like to stress the contribution of organic farming to the added value of the local production, which enables the farmers to export to markets like the European (even if this is accomplished by enterprises external to the farms). Taking into account the increasing interest in the Western countries for Ayurvedic medicine, and other alternative medicines that use herbal and spices teas and remedies, there is a market in India for the next years.

Besides the farmers aim at the multi-functionality in their farms, diversifying their income sources by combining rural tourism associated to several leisure activities, with care services, namely ayurvedic medicine and massages. Finally their historical background and well kept biodiversity, as well as the relevance of the activity to the local livelihood may entitle them in the future to get involved in a GIAHS project, as it is the case with two candidate systems in India (Traditional Agriculture in the Koraput Region – Orissa; and Soppina Bettas Systems – Western Ghats).

The characteristics of the spice plantations in Ponda just meet the criteria for selection of GIAHS sites that are presented as follows: "building on local knowledge and experience, these ingenious agricultural systems reflect the evolution of humankind, the diversity of its knowledge, and its profound relationship with nature. Those systems have resulted not only in outstanding landscapes, maintenance and adaptation of globally significant agricultural biodiversity, indigenous knowledge systems and resilient ecosystems, but, above all, in the sustained provision of multiple goods and services, food and livelihood security and quality of life" (www.fao.org/nr/giahs/en/).

This idyllic scenery may be threatened by the rapid transformation in the Indian society, which is visible in the vicinity of Ponda, namely the future shopping mall at Patto Plaza in Panjim (Fig. 4) which will introduce Western life styles (supermarkets and fast-food restaurants).

The fact that since the late 1990 European retailers (Metro, Germany) have been opening stores in India had as a consequence that the growth in sales of packaged foods between 1998 and 2007 rose in that country from 279 billion rupees up to 581 billion rupees (Millstone; Lang 2008, 87). According to Millstone and Lang (2008, ibid) "the Indian Government has attempted to keep out Western supermarkets, but Indian owned supermarkets are on the increase, despite protests from Indian farmers. Throughout India, the food people eat, and form in which they

purchase it, is changing, with an increase in sales of packaged food even in rural areas". Furthermore they inform that Wal-Mart, an American company that is the first grocery retail in the world (233 US$ billion sales value in 2007) "established a joint wholesale enterprise with Bharti Enterprises, India, with the first outlet scheduled to open in 2008".

Fig. 4: Future Shopping Mall at Patto Plaza, Panjim, Goa.

Tab 1: Growth in Sales of Packaged Foods in India (1998-2007) (in billion rupees)

Year	1998	2007	98-07 %
Urban	240	450	87,5
Rural	39	131	336
Total	279	581	208

Source: Adapted from Millstone; Lang 2008, 87.

We are not able to avoid globalisation and the changes going on are a consequence of this phenomenon. But, as experience in Western countries has shown, we all as consumers can try to transform it into a positive globalisation. As Giddens (2005, 29) writes, globalisation is not a mere incident in our lives. It is a change of the very right circumstances in which we live. It is our lifestyle right now.

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NEW CHALLENGES FOR THE ORGANIC FARMERS IN INDIA – TOURISM, SPICES AND HERBS

Summary

India is reputed for its spices and herbs which are used not only for gastronomic uses but also for medicaments as well as religious rituals. The knowledge about the virtues and medical properties of these plants have been preserved along the centuries and used to relieve the illness and suffering of the populations. The intensive contacts with merchants from different parts of the world, such as the Portuguese during the 16th and the 17th centuries, contributed to the enrichment and diversity of its flora which has been kept up to now, namely in Ponda/Goa, where the field work for this paper took place.

The Ayurvedic medicine is one of the Indian traditional medicines that make a large use of these plants. In spite of the achievements of the western medicine, which is also being widely spread in India, Ayurvedic massage, beauty care and medicaments are becoming popular in western countries although this kind of services is offered at prices relatively high in centres for alternative medicines and spa's, often located in the best rated hotels.

This interest for the Ayurvedic medicine in the western countries increases the demand for the plants used in its practice, especially those certified as being organic. Along with the original formulas imported from India some European laboratories created new ones "inspired" in the traditional medicaments, but they depend on the import of the raw materials from India, some of which are produced in organic farms and sold with the Fair Trade label.

This increasing demand for specific plants of the Indian flora, produced according to the organic farming methods is a new challenge for the local farmers, who have been launching other activities such as visits to the farms, with a guided tour to identify the herbs and spices, meals served in a traditional way, tours in the nature, bird watching, walk on an elephant, farm shop where handicraft, oils and fragrances can be purchased. Some also have accommodations; others work together with Ayurvedic healers.

In this study the advantages offered by organic farming associated with multi-functionality in the farm are tackled as well as the threats constituted by the rapid changes in the Indian society with impacts in its lifestyle.

ARE CONSUMERS IN SLOVENIA CONCERNED ABOUT THE MOUNTAIN QUALITY FOOD?

Darja Majkovič
Ph.D., Assistant Professor
Chair of Agricultural Economics and Rural Development
Faculty of Agriculture and Life Science
University of Maribor
Pivola 10, SI-2311 Hoče, Slovenia
e-mail: darja.majkovic@uni-mb.si

Andreja Borec
Ph.D., Associate Professor
Chair of Agricultural Economics and Rural Development
Faculty of Agriculture and Life Science
University of Maribor
Pivola 10, SI-2311 Hoče, Slovenia
e-mail: andreja.borec@uni-mb.si

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Abstract
Recently, several studies on Mountain quality food products (further referred to as MQFP) emerged EU wide, especially after the EU charter of MQFP was established. In Slovenia, the first studies on MQFP where implemented in the frame of the EU FP6 EuroMarc project, started in 2007. After the project scope, the importance of MQFP is much more extensive then only according to purchase and consumer perceptions, thus the developing of mountain food products is also the developing of mountain areas and therefore part of broader rural development issues. In the paper, the first consumer analyses are presented, with the aim to find out whether consumers are sensitive to such products at all and to find out whether there exist some positive synergies between consumers and area of origin. The consumer analyses were carried out on the basis of questionnaires, and the data is presented with the descriptive statistic. The results show that consumers have in general a very positive perception of MQFP, although they do not know what exactly the characteristics of MQFP should be. As regards the synergies between the area of origin and the purchasing of MQFP, the results differ according to the area the respondents come from (e.g. mountain, non-mountain areas).

Keywords
mountain quality food product, Slovenia, consumers

The editor received the article on 6.12.2009.

1. Introduction

In the paper, some research results of the 6 FP project – Euro-MARC: European Mountain Agrofood products, Retailing and Consumers are presented, with the emphasis on the national (Slovene) level. The main goal of the project is to assess the perception and interest of European consumers in mountain quality food products in order to find ways for adding value to mountain food products as a prerequisite for the survival and the management of rural and cultural mountain diversity (Euro-MARC proposal No. 44279, 2006).

With the aim of a comprehensive evaluation of present conditions and future prospects of MQFP across Europe, a representative overview of the different meanings of MQFP along the food chain is covered within the project, by:
- Assessing the European consumers' interest, perception and expectations regarding quality-food products from mountain areas.
- Identification of retailers' interest and practices regarding mountain quality-food products.
- Analysis of attitudes and strategies of supply chain actors regarding mountain quality-food products.
- Identification of factors for success or failure of local initiatives devoted to the marketing of mountain quality-food products.
- Screening of EU, national and regional policies dealing with mountain area development.

From 2002 to 2004, EUROMONTANA led a project on "Strategic information for the development of agricultural quality products in European Mountain Areas. This project has led among other to the establishment of the European Charter for Mountain Quality Food Products (2005). This charter is a first step towards a coherent European instrument for development, promotion and protection of mountain quality food products. The term «mountain quality food products« (MQFP) is explained in the Charter as follows:

- Manufactured using raw materials produced exclusively in a mountain area, as defined in the framework of Regulation EC 1257/99, with the exception of raw materials which, for natural reasons, cannot technically be produced in a mountain area. Animal production in mountain areas must always demonstrate a link with the mountain territory.
- All stages in the processing have to take place in a mountain area.
- Enterprises and farms which process primary agricultural resources in order to manufacture mountain products have to be adapted to their geographical environment.
- The production and processing structures for mountain food products must encourage in their activity the maintenance of biological, genetic and cultural heritage of mountain areas, the development of the local knowledge-based management of rural areas and landscapes.
- Enterprises and farms which produce and/or process primary agricultural materials for mountain product must be able to ensure traceability to provide transparent provision of all information relative to the product's manufacturing conditions.

2. Methodology

For the market analysis of MQFP, the following levels of the chain were analysed:

- Consumers,
- Producers,
- Processors,
- Retailers, caterers.

Data was gathered face to face and by postal interviews. Semi-structured and in-depth cases were analysed, followed by content analysis and coding with CAQDAS Atlas.ti. Furthermore, for the analysis of availability and positioning of MQFP, shelves surveys of 1,765 products around EU were implemented. Meta analysis of country surveys, statistical analysis and hedonic price regression analysis followed the data gathering by the respective project partners.

3. Mountain quality food products in Slovenia: (non) existence, spreadness and importance

The analysis of Slovenian study cases has led us to assume that MQFP could in the case of (prevailing) small scale producers offer a new way of networking in rural areas. Transactions conducted between small scale producers and their customers should serve as a new path with interactions that go beyond strict economic valuation for both parties involved. As pointed out by Ilberry and Kneafsey (1999, 47), small-scale food producers are imputed with being profit sufficers rather than profit maximizers. The idea of social embedded ness of such food chains in Ireland is developed by Sage (2003, 48), while he correctly emphasises market ness and instrumentalism as necessary qualifiers of embedded ness. The findings by Ilberry et al (2004, 340) suggest that the socio-economic values can be gained by localising, shortening and synergising the food chain (in the lagging rural regions), but there are also important barriers that question the emergence of such an agrarian based rural development dynamic. These include the small number and size of "alter-native" producers in both locales, with most still locked into industrial forms of production; the restrictive influence of bureaucracy; the shortfall of key inter-mediaries in both regions' food chains; and the poor provision of key physical infrastructures (e.g. roads, railway and telecommunications). When analysing the attitudes and strategies of supply chain actors regarding mountain quality-food products in Slovenia, the negative influence of bureaucracy and lack of key inter-mediaries were commonly noted among these barriers by the majority of supply chain actors.

Still, quality food might become the basis for a new economic dynamic in areas largely bypassed by the productivist logic of treadmill agriculture and mainstream agribusiness (Ilberry and Kneafsey 1998, 335). It may also offer opportunities for building synergy with new fields of activity such as rural tourism that engage with the gastronomic landscape (Brunori and Rossi 2000, 420) – another issue which was raised by many Slovene interviewers (see also Amilien, Schjøll, Tebby 2009, 8-53).

When describing MQFP in Slovenia, the following major characteristics should be pointed out:

- Small scale production in majority of cases.
- Lack of coordinated management at all levels of supply chain – lack of closer cooperation of actors along the SC.
- Direct selling on the farms.
- Supply often lower than demand.
- Lack of use of European and domestic designation by producers – small scale

farmers are reluctant to increase the promotion as they fear they will not be able to increase volume.
• Mountain image used as a marketing tool for differentiation more often than as a prevalence of true mountain origin.

4. Slovene consumers' perception of mountain quality food and how it is influenced

To obtain some general idea about consumers' interest, perception and expectations regarding Mountain Quality Food Products, several focus groups were organised in rural as well as urban regions. The results of focus groups also served to a certain extent for the preparation of the questionnaire. Web-based survey included 303 consumers with the demographic characteristics represented in the Tab. 1 and the age structure of the consumer sample represented in the Fig. 1.

Tab. 1: Demographic characteristics of consumers.

Demographic characteristics	Profile	
Mountain area resident or non-resident	50% mountain resident	50% non-mountain resident
Gender	50% female	50% male

Focus groups were divided on:

1 - "Connoisseurs" interested in mountain food products; some of them are professionally engaged in MQFP - high level of awareness and involvement. Their opinion was well defined according to the interviewees' statements:
• "A mountain food product is like home made bread, which smells like the hands of the woman who has made it. It has a strong personal note – a lot of hard work is incorporated in it."
• "As soon as our products become available widely in stores, we will loose authenticity… Intensification of primary production might decrease the quality."
• "Mountain" does not only mean a landscape, tasteful food, kind people, personal relaxation, clean air or intact nature but also a lot of hand work, isolated farms, bad connections, hard conditions for farming, steep meadows and pastures."

2 - "Ordinary consumers" from a mountain area - relatively high level of awareness and average level of involvement. This is reflected in the following statements:
• "Are mountain food products really better than others? They are not necessarily purer…"
• "What is the proper definition of mountain areas?"
• "For sure mountain farming is more demanding than farming in a flat area, but I am not certain that I would specifically look for mountain products on the shelves…"

3 - "Ordinary consumers" from an urban area - relatively low level of awareness and low level of involvement, with presence of scepticism. This is reflected in the following statements:
• "I have never thought of mountain food…Actually I need to think which products I can consider as mountain food. I know that "…(Brand name)" is not produced by mountain farmers."
• "I want to buy food close to my home – that is important. If mountain food was available in the nearest supermarket and presented to me as something "better", I would buy it."

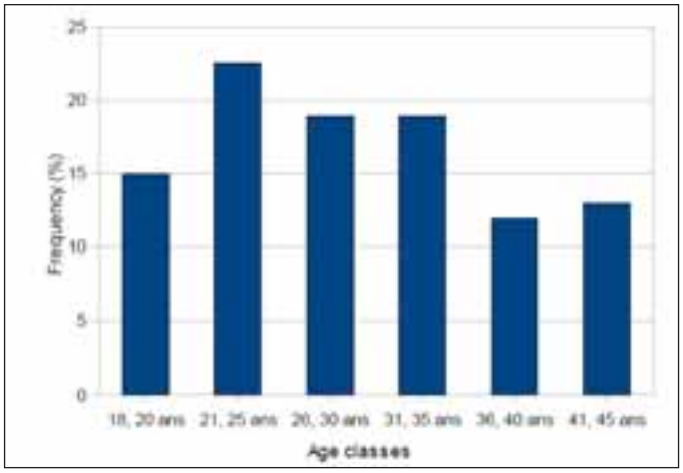

Fig. 1: Age structure of consumers.

Before studying what the respondents think about mountain food, it is interesting to know what they expect from a food product. For that purpose, the priorities when choosing food were examined in the questionnaire. The respondents gave a great importance to the origin of food, to the Slovene origin more than to the local. We could also determine a preference for healthy products with a minimum of additives (average rank of 4 for a small amount of additives as a priority when choosing food). The factors relative to the market and marketing came next. First the price (which is the third most important factor) and then the appearance and the well-know brand in a smaller degree. In addition to that, ethical factors such as environmental friendly production and short distance from producer to consumer and support to small scale production were relatively well ranked. However, short distance from producer to consumer and support to small scale production were considered to be less important than environmental friendly production. Considering all these factors, the respondents seem to prefer Slovene healthy products which are available at an attractive price and are environmental friendly.

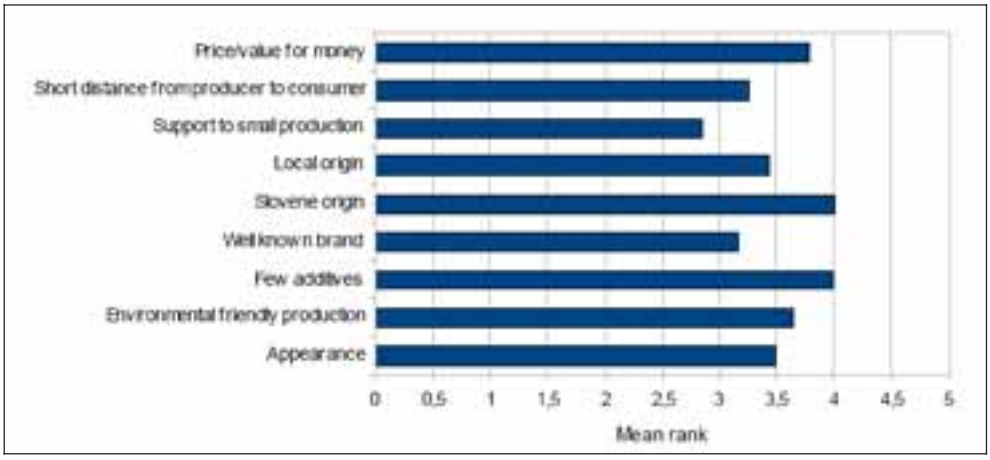

Fig. 2: Average rank of priorities when choosing food (1=not important, 5=very important).

The knowledge of the respondents on mountain quality food products was tested with the series of statements about mountain food quality products and respondents had to rank each of them (from 1 "strongly disagree" to 5 "strongly agree"). With the help of these questions it is possible to have an idea of the respondents' knowledge on mountain quality food characteristics as defined by the charter.

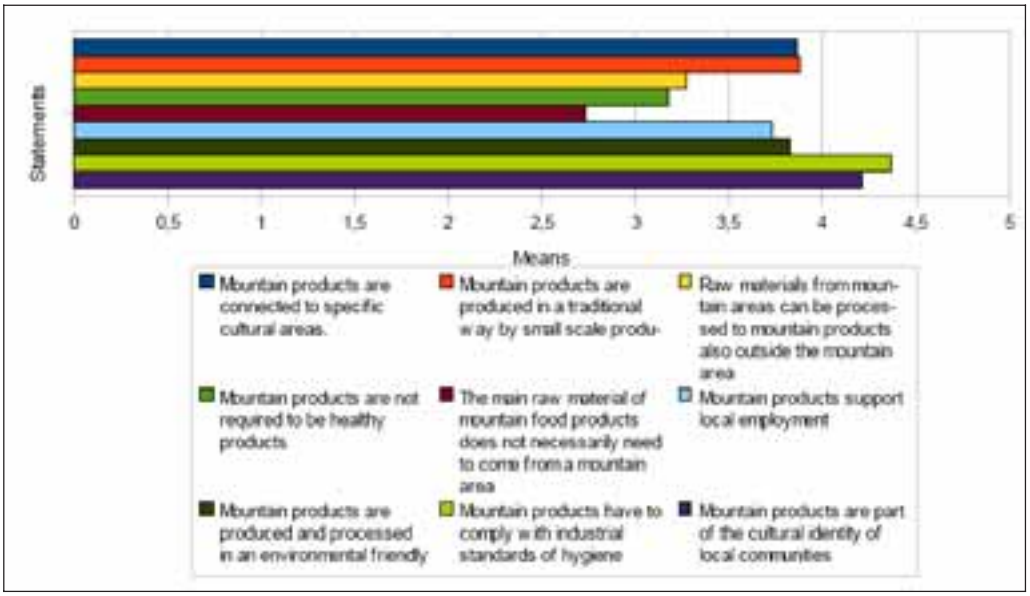

Fig. 3: Degree of respondents' knowledge on the characteristics of mountain quality food products.

One of the aims of the questionnaire was also to find out what consumers associate with the concept of mountain quality food. The question was of an open kind, with max. 3 answers possible.

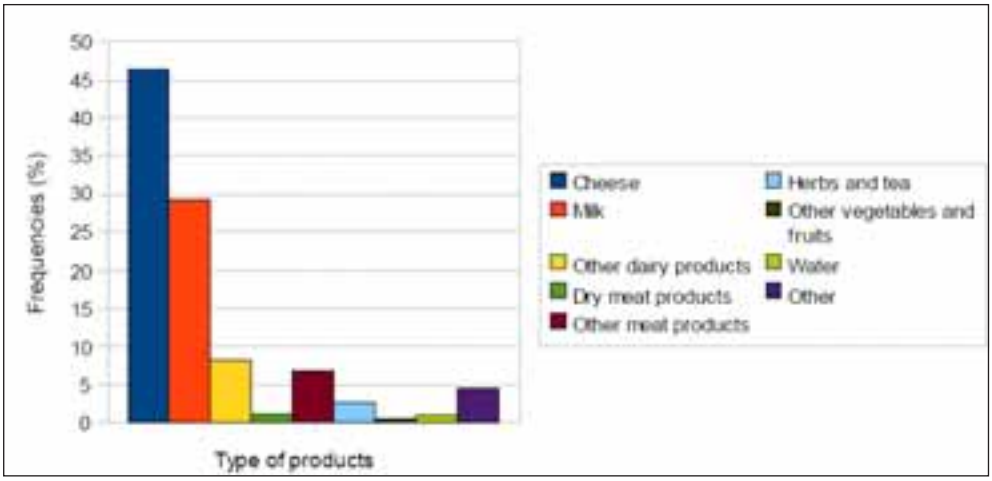

Fig. 4: Repartition of proposed type of a mountain quality food or drink product.

A large majority of the respondents associated cheese and dairy products in general with the idea of MQFP. It is interesting to note that some products, such as Alpsko Mleko (Alpine Milk brand from the Ljubljanske Mlekarne dairy) for example, were often cited by the respondents although they did not have any real connection with mountain as "simple" generic products. The brand name and the picture on the packaging recall a mountain and thus this image is efficiently used as a marketing tool to catch the consumer's attention.

In general, the respondents have a relatively good knowledge on mountain quality food products, they agree with the definition of mountain quality food proposed by the statements in the questionnaire (the average responses are superior to the rank 2.5). The respondents are in general more aware of the traditional level and the link to a specific cultural place (part of the cultural identities, connected to specific cultural areas). It seems that they mainly understand the term quality as complying with industrial standards of hygiene, one of the most usual views of quality (Prigent-Simonin and Herault-Fournier 2005). On the other hand, the rules concerning localization of production and origin of raw materials are the least known by the respondents.

5. Use of "mountain" resource in business strategies of various actors along the food supply chain

Farmers tend to assume that if their products are sold in mountain regions, the mountain origin is self evident. They often benefit from a higher producer price, but have lower sales volumes and higher production costs, especially for transports. Gaining additional land resources for the production increase is one of the problems often emphasised by Slovene producers. Processors often mention tourism as an important target for communication and perceive higher product quality as a benefit, whereas higher transport costs represent their main problem. Retailers see the benefit of using »mountain« resource mainly in the possibilities of product differentiation – key for the survival especially for small volumes, short supply chains (see also Matscher, Schermer, Steinlechner et al. 2009, 18-102).

6. Conclusion

Do mountain products represent a possible tool for maintenance/ increase of viability of (mountain) rural areas? The production and marketing of explicitly designated "mountain products" could strengthen the identity of the areas where the products come from – especially for consumers outside the mountain areas. MQFP usually have a tradition and a (hi)story behind. When passing these to all the levels of the supply chain, with the emphasis on the final consumer, this MQFP background should promote and result with economic and social premium for the producers. As they stay and nourish the (lagging) rural mountain areas, the collaboration of agricultural activities with tourism and mutual development becomes logical.

The targeting of MQFP, the creation of specific supply chains consisting mainly of small scale enterprises, including enterprises which manufacture equipment and materials needed as inputs, become a necessity for satisfying the needs of producers, final consumers and intermediaries.

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ARE CONSUMERS IN SLOVENIA CONCERNED ABOUT THE MOUNTAIN QUALITY FOOD?

Summary

Part of the research results of the 6 FP project Euro-MARC: European Mountain Agrofood products, Retailing and Consumers, are presented in the paper, with the emphasis on the national (Slovene) level. The main goal of the project is to assess the perception and interest of European consumers in mountain quality food products, in order to find ways for adding value to mountain food products as a prerequisite for the survival and the management of rural and cultural mountain diversity (Euro-MARC, proposal, No. 44279, 2006). Several studies on mountain quality food products (further referred to as MQFP) emerged EU wide, especially after the establishment of the EU charter of MQFP. In Slovenia, the first studies on MQFP were implemented in the frame of the EU FP6 EuroMarc project, started in 2007.

For the market analysis of MQFP, the following levels of the chain were analysed: consumers, producers, processors, retailers and caterers. In the paper, an emphasise is put on the results of consumer analysis, with the aim to find out whether the consumers are sensitive to such products at all and to find out whether some positive synergies between consumers and the area of origin exist. To obtain some general idea about the consumers' interest, perception and expectations regarding MQFP, several focus groups were organised in rural as well as urban regions. The results of the focus groups also served us to a certain extent in the preparation of the questionnaire. A web-based survey included 303 consumers.

The analysis of the Slovene study cases of MQFP supply chains has led us to assume that MQFP could in case of (prevailing) small scale producers offer a new way of networking in rural areas. The transactions conducted between small scale producers and their customers should serve as a new path with interactions that go beyond strict economic valuation for both parties involved. The findings by Ilberry et al (2004, 340) suggest that the socio-economic values can be gained by localising, shortening and synergising the food chain (in the lagging rural regions), however, there exist important barriers that question the emergence of such an agrarian based rural development dynamics. These include the small number and size of 'alternative' producers in both locales; most of them still using industrial forms of production; the restrictive influence of bureaucracy; the shortfall of key inter-mediaries in both regions' food chains; and the poor provision of key physical infrastructures (e.g. roads, railway and telecommunications). Among these barriers, the negative influence of bureaucracy and the lack of key intermediaries were commonly noted by the majority of supply chain actors when analysing the attitudes and strategies of supply chain actors towards mountain quality-food products in Slovenia.

When describing MQFP in Slovenia, the following major characteristics should be pointed out: small scale production in the majority of cases; lack of coordinated management at all the levels of supply chain – lack of closer cooperation of actors along the SC; direct selling on the farms; supply often lower than demand; lack of use of European and domestic designation by producers – small scale farmers are reluctant to increase the promotion, as they fear they will not be able to increase the volume; mountain image used as a marketing tool for differentiation more often than designating a true mountain origin.

Before studying what the respondents think about mountain food, it is interesting to know what they expect from a food product. For that purpose, the priorities when choosing food were examined in the questionnaire. The respondents gave a large importance to the origin, to the Slovene origin more than to the local, when choosing food. We could also perceive a preference for healthy products with a minimum of additives (average rank of 4 for a small amount of additives as a priority when choosing food). Afterwards, factors relative to the market and marketing follow. First the price (which is the third most important factor) and then the appearance and a well know brand to a smaller extent. In addition to that, ethical factors such as environmental friendly production and to a smaller degree a short distance from producer to consumer and support to small scale production are relatively well ranked. However, a short distance from producer to consumer and the support to small scale production are less graded than environmental friendly production. Considering all these factors, the respondents seem to prefer Slovene healthy products which are available at an attractive price and are environmental friendly.

In general, the respondents have a relatively good knowledge on mountain quality food products, they agree with the definition of mountain quality food proposed by the statements in the questionnaire. The respondents are in general more aware of the traditional level and the link to a specific cultural place (part of the cultural identities, connected to specific cultural areas). It seems that they mainly translate the term quality in their high ranking as compliant with industrial standards of hygiene, one of the most usual views of quality (Prigent-Simonin and Herault-Fournier 2005). On the other hand, the rules concerning localization of production and origin of raw materials are the least known by the respondents. Beside the consumers, also other actors along the supply chain were analysed. Farmers tend to assume that the mountain origin is self evident, especially if their products are sold in mountain regions. They often benefit from a higher producer price, but have lower sales volumes and higher production costs, especially for transports. Gaining additional land resources for the production increase is one of the problems often emphasised by Slovene producers. Processors often mention tourism as an important target for communication and perceive higher product quality as a benefit, whereas higher transport costs represent their main problem. Retailers see the benefit of using »mountain« resource mainly in the possibilities of product differentiation – key for the survival especially for small volumes; short supply chains (see also Matscher, Schermer, Steinlechner et al 2009, 18-102).

ORGANIC FARMING: A SOLUTION TO AGRICULTURE CRISIS OR A "NEW" TREND TO HEALTHY EATING? AN OVERVIEW OF FRENCH AND BRITISH FARMERS

Annabelle Boulay
Ph.D., Professor
School of Geography, Geology and the Environment
Kingston University
Penrhyn Road, Kingston upon Thames, Surrey KT12EE, United Kingdom
e-mail: a.boulay@kingston.ac.uk

UDK: 631.147(44+410)
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Abstract
Organic Farming: A Solution to Agriculture Crisis or a "New" Trend to Healthy Eating? An Overview of French and British Farmers
In recent years, the market for organic farming has significantly increased in response to concerns over food quality and environmental matters. Organic food is quite attractive for consumers and is often associated to quality, healthy and natural products in opposition to the more processed and artificial conventional food. Yet, farmers are less enthusiastic about this concept. This paper, issued from a survey with dairy farmers in two dairy areas in France (January 2000) and the UK (July 2002), review farmers attitude towards organic farming. Only a minority of farmers were in favour of organic farming while the others had concerns about organic farming as its concept goes against their belief: a farmer must produce food for the nation.

Key words
farm diversification, pluriactivity, organic agriculture, dairying

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1. Introduction

Organic farming is a growing subject in European agriculture. As the concern for food quality and agro-ecology deepens, the philosophy and practice of organic farming have taken on new and greater importance in European agriculture. Scofield (1986, 5) stresses that organic farming does not simply refer to the use of living materials, but emphasises the concept of "wholeness", implying the "systematic connexion or co-ordination of parts in one whole". A definition of organic farming provided by Lampkin (1994, 5) states that the aim is "to create integrated, humane, environmentally and economically sustainable production systems, which maximise reliance on farm-derived renewable resources and the management of ecological and biological processes and interactions, so as to provide acceptable levels of crop, livestock and human nutrition, protection from pests and disease, and an appropriate return to the human and other resources". MacCormack (1995) notes unlike "sustainable" farming practices, organic farming practices are well-defined - in fact, organic farming practices are unique, for they are the only ones codified as law. Despite the variety of definitions of organic farming, the general agreements regarding what is necessary to produce organically are in stark contrast to the debates and arguments that rage regarding the nature of agricultural sustainability. However, as Ikerd (1993, 30) notes, "mention *sustainable agriculture* and many people will think you are talking about organic farming. Some organic farmers will agree. They think that organic farming is the only system that can sustain agricultural production over the long run".

In recent years, the market for organic food has increased. According to the literature, health is the primary reasons for consumers to purchase organic goods (Bordeleau et al 2002; Sirieix et al 2007; Zakowska-Biemans 2007) even though safety (Roitner-Schobesberger et al 2008), quality and taste (Magnusson et al 2003; Hughner et al 2007; Brandt 2007; Soil Association 2009) are very important motivations for buying organic food. Indeed, eating pleasure (particularly *tastiness*) is now the main argument in marketing and promoting organic foods, followed by health and then environmental benefits (Reed 2009). Surprisingly, consumers appear to be relatively unaware of the beneficial impact that organic agriculture has on the environment (Hughner et al 2007; Sirieix et al 2007).

Finally, it is worth noting that the motivation of occasional organic shopper to buy organic food is curiosity and also the nostalgic association of organic produce with the genuineness and reminiscence taste of the past (Hughner et al 2007). However, the lack of availability of organic food (Lea and Worsley 2008) and, above all, its higher price are often a strong barrier to the purchase of organic food (Hughner et al 2007). Moreover, the lack of knowledge or information on the meaning of organic food (Briz and Ward 2009) as well as the different ways to label organic products (Sirieix et al. 2007) leads consumers to question the genuineness of organic products and to distrust certification bodies and organic food labels (Zakowska-Biemans 2005; Soares et al 2008).

Although the idea of organic farming seems quite appealing for consumers, farmers are less enthusiastic about the concept. Only a minority of farmers, especially in dairy areas, is in favour of organic farming. Based on evidence from French and British dairy farmers, this paper reviews the attitude of dairy farmers towards organic farming

2. Methodology

In order to meet the aims of the research, a multi-method analysis using both quantitative and qualitative method was developed. Questionnaires provided a base for analysis on organic farming and then allowed the researcher to focus on particular aspects of organic farming using in-depth interviews. A total of 398 farms have been surveyed and 30 farmers have been interviewed. By using an in-depth approach to the study of farm households, a more complete understanding of farmers' behaviour, farming culture and farmers' experiences has been reached. This paper refers only to the findings from the in-depth interviews.

3. Organic farming in the EU

There are substantial differences between the individual countries regarding the importance of organic farming. In Europe, organic farming is getting more important but there are differences between "old" and "new" European countries as well as differences between northern and southern Europe (European Commission, 2005). European organic farms have particular characteristics: the average size is much higher compared to conventional farms, which may reduce the required labour per area (European Commission, 2005). The number of holding has increase in many EU countries but it has not reached the target set out by some national government, especially France and the UK (10 to 20% areas under organic farming by 2010). In France, organic area represent 2.5% of the total area and the average French organic holding is 49.2 ha (European Commission, 2005). French organic market is regulated by the French Ministry of Agriculture's "AB" (*Agriculture Biologique*) official logo which is certified by one of the three French agencies: Ecocert, Qualité France and Ascert International.

According to the Department for Environment, Food and Rural Affairs (DEFRA), the total area of organic land an in-conversion land represent 4% of the total agricultural area in the UK (DEFRA, 2009). The Soil Association reports that the introduction of the Single Payment Scheme (SPS) has resulted in a growth of interest in organic conversion of all sectors. In 2004, the retail market for organic products in the UK was worth an estimated £1.2 billion demonstrating continued and sustained growth cross the sector (DEFRA, 2009). Sales of organic produce through direct marketing and alternative markets such as box schemes and independent shop retail increased considerably (Soil Association, 2009). Consequently the supermarket share of the organic market fell for the third consecutive year.

Many farmers see the opportunity to organic produce in the market and are interesting in switching from conventional to organic because the price organic products. As a general rule, organic products receive a higher price than conventional products, but prices diverge depending on the country and on the product. Survey results show that in some cases price premiums for organic products, i.e. the relative price difference between organic and conventional products, are lower for consumer prices than for farmer prices (milk, eggs, potatoes), but the opposite is true for other products (wheat, apples, pork, beef). In 2003, organic production in Europe was not sufficient and most of organic products had to be imported (European Commission, 2005). If the competitive market place is to deliver significant financial encouragement to organic farmers in the EU, then organic foods need to be made more easily available to all consumers,

and aggregate consumer demand needs to continue to outpace supplies. And, whilst higher production costs in some countries that export organic foods to the EU may auger well for EU farmers, without consumer demand matching supply, or a significant increase in state subsidies, individual organic producers and organic subsectors could well be facing the imminence of a ceiling in organic production. The organic food sector may be starting to experience similar levels of inelasticity in demand as those operating in the conventional sector. As a consequence, any policy emphasis on the retailing end of the organic supply chain will need to recognise the dominant role that supermarkets play in encouraging organic production on the one hand and, on the other, how they tend to meet consumer demands through a combination of imports and downward pressure on farm-gate prices (Willer and Yussefi 2001). The growth in consumer demand for environmentally friendly, "green" or chemical-free food products has led to an expansion in Europe and North America of organic registration schemes.

The concept of organic farming is often misunderstood and misinterpreted and many farmers believe that organic farming relates more to fruits and vegetable and less to herd, especially dairy. According to Marsden et al (2002), farmers start out as organic producers or convert to organic techniques for a variety of reasons, including: concerns about their family's health; concerns about husbandry (e.g. soil degradation, animal welfare); lifestyle choice (ideological, philosophical, religious); and financial considerations. Moreover, the research also identified a series of barriers which impede on the number of farmers converting to organic farming: perceptions (the image of organic farmers; the size of the market); access to technical and financial information; institutional barriers (problems in getting loans, certification constraints); and social barriers (particularly in tight knit communities). The most common specific factor identified as prompting the ending of organic production was the unavailability of "market outlets" while "lack of technical experience" and the costs associated with organic "inspection" and also "investment" were commonly identified (Rigby, Young and Burton 2001). The next section of the paper presents the views of dairy farmers on organic farming which is part of diversification in France and the UK.

4. Farmers' attitude towards organic farming in France and the UK

There is a growing international concern towards the conservation of the rural environment. Pressure groups are beginning to influence policy decisions and have helped to promote a wider interest in healthy, often organic, food. Specialist markets for both new and traditional products are emerging and farmers are well placed to exploit such opportunities (Ilbery 1998). Organic farms are much less intensive - in terms of input of non-renewable resources - than traditional farms, so organic production may help to recreate a balanced market. Organic conversion is growing in importance partly in response to concerns involved with food quality. However, consumers require quality at reasonable prices which is often in contradiction to organic foods as they currently command high prices.

Furthermore, a study of farmers' attitude towards diversification reveals that farmers are not in favours of organic production for several reasons explained below. The main reason for farmers not to diversify towards agricultural diversification via organic farming is that, although organic produce is sold at higher prices in supermarkets, farmers say it is not viable for them due to various constraints attached including the need to meet stringent regulations.

4.1 Price

Only little and partial information is available on prices for organic products. The main barrier to convert to organic farming is the conversion period, which according to farmers is too long and the premium too little. Hence, farmers feel organic farming would not be profitable as they would not survive the conversion period: "If I convert to organic farming, the conversion period lasts two years. During that time, milk will get paid at the normal price while production cost will be higher" (French farmer). Furthermore, farmers argued that organic prices are not guaranteed to be higher than conventional prices so organic farming is too risky for them.

For many, organic farming relates the farm characteristics as there are quite a few constraints to follow: "There are far too many constraints with organic farming, furthermore, it is not guaranteed that organic produce sell better. Logbooks are too complicated and they should be made easier and prices should be higher" (French farmer). Furthermore organic farming is believed to be less productive, and this is often associated to farmers mind as bad farming.

The issue of higher costs and insufficient premiums was exacerbated in the opinion of several farmers by the absence of suitable incentives not only to convert to organic production, but also to maintain such systems. Farmers are not willing to produce organic food as they claim they do not get enough money for it. The premium was quite attractive but nowadays the market for organic produce is not as important as expected and farmers know that consumers mainly look at the prices of products while shopping: "Only a minority of people can afford organic food as the price is much higher than conventional food … the food budget has decreased" (French farmer)

The role of the supermarkets is crucial in the development of organic farming as supermarket, to some extent, control the market. Because of the role of the supermarket in food price regulation, farmers argue that organic farming will never become a major part of farming: "The problem is the supermarkets, price is acceptable if organic products are sold as *vente directe* then farmers are more likely to have a large share of the benefit" (French farmer). Other farmers argue that there is no point becoming organic farmers as organic produce can be produce at a lower cost from other countries so supermarkets can import cheaper organic produce than either French or British farmers can produce.

4.2 Market insecurity

For many farmers, organic farming is not an option as there is a lack of market opportunity. Organic produce are more expensive compared to traditional food stuff and only a minority of people can afford to purchase these products. As such, many farmers believe that intensive farming has still its place in the market as it produce food for the masses. Farmers also insisted that if everyone engages in organic farming, then there won't be anything special about it, prices would decrease and there would be no profits: "If everybody becomes organic farmer, it will become banal and price will be lowered" (French farmer). Other believes that organic farming will suffer the same fate as intensive farming if too many farmers become organic farmers. Farmers maintain that the number of organic farmers should be controlled: "If more farmers become organic, the market will be flooded with organic produce; there should not be more than one or two organic farmers per

district" (French farmer).

In dairy areas, like Manche and Dorset, organic milk collection is often very difficult. Milk collectors do not always want to collect farmers' organic milk if the farm is too far away from the main collection route as it is not cost effective. Farmers argue that because of the lack of organic dairying and the general lack of demand, they could end up selling their milk as organic milk price some part of the week and the rest as traditional milk price, so financially it is not worthwhile: "The problem was to find a dairy firm willing to come and collect organic milk. There was an organic dairy firm near Caen, but unless I got more farmers from the area to produce organic milk, they would not come and collect the milk" (French farmer).

4.3 Quality

Farmers now are aware that it is important to produce quality food via certification if possible. According to Ilbery and Kneafsey (2000), the concept of quality is one which is contested, constructed and represented differently by diverse actors operating within a variety of regulatory and market arenas. Food safety issues have been taken into consideration due to the anxiety about Salmonella and Listeria, the presence of Bovine Spongiform Encephalopathy (BSE) and E. Coli and more recently worries over genetically modified organisms (GMOs). Nowadays, the public has become more aware of the ethical and environmental implications of intensive farming systems and the trend is towards "healthy eating". Consumers are increasingly concerned about the origin and method of production of food stuff, not only for "health" and "safety" reasons, but also in terms of satisfying a current "nostalgia" which takes them back to a time of "real" and "wholesome" foods (Gilg and Battershill 1998).

For many farmers, as well as for the general public, organic production is either simply conventional production minus chemical inputs, or even just 'allowing nature to do its work'. For the farmers, this failure to grasp the labour and management of the nature of organic farming creates problems and some farmers argued that "organic farming is too much work" (French farmer). Even amongst those producers with a better grasp of the realities of organic production, there were problems regarding the availability of practically orientated information and advice. In both study area, the lack of information regarding organic farming and its benefits add confusion the concept of organic produce. Farmers are sometimes unsure about what the general public wants in terms of quality. Farmers argue that they have never produced better quality products and they nowadays also have to register their farming practices into a logbook: "Usually quality according to some people goes hand in hand with organic farming. I am not convinced it is right. We cannot not produce quality product as we would not be able to sell our product" (British farmer). This suggested the importance of information regarding organic farming to both the consumer and the producer. Informal networks for farmers regarding information, advice on the practicalities of production, marketing strategies should therefore be developed to encourage the switch from conventional to organic. Liaisons with consumer associations, educational service would also provide a better understanding.

4.4 Farmers' culture

For many farmers, organic farming is a contradiction to the farmer's role in society:

producing food to feed the nation. Food shortage and rationing from post-war are still present in many farmers mind, especially older farmers. Most believe that if too many farmers engage in organic farming, there will be a shortage of food: "In this country if we all go organic we would not produce enough to feed every body. It comes back to you as a round circle." (British farmer). Farmers see organic farming as an old-fashioned way of farming and it seems to them contradictory to what they have been taught: "…We cannot work the same way our grandparents did." (French farmer). Furthermore, some farmers also stated that organic farming is not a good farming practice: "I don't think it is a good way to farm" (British farmer).

A British argued that organic farming is nothing new and refer to farming practice from post WWII: "Organic is the way we used to farm 60-70 years ago, no fertilisers or pesticides and everything. There is nothing particularly new about that" (British farmer). Farmers accept that they have to move away from intensive farming, for many organic farming is not the solution and many are more in favour of sustainable farming: "Organic farming, absolutely not! I am in favour of sustainable farming but not organic farming. There are far too many constraints. Between intensification and organic farming there is a right middle" (French farmer). Organic farmers are usually seen as "green" farmers and marginal farmers and consequently they are not regarded positively by the farming community: "No, I'm not interested in organic farming. I do not have the philosophy for that. Whoever engages in organic farming has to believe in it. You should see these people's mentality." (French farmer).

Farmers from both study areas argued that organic farmers are not competitive with other farmers as the outputs are lower for organic farming. One farmer in Dorset argued that whatever is done to reduce production such as set-aside, organic farming, and the production would not be reduced that much because of the progress in science and genetic engineering. Furthermore they argued that organic farmers are not as competitive as 'intensive' farms so when the price of the milk for example will be based on the world market prices, organic farmers will not be able to compete: "It is not a productive agriculture" (French farmer).

5. Conclusion

The paper review farmers' attitude towards organic farming in two dairy areas. Organic farming constitutes a small part of farming and many farmers have different reasons to engage or not in organic farming. Organic farming has not yet entered farmers' perception of farming but the future change of EU agricultural policy may encourage more farmers to become organic farmers. However, unless organic farming is more regulated, the organic food sector need to be controlled otherwise it may experience similar levels of inelasticity in demand as those operating in the conventional sector and Hall and Mogyordoy (2001, 399) argued that "organic farming may become a slightly modified version of modern conventional agriculture, replicating the same history, resulting in many of the same basic social, technical and economic characteristics – smaller farms become bigger, debt loads increase with increasing capital intensification, labour is replaced by mechanisation and other industrial inputs, and marketing becomes export-orientated rather than local". It is therefore important for research to look into changing policies regarding organic farming and future work looking at the social correlation to organic farming from the farmers and not the consumers' point of view

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ORGANIC FARMING: A SOLUTION TO AGRICULTURE CRISIS OR A "NEW" TREND TO HEALTHY EATING? AN OVERVIEW OF FRENCH AND BRITISH FARMERS

Summary

The McSharry reforms (1992) issues from the Common Agricultural Policy (CAP) led to the widespread implementation of agri-environment measures. Since then, voluntary agri-environment schemes (AESs) have become a key policy instrument for considering and enhancing the environment. As such, some farmers have decided to adapt their farming practice by adopting organic farming.

In recent years, the market for organic produce has increased due to health, food quality and to a lesser extent environmental concerns. However, organic production is not enough to meet the increasing demand for organic products. A survey of French and British dairy farmers reveals the reasons behind the lack of motivation to become an organic farmer:

∞ Misunderstanding of the concept of organic farming.
∞ Conversion period is the main barrier to organic farming: farmers argue it is too long, the premium are too little and there are too many constraints
∞ Organic prices are not guaranteed to be higher than conventional prices.
∞ Role of the supermarkets in food price regulation: the development of organic farming is limited as supermarkets, to some extent, control the market.
∞ Production costs: organic food stuff can be produce cheaper in other country and then imported, therefore limiting the scope for increasing EU organic production.
∞ Farming culture: Some farmers also stated that organic farming is not a good farming practice, it is a contradiction to the farmer's role in society: producing food to feed the nation.
∞ Lack of market opportunity: in dairy areas, like Manche and Dorset, organic milk collection is often very difficult as milk collectors do not always wish to come and collect farmers' organic milk if the farm is too far away from the main collection route as it is not cost effective for organic dairying
∞ Food shortage and rationing from post-war is still present in many farmers mind, especially older farmers.
∞ Old fashioned: for farmers, organic farming is an old-fashioned way of farming and it seems to them contradictory to what they have been taught.
∞ Future: Farmers believe that organic farming will suffer the same fate as intensive farming if too many farmers become organic farmers.

To conclude, organic farming constitutes a small part of farming and many farmers have different reasons to engage or not in organic farming. Organic farming has not yet entered farmers' perception of farming but the future change of EU agricultural policy may encourage more farmers to become organic farmers. However, unless organic farming is regulated, the organic food sector need to be controlled otherwise it may experience similar levels of inelasticity in demand as those operating in the conventional sector. It is therefore important for research to look into changing policies regarding organic farming and future work looking at the social correlation to organic farming from the farmers and not the consumers' point of view.

GRAIN AMARANTH AS AN ALTERNATIVE AND PERSPECTIVE CROP IN TEMPERATE CLIMATE

Silva Grobelnik Mlakar
M.Sc., Senior Lecturer
e-mail: silva.grobelnik-mlakar@uni-mb.si

Matjaž Turinek
B.Sc., Young researcher
e-mail: matjaz.turinek@uni-mb.si

Manfred Jakop
B.Sc., Assistant
e-mail: manfred.jakob@uni-mb.si

Martina Bavec
Ph.D., Associated Professor
e-mail: martina.bavec@uni-mb.si

Franc Bavec (corresponding author)
Ph.D., Full Professor
e-mail: franci.bavec@uni-mb.si

All: Faculty of Agriculture and Life Sciences
University of Maribor
Pivola 10, SI-2311 Hoče, Slovenia

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Abstract
Grain Amaranth as an Alternative and Perspective Crop in Temperate Climate
As a consequence of globalisation and industrialisation of agriculture, global food security has become increasingly dependent on only a handful of fertilisation and energy high demanding plant species. This involution has increased the vulnerability of agriculture, reduced genetic diversity, provoked some environmental problems and impoverished the human diet. The mentioned facts stimulate the retrieving of alternative crops into the production. The present paper briefly describes crop importance, botany, nutritional value and utilisation of grain amaranth (Amaranthus spp.), one of the alternative crops discussed in the book Organic Production and Use of Alternative Crops. The immediate objective of this paper is to present information gained as a result of a national project on grain amaranth.

Key words
grain amaranth, nutrition value, utilisation

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1. Introduction

Globalisation of agriculture and consequently its industrialisation seem inexorable, with negative side effects felt throughout the world. These effects include, but are not limited to, biased technological development of usage of only some, fertilisation and energy high demanding, plant species, monoculture production and in this way reduced genetic diversity in agriculture. As a consequence, global food security has become increasingly dependent on only a handful of crops. Even if humankind has, over time, used more than 10,000 edible species, today only 150 plant species are commercialized on a significant global scale, 12 of which provide approximately 80% dietary energy from plants and over 60% of the global requirement for proteins and calories are met by just four species; rice, wheat, maize and potato (FAO 2005).

The narrowing of the number of crops upon which global food security and economic growth depend has placed the future supply of food and rural incomes at risk. The mentioned facts with profound environmental consequences and concern for loss of crop varieties stimulate organisations and scientists worldwide in retrieving, researching and disseminating the knowledge in production and utilisation of neglected, disregarded, underexploited and new plant species, or so called alternative crops. Alternative crops are plant species that are used traditionally for their food, fibre, fodder, oil or medicinal properties. They have an under-exploited potential to contribute to food security, nutrition, health, income generation and environmental services. The present paper briefly describes the pseudocereal grain amaranth (*Amaranthus* spp.), one of the alternative crops which are suitable for growth in temperate climates and are discussed in the book Organic Production and Use of Alternative Crops (Bavec and Bavec 2006). The immediate objective of this paper is to present information gained as a result of a national project on grain amaranth; its production, nutritional quality and possible utilisation in our production environment.

2. Taxonomic classification and morphology

Grain amaranth belongs to the order *Caryophyllales*, amaranth family *Amaranthaceae*, sub-family *Amaranthoideae*, genus *Amaranthus*, and according to Sauer (1967), into the section *Amaranthus*. The genus *Amaranthus* includes approximately 60 species, most of which are cosmopolitan weeds (*A. retroflexus L., A. hybridus L., A. powellii S. Watt., A. spinosus L.*) and cultivated amaranth species which can be used as food grain, leafy vegetables, forage and ornamentals.

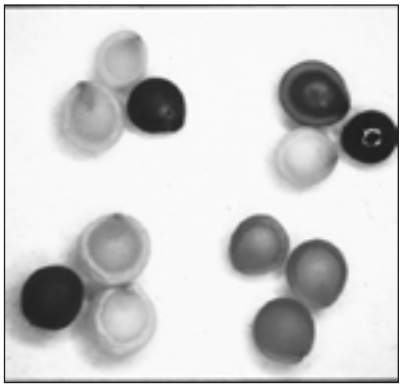
According to the utilization of cultivated amaranths for human consumption, species can be divided into grain and vegetable amaranths:

- Vegetable amaranth: most *Amaranthus* species have edible leaves, and several species (*A. blitum* L.; sin. *A. lividus* L., *A. viridis* L.; sin. *A. gracilis* Desf. and *A. tricolor* L.; sin. *A. gangeticus* L.) are already widely used as potherbs (boiled greens). Their mild spinach-like flavour, high yields, ability to grow in hot weather, and high nutritive value have made them popular vegetable crops, perhaps the most widely eaten vegetables in the humid tropics of Africa and Asia.
- Grain amaranth: belongs to a group of cereal-like grain crops or pseudocereals. The three principal species considered for grain production include:
    - *Amaranthus hypochondriacus* L. (sin. *A. leucocarpus* S. Watts, *A. frumenta*

ceous) - prince's feather;
- *A. cruentus* L. sin. *A. paniculatus* L. - bush greens, red amaranth
- *A. caudatus* L. of two subspecies: subsp. *caudatus*; and subsp. *mantegazzianus* Passerini syn.: *A. edulis* Spagazzini, named love-liebleeding and Inca wheat, respectively.

Grain amaranth is an annual herbaceous plant, one of the few C_4 dicots, with an erect stem and enormous inflorescence of various colours (Fig. 1a). Some anatomical characteristics of amaranth and its C_4-photosynthesis pathway result in increased efficiency of using CO_2 under a wide range of temperature (from 25 to 40 ºC), under higher light intensity, and moisture stress environments. All this contributes to the crop's wide geographic adaptability to diverse environmental conditions (Kigel 1994). The three grain species can be distinguished by inflorescence type and by some characters of pistillate flower structures: bract length, sharpness and position, as well as tepal and utricle shape, leaf morphology and gross plant morphology. The seed is lenticular and relatively small (0.9 to 1.7 mm diameter) with 1000-seed weights from 0.6 to 1 g (Sauer 1967; Kigel 1994). The colour of the seed in amaranth varies from white, gold, brown and pink to black (Fig. 1b).

(a)



(b)

Fig. 1: Grain amaranth varieties collection (a), grain amaranth seeds (b) amaranth seeds, 25-magnitude.
Source: Grobelnik Mlakar

3. Importance of crop in the past and in the present

In Pre-Columbian times, grain amaranth was one of the basic foods of the New World. It was nearly as important as corn and beans and was one of the principle items demanded as tribute. In the Codex Mendoza, a complex document on history, economy and ethnography of the Aztec, commissioned by the Spanish viceroy Antonio de Mendoza in around 1541-42, it is written that each year around 8,000,000 kg of *huautli* (mixture of amaranth and quinoa grain) was brought to Tenochtitlan, as an annual tribute paid to the emperor Montezuma 11. The quantity of *huautli* was comparable to tribute in maize and bean. The Indians used amaranth in beverages, sauces, porridges, they milled it into flour and prepared tortillas (also with maize flour), popped grains like maize, and for various medical uses. Besides in diet, amaranth had an important position also in Indians' religion. The grain was ground, mixed with water, honey, or even human blood and dough was then formed into the shapes of idols (*zoale*). Idols were paraded and consumed in a ritual manner as a symbol of communion with the gods. Because of the similarity between this communion ritual and Catholic Holy Communion, the Spaniards prohibited the cultivation and use of amaranth by legislative fiat. Besides this, the reason for the reduction in amaranth production was the introduction of new crops from Europe; small seed size may also be a reason for slow process of coming into modern use and practice (National Academy of Sciences 1984; Kauffman 1992; Schnetzler, Breene 1994).

Sauer (1967) reports the introduction of amaranth into Spain in 16th century, from where it had spread throughout the Europe. Around 1700s, it was known as a minor grain plant in central Europe and Russia and by the early 19th century it reached Africa and Asia. After that amaranth production in Europe declined and reduced to the state of an ornamental plant. Nowadays in Asia and Africa amaranth is mainly planted as a vegetable plant, and only in the Himalayan region of Asia it has been maintained as a minor cereal food.

The scientific plant name – *amaranth* signifies in Greek "immortal", "everlasting" or "non-wilting". The name could be poetically connected with a story of renaissance or "rediscovering" of amaranth crop. The first to draw attention to the nutritional value of amaranth was an Australian investigator Downtown (in 1973 he found out the high lysine concentration in grain of *A. edulis*). The interest for the crop was raised by the book Unexploited Plants with Promising Economic Value, which was published in the 1970s and presented cultivated grain amaranths as potential source of high quality proteins. Though quite small in comparison to other grains, amaranth has been extensively studied. There exists a surprisingly large volume of literature available, particularly on the nutritional qualities of amaranth, crop breeding, production and processing methods, development and commercialisation of new amaranth products. The strongest interest in amaranth (investigation and production) in Europe has been in Austria, Czech Republic, Slovak Republic, Germany, Hungary, Poland, Russia, Italy and Slovenia (Berghofer, Schoenlechner 2002).

4. Nutritional value and utilisation

A seed of grain amaranth is on average composed of 13.1 to 21.0% of crude protein; 5.6 to 10.9% of crude fat; 48 to 69% of starch; 3.1 to 5.0% (14.2%) of dietary fibre and 2.5 to 4.4% of ash.

Proteins have high digestibility (approx. 90%) and are rich with lysine – 0.34 g Lys/g N (which usually appears in grains as limiting amino acid). Amaranth seed is also a rich source of tryptophan and amino acids containing sulphur - these usually do not appear often enough in grains. This extremely balanced amino acid composition is the result of the fact that in amaranth 65% of proteins are found in the embryo and only 35% in the perisperm whereas in other grains amino acids in endosperm prevail (85% in average) and are poorer with essential amino acids. Amaranth's balanced amino acid composition is close to the optimum protein reference pattern in the human diet according to FAO/WHO requirements (Table 1). The combination of amaranth and maize flour (50:50) nearly reaches the perfect score of 100 on the nutritionist's scale and also the combination of amaranth and wheat flour increases the nutritional value of baked products (National Academy of Sciences 1984; Saunders, Becker 1984; Bressani 1989; Joshi, Rana 1991; Segura-Nieto et al 1994; Grobelnik Mlakar et al 2009).

Approximately 76% of fatty acids are unsaturated, the share of linoleic fatty acid is 25-62%, oleic acid 19-35%, palmitic acid 12 - 25%, stearic acid 2 - 8,6% and linolenic fatty acid 0.3 – 2.2%. The saturated/unsaturated fatty acid ratio ranges from 0.29 to 0.43. Amaranth oil has been reported to contain larger amounts (7-8% and 11%) of squalene (olive oil contains 1 % of squalene), which is often used and appreciated in cosmetics and medicine and produced from the liver of whales and sharks. Amaranth oil is a rich source of tocotrienols known to lower the LDL-cholesterol. Amaranth seed contains 0.27- 0.32 mg/g of sterols (Becker 1981; Plate Areas 2002).

Starch mostly contains amilopectin (93.6 – 95.2%). Amaranth starch granules are extremely small (0.8-2.5 μm) in comparison to the size of starch granules of other grains: rice 3-8 μm, wheat 3-34 μm, corn 5-25 μm. Smaller granules have a greater water-binding capacity, higher swelling power, lower gelatinization temperature and high resistivity to amylases. Due to the facts mentioned above, amaranth starch shows good gelatinization properties and freeze/thaw stability appreciated in food industry (Breene 1991; Lopez et al. 1994; Williams, Brener 1995; Bhandari, Singhal 2001; Pal et al 2001).

The seed of grain amaranth is a rich source of iron (72-174 ppm), calcium (1300-2850 ppm), natrium (160-480 ppm), magnesium (2300-3360 ppm) and zinc (36.2-40 ppm) as well as vitamin riboflavin (0.19-0.23 mg/100g of flour) and ascorbic acid (4.5 mg/100 gm of flour), niacin (1.17-1.45 mg/100 g of flour), thiamine (0.07-0.1 mg/100 g of flour) and other microelements (Becker et al 1981).

Amaranth – greens and grain have been used in a wide variety of food. Vegetable types (also leaves of grain one) are usually picked fresh, used as greens in salads or blanched, steamed, boiled, stir fried, or baked to taste. Cooked greens can be used as a side dish, in soups, as an ingredient in baby food, lasagne, pasta, pie, souflé, etc. Amaranth grain, mostly rolled or popped can be used in muesli and in granola bars. Grain can also be germinated for sprouts, malted for beer production, fermented or can serve as a starchy material in spirit production. Furthermore, amaranth, like maize and buckwheat, can be popped through intense, short and dry heat without addition of fat. Ground grain can be used as a flour ingredient in different mixtures for pancakes, bread, muffins, dumplings, crackers, cookies, pudding, etc. (Bejosano, Corke 1998; Early 1990; Berghofer, Schoenlecher 2002; Grobelnik Mlakar et al 2009).

Tab. 1: Essential amino acids in seeds of different grain amaranths and some other crops (g 100 g^{-1} of protein).

	Amino acid									
Protein source	Trp	Met/ Cys	Thr	Isl	Val	Lys	Phe/Tyr	Leu	LAA[A]	EAA[B]
FAO/WHO (1973)	1,0	3,5	4,0	4,0	5,0	5,5	6,0	7,0		
Amaranth (average)[a]	1,3	4,4	2,9 (0,73)[C]	3,0 (0,75)	3,6 (0,72)	5,0 (0,91)	6,4	4,7 (0,67)	67	87
A. cruentus[b]	---	4,1	3,4 (0,85)	3,6 (0,90)	4,2 (0,84)	5,1 (0,93)	6,0	5,1 (0,73)	84	89
A.cruentus[c]	0,9 (0,90)	4,6	3,9 (0,97)	4,0	4,4 (0,88)	6,0	7,9	6,2 (0,88)	88	95
A.cruentus[c]	---	4,6	3,9 (0,97)	4,0	4,5 (0,90)	6,1	8,5	6,1 (0,87)	87	96
A. caudatus[c]	1,1	4,9	4,0	4,1	4,7 (0,94)	5,9	8,1	6,3 (0,90)	90	98
A. hypochon-riacus[d]	1,82	0,6-Met (0,34)	3,3 (0,83)	2,7 (0,68)	3,9 (0,78)	5,95	8,42	4,2 (0,60)	34	78
A. cruentus[e]	1,4	4,1	3,4 (0,85)	3,6 (0,90)	4,2 (0,84)	5,1 (0,93)	6,0	5,1 (0,73)	73	91
Amaranth (average)[a-e]	1,3	4,5	3,5 (0,88)	3,6 (0,90)	4,2 (0,90)	5,6	7,3	5,4 (0,77)	75	91
Barley[a]	1,2	3,2 (0,91)	3,2 (0,80)	4,0	4,7 (0,94)	3,2 (0,58)	8,2	6,5 (0,93)	83	97
Buckwheat[a]	1,4	3,7	3,9 (0,98)	3,8 (0,95)	5,2	5,9	5,8 (0,97)	5,8 (0,83)	83	97
Maize[a]	0,6 (0,6)	3,2 (0,91)	4,0	4,6	5,1	1,9 (0,35)	10,6	13,0	35	86
Oat[a]	1,2	3,4 (0,97)	3,1 (0,78)	4,8	5,6	3,4 (0,62)	8,4	7,0	62	92
Rice[a]	1,0	3,0 (0,86)	3,7 (0,93)	4,5	6,7	3,8 (0,69)	9,1	8,2	69	94
Soya[a]	1,4	3,1 (0,89)	3,9 (0,98)	5,4	5,3	6,3	8,1	7,7	89	98
Wheat[a]	1,2	3,5	2,7 (0,68)	4,1	4,3 (0,86)	2,6 (0,47)	8,1	6,3 (0,90)	47	86

A - relative value of limited amino acid according to FAO/WHO requirements
B - relative value of essential amino acids according to FAO/WHO requirements
( )C - relative requirement recovery with 100 g of protein
Sources: a - Senft (1979); b - Betschart et al. (1981); c - Becker et al. (1981); d - Dodok et al. (1994); e - Sanchez-Marroquin et al. (1986).

Due to the stated unique seed composition, grain amaranth has certainly a potential to become a more considerable non-wheat material in composite flours used for fortified food production. Fortification is defined by the Codex Alimentarius as "the addition of one or more essential nutrients to a food, whether or not it is normally contained in the food, for the purpose of preventing or correcting a demonstrated deficiency of one or more nutrients in the population or specific population groups" (FAO 1996). The composite flour technology referred to the process of mixing wheat and non-wheat high protein components or used non-wheat mixtures (roots and tubers, legumes or other raw materials) as such in bread making, baking goods and pasta products (De Ruiter 1978). Effective wheat bread fortification by amaranth flour addition was demonstrated by many authors reviewed by Grobelnik Mlakar et al (2008). The reviewed authors recommend 10 to 15% amaranth flour or 1 to 3% amaranth albumin isolates of wheat flour supplementation to get bread of proper baking characteristics. Amaranth was recognized as gluten-free and is therefore suitable for diets of celiac disease patients (Thompson 2001).

5. Amaranth as a perspective crop in temperate climate – our own experience

The raised attention towards grain amaranth and its utilisation is also pointed out by projects carried out in Europe recently. In this sense, the Slovene national project funded by the Ministry of Higher Education, Science and Technology and co-financed by Žito-Intes, a Milling and Food Industry company, entitled "Investigation of some indefinite aspects of growth, composition and rheological properties of grain amaranth seed" was concluded in 2007. In the frame of the Cordis FP6, the project entitled "Adding Value to Holy Grain: Providing the Key Tools for the Exploitation of Amaranth, the Protein-Rich Grain of the Aztecs" is running since 2006. The objective of this project is to provide the tools for an extensive and sustainable exploitation of amaranth as a health-promoting food and its industrial use (IST World 2009).

In the above mentioned Slovene project, some indefinite and interacting effects of climatic and producing factors were investigated, such as soil texture, soil humidity, day length and sowing depth on early growth stages of grain amaranths. The study also discusses the effects of year (2001, 2002, 2005 and 2006), sowing date (beginning of 2^{nd} decade of May and 2^{nd} decade of June), nitrogen rate (defined according to mineral nitrogen amount at the time of sowing) and plant density (50 and 75 plants/m^2) on yield, crude protein, and amino acid composition in the seeds of grain amaranth (Amaranthus cruentus "G6"). Furthermore, different blends containing amaranth flour, their pasting behaviour and dough rheological characteristics were also investigated. The baking properties of bread made with amaranth flour supplementation were also described. Some information and our own results obtained in the frame of this national project will be discussed below.

Amaranth grain yield strongly depends on environment, weather conditions, species, genotype, and production techniques, and varies in a wide range from 500 to 2,000 kg grain per ha. With appropriate varieties and production techniques yields of 1,500 to 3,000 kg grain per ha can be expected (Williams, Brenner 1995). Jamriška (1990) and Kaul et al (1996) reported amaranth grain yields in Europe between 2,000 and 3,800 kg ha^{-1}.

According to trial results, the above ground biomass as well as grain yield were significantly influenced by the year of production, sowing date and nitrogen fertilisation, and ranged between 14,000 - 49,000 kg ha^{-1} and 1,500 to 3,000 kg ha^{-1}, respectively. Results suggested that a more appropriate sowing date is in May, and a stand density of 50 plants/m^2. Averaged across years, amaranth yields and grain protein content increased linear to nitrogen fertilization. With selected cultivar "G6" above-ground biomass of 33,120 kg/ha, 1,748 kg/ha of grain with 14.7% of crude protein can be expected.

As part of the trial, which was set to optimize amaranth production practice, the grain amino acid pattern was studied to determine the effects of sowing date, plant density and nitrogen fertilisation. According to the results, plant density did not influence the amino acid pattern, nitrogen application influenced only valine concentration, and the most predominant interaction in the case of almost all amino acids was year x sowing date. The concentration of summarised essential amino acids varied, regarding vegetation period and sowing date, in the range of 33.31 to 34.59, lysine from 5.86 to 6.04, and methionine between 2.23 and 2.39 g 100 g^{-1} protein. Leucine is shown to be the first limiting amino acid (Grobelnik Mlakar et al,

unpublished data).

With regard to crop agricultural advantage and its nutritional benefits, grain amaranth has certainly a potential to become a more considerable non-wheat material in composite flours. The main problem in the use of amaranth as a component replacing wheat in the blends arises from the fact that it does not contain gluten, and thus the addition into leavened and pasta products is limited. Additionally, amaranth has a distinct aroma and flavour described as spicy, slightly pungent with bitter aftertaste (Saunders, Becker 1984). According to our own experience in organically produced amaranth containing composite flours, their pasting and rheological properties strongly depend on the basic cereal used. Therefore, initial gelatinisation temperature and maximum viscosity increased with increasing replacement ratio of refined wheat flour with amaranth flour from 0 to 30%, while in the case of both spelt flours (refined and wholegrain) the values decreased by increased substitution. However, increasing levels of amaranth flour in the blends increased farinograph quality number, water absorption, development time, stability of dough and decreased degree of softening. A general observation derived from obtained extensograms was that the addition of amaranth strengthens the dough, mainly by decreasing its extensibility and, in the case of spelt flours, by increasing the resistance of dough to extension.

Considering the reviewed literature and results obtained in our own experiment, amaranth substitution of up to 20% is recommended to improve nutritional value, some rheological properties and to strengthen the dough (Grobelnik Mlakar et al, unpublished data). According to our own, yet unpublished data, breads made of wheat and refined spelt flours with 10% amaranth addition had the highest loaf volume and thus the highest specific volume, but further increases of amaranth rate in composite flours resulted in decreased values. Loaf volume as well as specific volume was not influenced up to 10% of substitution in the case of spelt wholegrain flour. Considering the sensory results obtained according to an official Slovene bread evaluation system and according to a 10-point liking scale evaluation procedures, the composite breads were generally graded as acceptable. Loaf form and appearance, loaf colour, appearance and property of crust and crumb of various composite breads were evaluated even superior in respect to controls (Grobelnik Mlakar et al, unpublished data).

6. Conclusion

Due to some stated unique properties and versatile usage, grain amaranth - the holy grain of the Aztecs, has gained an increased attention since 1970s when it was re-discovered. Moreover, grain amaranth has some agricultural advantages and noted ability to grow successfully in adverse environmental conditions such as high irradiance, temperature and drought. The enumerated attributes confirmed with numerous, above all fundamental, scientific information ultimately govern its food, feed, as well as some industrial application potentials. Apart from more or less traditional dishes, where amaranth grain or young leaves could completely or partially replace common ingredients, produces have also the potential for application as an ingredient in food formulation. In such a manner amaranth grain in the form of flour, flakes, sprouts, or grain undergoing fermentation, popping, malting, extrusion cooking, nixtimisation, special compounds isolation, etc. might be exploited. Raised attention on grain amaranth and its utilisation is pointed out also by approved and funded projects carried out in Europe recently.

Food items like bread, biscuits and pasta are most consumed and therefore appropriate carriers for protein enrichment. Grain amaranth has been tested and by many authorities recognised as a gluten-free foodstuff suitable for incorporation into the diet for celiac disease patients. It contains high levels of fibres, calcium and iron, nutrients often difficult to get into a gluten-free eating plan. On the other hand, lack of gluten is a limiting factor for application of grain amaranth into the composite flour for leavened products. However, dough rheological properties and baking performance depend on the sort and quality of basic cereal used, and the baking quality of amaranth containing composite flour could also be improved by common used bread-making additives. Another fact limiting composite bread acceptance is a distinct aroma and flavour of amaranth grain. Deteriorative sensory effects occurred at higher substitution rates, while bread with amaranth addition in concentration up to 15 % is described as being nutty and pleasant tasting. Since amaranth containing breads are speciality breads, Lorenz (1981) proposed the application of standards other than those for wheat bread in their quality evaluation. However, consumer's food acceptance depends on sensory, but also on non-sensory factors. The non-sensory factors include not only aspects such as price and convenience of preparation, but also the production methods, consumer's attitudes, awareness of health and the environment, and product beliefs. Due to raised consumers' awareness of health and the environment, and due to product specialities, amaranth containing bread has, in authors' opinion, a particular possibility to be introduced on the market as being produced and processed in the organic way.

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GRAIN AMARANTH AS AN ALTERNATIVE AND PERSPECTIVE CROP IN TEMPERATE CLIMATE

Summary

Globalisation of agriculture and consequently its industrialisation seem inexorable, with negative side effects felt throughout the world. These effects include, but are not limited to, biased technological development of usage of only some, fertilisation and energy high demanding plant species, monoculture production and in this way reduced genetic diversity in agriculture. The mentioned facts with profound environmental consequences and concern for loss of crop varieties stimulate organisations and scientists worldwide in retrieving, researching and disseminating the knowledge in production and utilisation of neglected, disregarded, underexploited and new plant species, or so called alternative crops. Besides the ecological advantages of their inclusion in production on agriculture, the alternative crops have, in principle, also a high nutritional value. Considering more than 30 alternative crops described in book Organic Production and Use of Alternative Crops, which are suitable for growth in temperate climates, the present paper discusses the grain amaranth, a pseudocereal with a rich history as a staple and sacred food of indigenous civilisations in South America. It was rediscovered in 1970s and is recently attracting increased interest from the agronomic, as well as nutritional and processing point of view. According to the information obtained in the scope of a national research project, grain amaranth is recognised as a perspective crop suitable for production of highly nutritive food also under our conditions.

HEALTH RESORTS AND THEIR IMPORTANCE FOR THE DEVELOPMENT OF LESS DEVELOPED AREAS IN SLOVENIA

Uroš Horvat
Ph.D., Assistant Professor
Department of Geography
Faculty of Arts
University of Maribor
Koroška cesta 160, SI-2000 Maribor, Slovenia
e-mail: uros.horvat@uni-mb.si

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Abstract
Health Resorts and Their Importance for the Development of Less Developed Areas in Slovenia
In the paper is presenting the importance of health resorts for the development of less development areas in Slovenia. Health resorts are one of the oldest kinds of tourist resorts and started to develop in Slovenia already in 18th and in the beginning of 19^{t}h centuries. The main reasons for the first tourists' visits were connected with bathing in thermal waters, drinking of healing water, socializing of the higher social classes and entertainment. Later, the health resorts became centres of highly qualified medical rehabilitation based on the basis of using of natural remedies and modern medical treatments. The so called classical health resorts prevailed in Slovenia until the mid-1980s. The beginning of the 1990s marked an important turnabout in the development of health resorts in Slovenia. With the construction of modern swimming pools, some health resorts have started to use thermal water for fun and "experience". The so called "thermal rivieras" or "thermal parks" have emerged with covered or open pools, which are open throughout the year. The reorientation to mass tourism based on recreation, healthy lifestyle, wellness etc., as well as spending of holidays in apartment accommodation have significantly increased the tourist visits in the so called recreation health resorts. These are usually located in less developed areas of the country, which means their importance is even greater for the employment of the inhabitants and the spatial and functional development of rural areas. In the case study author is orientated especially on the development of the health resorts in the Posotelje region (in NE Slovenia).

Key words
tourism, health resort, spa, less developed areas, Slovenia

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1. Introduction

In 2009 visited Slovenia 2.7 million tourists, and they made 8.3 million overnight stays) (SURS 2010). In the international scale that number represented only 0.15% of all international tourists in the world (geographically, Slovenia is a small country with surface of 20,273 km^2 and 2.0 million population), while its income from tourism represents only 0.25% of that in the world. A more realistic picture of the importance of the tourism in Slovenia can be gained from comparing the following data. In 2006, Slovenia in Europe ranked 20th place according to overnight stays per inhabitant (Tourism Statistics 2008), and in 2000 10th place according to the income in foreign currency per inhabitant (Koprivnikar and Šušteršič 2002, 50-52). Slovenia belongs also to the group of European countries for which tourism is very important in their national economy (Lorber 2006). 5.5% of its GNP (with multiplication effect of 8.5%) comes from tourism; in 2006 Slovenia ranks on the third place between European countries (after Spain and Austria, and before France and Italy). Tourism also directly created around 5% of working posts in Slovenia (SURS 2009).

Slovenia comprises regions that are quite diverse in their natural and cultural character in relatively short distances. Vacation travels of tourists have been oriented particularly to four mayor tourist destination areas: to the Sub-Mediterranean (seaside) region, to the Alpine (mountain) region, to the health resorts (spas) of Eastern Slovenia, and to the mayor towns (especially to the capital, Ljubljana). Health resorts are one of the oldest kinds of tourist resorts and started to develop in Slovenia already in 18th and the beginning of 19th century. The world known health resort in Slovenia is Rogaška Slatina spa with 400 years of tradition. After the WW II, several new springs of thermal and mineral water were made fit for use through geologic drill holes, thus the area of health resorts was expanded to several new locations. In the 1970s and 1980s health resorts became centers of highly qualified medical rehabilitation centers, based on the use of natural remedies and modern medical treatments.

The beginning of the 1990s marked an important turnabout in the development of health resorts in Slovenia. With the construction of modern "thermal parks", they reoriented into mass tourism, based on recreation, healthy lifestyle, wellness, etc., as well as spending of holidays. So, we could see that after 1990s, the health resorts became the most important group of tourist resorts in Slovenia, with around 1/3 of all overnight stays in the country. They are usually located in less developed areas of the country (in NE Slovenia), which means that their importance is even greater for the employment of the inhabitants and the spatial and functional development of rural areas.

2. Tourist development in Slovenia and the importance of health resorts

Prior to the beginning of the 19th century, there were only two relatively important forms of "tourist" travels on the territory of the present-day Slovenia. The oldest were pilgrimages, and the other type was journeys to the mineral or thermal springs (Jeršič 1998, 457). The first written documents to mention the Dobrna thermal water date back to the beginning of the 15th century and to mention mineral water in Rogaška Slatina date back to the 16th century (Horvat 2000, 38).

The real tourist travels developed in Slovenia at the beginning of the 19th century. Among the early forms of tourism are visits to Karst phenomena and also health

resorts. In the middle of the 19th century the railway between Vienna and Trieste made Slovenia much more accessible to visitors from cities of the Austria - Hungary monarchy. The railway to the west part of the country facilitated mountain tourism. The seaside tourism began to develop as early as the 19th century, but reached a more intensive phase in the beginning of the 20th century. In addition to health resorts, in the period between WW I and WW II tourists were interested also in swimming, skiing and other winter sports as well as in taking short trips (Kresal 1996, 122).

The early 1960s represent a new stage in the development of tourism in Slovenia. The state promoted the modernization of the existing and construction of new tourist facilities. It also supported modernization of transport infrastructure. This was a period when started heavy transit flow of tourists from Western and Northern Europe towards the Croatian coast and forward to South-Eastern Europe (Jeršič 1998, 459). The relaxation of formalities at entry points to Yugoslavia (without visas) helped as well.

In mid-1960s, Slovenia already became an important international tourist destination. Especially the share of foreign tourists grew very rapidly (up to 47%). The majority of foreign tourists at that time came from Germany, Austria and Italy. Among those coming from other Yugoslav republic, the majority came from Croatia and Serbia. In addition to single destinations at the seaside and in health resorts, we see a development of winter sports tourism, business and congress tourism in the cities, and rural tourism in the countryside. Tourist visits reaches its peak in Slovenia in mid-1980s with over 9.2 million overnight stays (Fig. 1).

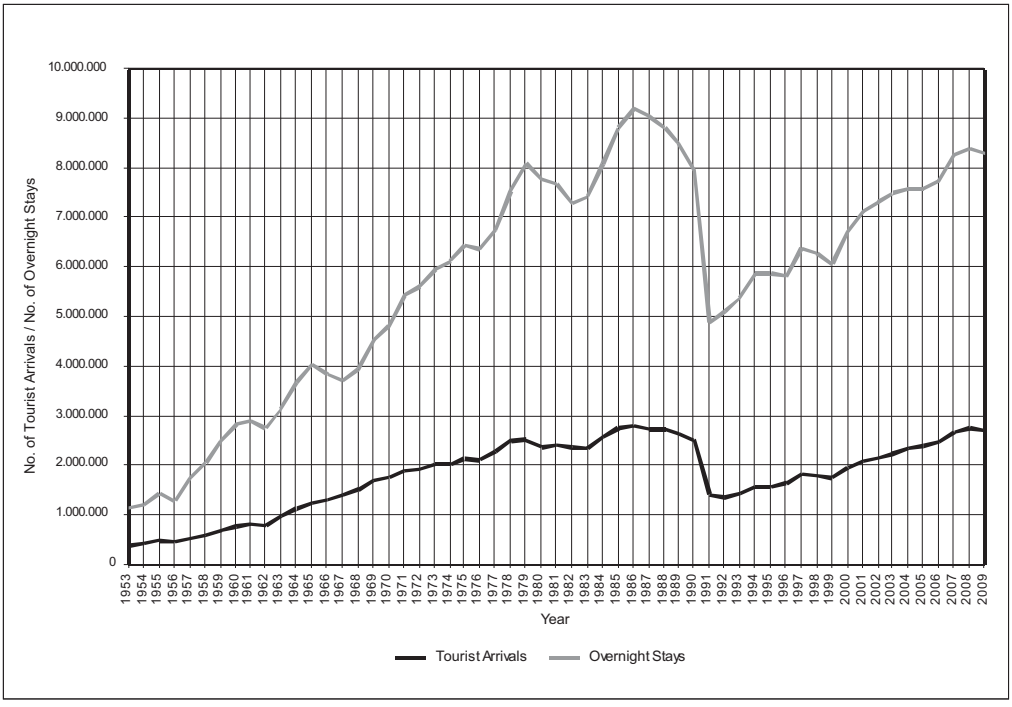

Fig. 1: Number of Tourist Arrivals and Overnight Stays in Slovenia, 1953-2009.
Source: SURS 2010

In 1991 Slovenia for the first time in his history became an independent state. Besides all changes in political and economic system, that period is also a period of great changes in tourist flows, caused by the war on the Balkans that resulted in the breakup of former Yugoslavia. As a result of that, in the first half of the 1990s, Slovenia experienced worst times in modern tourist industry's history ever. That was the period of only 5 million overnight stays per year on average, which was less than in the period prior to 1973. In 1991 we see a drastic drop in the number of foreign tourists in Slovenia, but after 1991 a major factor that contributed to the low number of visitors was a major drop in the number of tourists from former Yugoslav republics. The share of their overnight stays, which was over 30% in the 1980s, dropped to only 6% in the 1990s (Fig. 2) (Horvat 2005, 161-170).

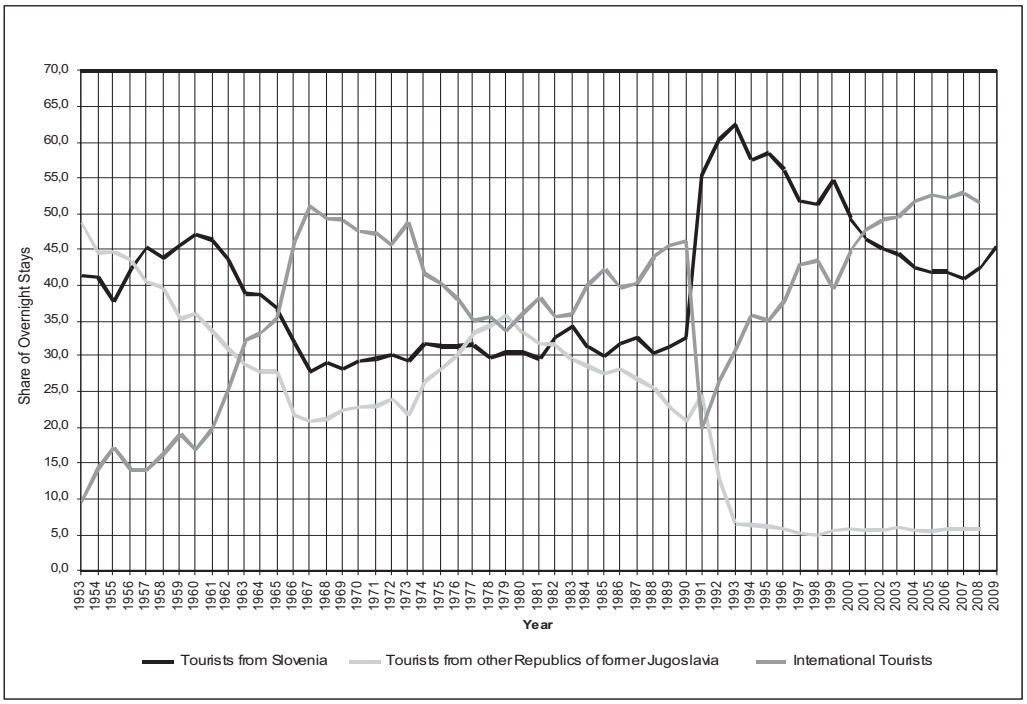

Fig. 2: Share of Overnight Stays by Origin of Tourists, Slovenia 1953-2009.
Source: SURS 2010.

The stabilization of the political situation in the Balkans after the year 2000 signifies also a renewed growth of tourism in Slovenia. The number of tourists exceeds 2 million, and overnight stays exceeds 8 million, which equals 90% of overnight stays in 1986. Tourists from former Yugoslav republics are still in the minority. Most tourists come from the neighbouring countries. For the first time the country with the highest number of overnight stays is Italy. It is followed by Germany and Austria. Owing to Slovenia's joining of the EU in 2004, the renewed transit tourism across Slovenia and to the introduction of low-cost flights, the gravitational areas from which tourists come to Slovenia, widened again (to The Netherlands, Great Britain, Russian Federation, and other countries).

After year 2000 with a new tourism strategy, a new development paradigm has come forward. It is based on development of new, high quality tourist products,

which are interesting for the market and make use of the advantages of Slovenian tourism in comparison with competitive countries. The emphasis of the new approach is no longer on mass tourism, but on creation of attractive market niches in the frame of European tourist offer. The new direction of tourist development in Slovenia is based on the development of the following kinds of tourism: health and wellness tourism, coastal tourism, mountainous tourism, countryside tourism, business and congress tourism, cultural tourism, casino and entertainment tourism, ecological tourism, recreation tourism, adventure tourism, transit and excursion tourism (Horvat 2008).

Slovenia comprises regions that are quite diverse in their natural and cultural character in relatively short distances. Vacation travels of tourists have been oriented particularly to four mayor tourist destination areas: to the Sub-Mediterranean (seaside) region, to the Alpine (mountain) region, to the health resorts (spas) of Eastern Slovenia, and to mayor towns (especially to the capital, Ljubljana).

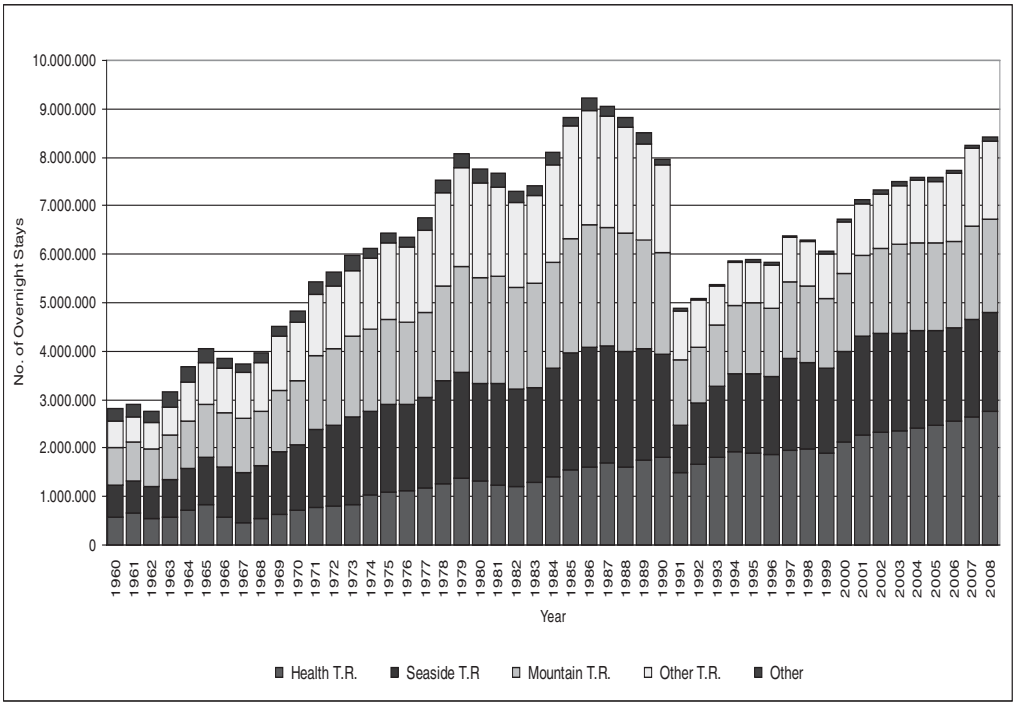

Fig. 3: Number of Overnight Stays per Type of Tourist resort, Slovenia 1960-2008.
Source: SURS 2010.

Health resorts are one of the oldest kinds of tourist resorts and started to develop in Slovenia already in 18th and the beginning of 19th century. They had developed around the springs of thermal and mineral water, mostly in the eastern part of the country. The world known health spa in Slovenia is Rogaška Slatina spa with 400 years of tradition. In terms of the magnesium content of, its mineral water is unique in Europe. It was already served at the imperial court in Vienna in 18th century and at the papal court in the Vatican (Horvat 2000). But after the WW II, several new springs of thermal and mineral water were made fit for use through geologic drill holes. Thus the area of spas was expanded to several new locations.

Health and spa resorts in Slovenia were primarily intended for the so called "social" tourism, and only after 1960 they started to be included into the international tourist offer more intensely. They became centers of highly qualified medical rehabilitation centers, based on the use of natural remedies and modern medical treatments. The so called "classical health resorts" prevailed in Slovenia until the mid-1980s. The beginning of the 1990s marked an important turnabout in the development of health resorts in Slovenia. With the construction of modern swimming pools, some health resorts have started to use thermal water for fun and "experience". The so called "thermal rivieras" or "thermal parks" have emerged with in-door and out-door pools which are open throughout the year. The reorientation into mass tourism based on recreation, healthy lifestyle, wellness, etc., as well as spending of holidays in apartment accommodation have significantly increased the tourist visits in the so called "recreational health resorts".

In the mid-1980s the Rogaška Slatina health resort was the leading health resort in Slovenia (380,000 overnight stays), but with the faster development of other health resorts its significance began to decline. Such alterations in the development policy of some Slovenian health resorts, which are oriented mostly into recreational, had a great impact on the fact that Rogaška Slatina (with its emphasis on the medical-preventive services) was in the mid-1990s overtaken by other so called "recreational" health resorts. In 2008, the most important health resort was the Čateške Toplice spa (594,000 overnight stays; it was also the third largest tourist resort in Slovenia), followed by the Moravske Toplice spa (456,000) and the Terme Olimia spa in Podčetrtek (350,000). Tab 1. shows the top-ten most important tourist resorts in Slovenia between 1971 and 2006. In Fig. 3. we could also see that after 1990s, the health resorts became the most important group of tourist resorts, with around 1/3 of all overnight stays in Slovenia.

Tab. 1: Top-ten Most Important Tourist Resorts in Slovenia, 1971, 1986, 2006.
Source: SURS 2010.

	1971		1986		2006	
	Tourist Resort	Overnight Stays	Tourist Resort	Overnight Stays	Tourist Resort	Overnight Stays
1.	Portorož [2]	821.353	Portorož [2]	1.452.399	Portorož [2]	908.591
2.	Ljubljana [4]	501.646	Ljubljana [4]	723.901	Ljubljana [4]	635.701
3.	Bled [3]	464.102	Bled [3]	662.258	Čateške Toplice [1]	551.471
4.	Rogaška Slatina [1]	240.591	Kranjska Gora [3]	507.792	Bled [3]	516.729
5.	Bohinj [3]	213.688	Rogaška Slatina [1]	383.525	Moravske Toplice [1]	394.202
6.	Izola [2]	198.026	Izola [2]	305.489	Izola [2]	371.259
7.	Piran [2]	184.036	Bohinj [3]	304.416	Podčetrtek [1]	312.966
8.	Koper [2]	172.341	Čateške Toplice [1]	267.925	Kranjska Gora [3]	304.571
9.	Maribor [4]	169.078	Ankaran [2]	245.999	Rogaška Slatina [1]	268.035
10.	Ankaran [2]	154.473	Maribor [4]	194.619	Ankaran [2]	206.721
	Slovenia	5.443.561	Slovenia	9.213.434	Slovenia	7.717.022
	% 1.-10.	57,3	% 1.-10.	54,8	% 1.-10.	57,9

Note: Type of Tourist Resort: 1 – Healt t.r., 2 – Seaside t.r., 3 – Mountain t.r., 4 – Other t.r. and mayor towns.

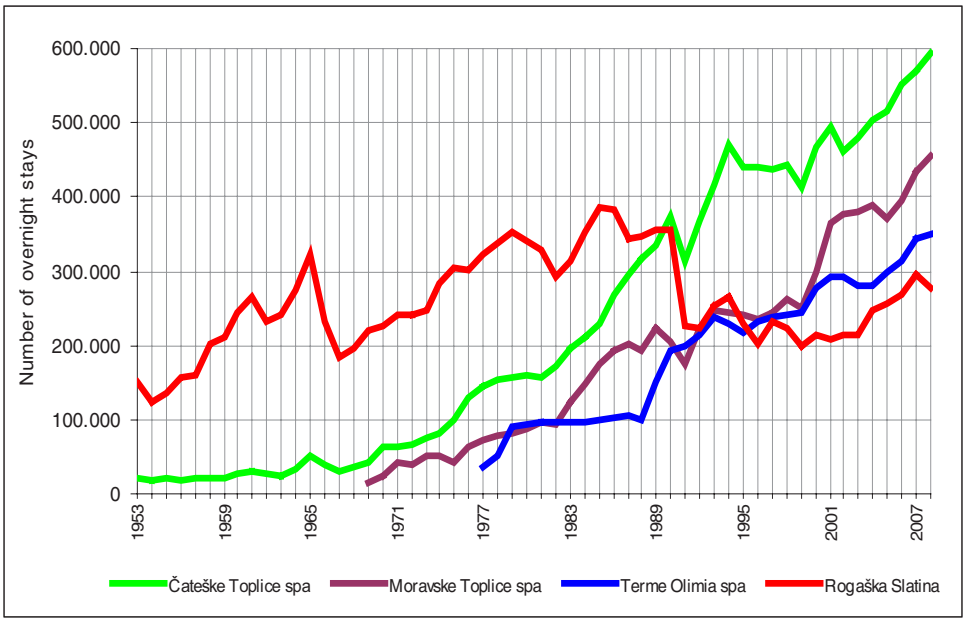

Fig. 4.: Number of Overnight Stays in the Most Important Health Resorts in Slovenia.
Source: SURS 2010.

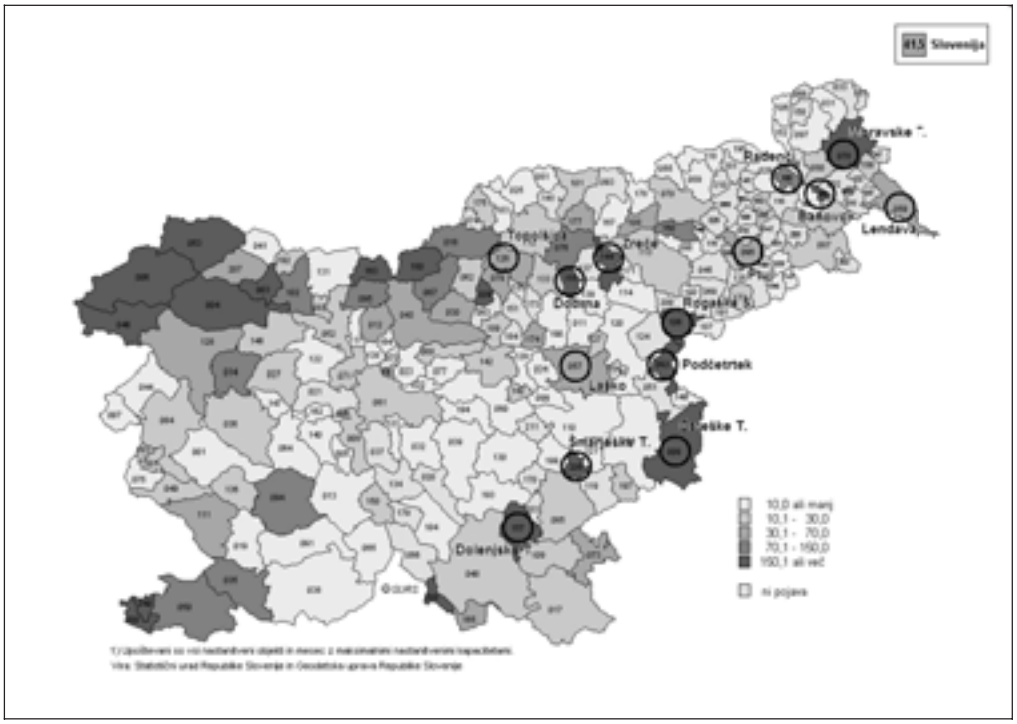

Fig. 5: Number of Tourist Beds per 1,000 Inhabitants in Slovene Municipalities, 2007.
Source: SURS 2009. Note: Municipalities with health resorts are marked with circle.

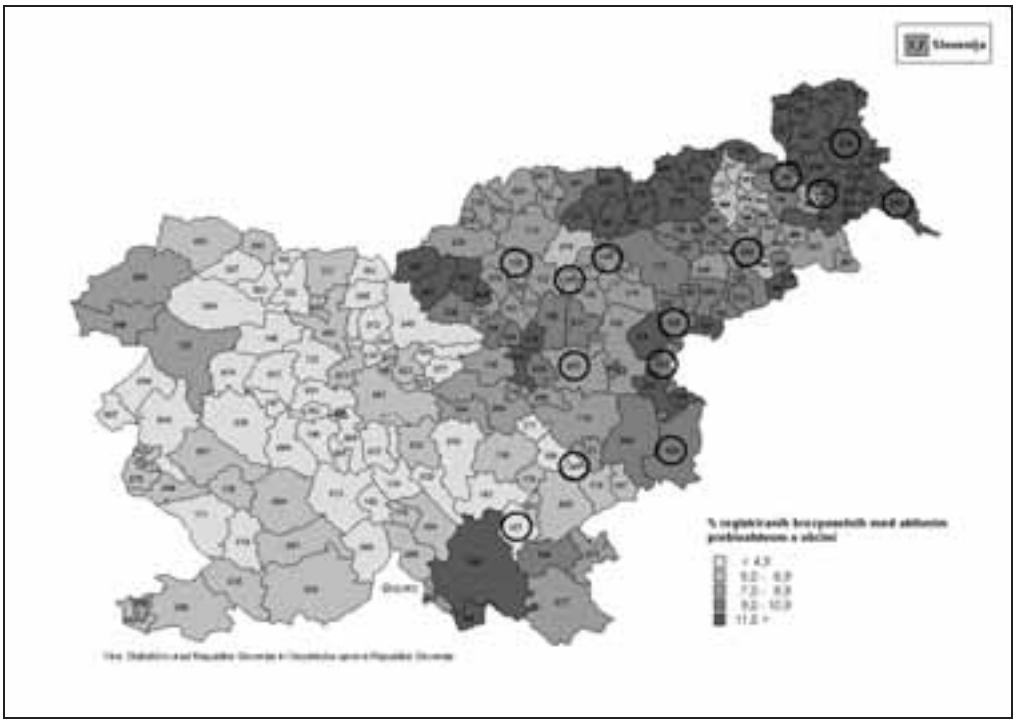

Fig. 6: Share of Unemployment in Slovene Municipalities, 2007.
Source: SURS 2009. Note: Municipalities with health resorts are marked with circle.

3. Health resorts and their importance for the development of less developed areas in Slovenia: Case study Posotelje region

Slovenians' health resorts are mostly located in less developed areas of the country (especially in the north-eastern and eastern part of Slovenia). Majority of them are situated in small settlements with less than 1,000 populations, which means, that their importance is even greater for the employment of the inhabitants and the spatial and functional development of rural areas.

There is a close interconnection between the economic and demographic development. The large economic power of health resorts in Slovenia constantly attracted people. The surplus of working posts caused intensive daily migration of workforce. It had a favourable influence on the structure of active population as well as on the age structure of population and natality in the surrounding settlements as well. At the same time it prevented an increase in emigration from the peripheral and relatively less developed regions.

Among the most direct effects of tourist development is the employment in sectors that are directly related to tourism, but on the other hand, the development of the health tourism stimulated also other non-agrarian activities. Majority of the Slovenians' health resorts are situated in less developed areas, so they contributed a lot to the development of those areas.

In this point of view, two types of tourist health resorts have developed in Slovenia:

∞ The older resorts, which had mostly started to develop in the 19th century, and during that period mostly developed into local urban centers. A great economic power of health tourism created there several working posts and attracted population, so the former, mostly agrarian settlements, growth to "multifunctional" urban centers. In that type we could include following health resorts in Slovenia: Rogaška Slatina, Radenci, Laško. In those settlements tourism was the first non-agrarian activity and other non-agrarian activities joined only at a later stage, especially industry and some service activities. Owing to their better infrastructure such tourist places become more attractive for the placing of other urban activities and for the expansion of residential areas. Thus most multifunctional tourist places gradually grow into urban settlements with developed central functions for their less developed agrarian surroundings.

We could also include in the some group of "multifunctional" urban centers some health resorts in Slovenia in which tourism started to develop later, after the settlements have already been established as important urban centers. In that group we could include following health resorts in Slovenia: Ptuj, Zreče, Lendava.

Multifunctional economic development with the intertwining of tourism, industry and other activities may also have negative effects. There is a possibility of ecological problems caused by industry, which clashes with the expectations of those who want to preserve the cultural landscape attracting to tourists. There is also a possibility of conflicting interests in as far as the use of land and space is concerned and consequently limitations may be imposed with regard to the expansion of individual activities. Finally, a greater variety of employment possibilities may result in a lack of willingness among the local population to work in tourism.

Case study Rogaška Slatina: From the beginning of 20th century typically tourist resort and one of the most important health resorts in Slovenia, Rogaška Slatina, after WW II, developed into a multifunctional tourist location with around 5,200 population, in which industry (especially glass factory) took over the role of the dominating economic factor, while tourism became just one of the economic activities closely linked to health and the central tourist zone of the town. The absolute number of tourism-related work posts there is high, but owing to the multifunctional economic development, these represent a relatively low share, which is only a bit more than 10% (Horvat 2001).

∞ On the other hand developed in Slovenia so called "monostructured" tourist health resorts, such as Terme Olimia (in Podčetrtek), Čateške Toplice, Moravske Toplice, Čmarješke Toplice, Banovci, which are mostly developed after WW II. They are more of less small settlements, and economy highly dependent on the dynamics of tourist turnover, changes in tourist flows and various trends shaping tourist demand. In addition, mono-structured tourist sites offer little choice to their residents in terms of employment (especially those with higher education).

Case study Terme Olimia: The health resort Terme Olimia belongs to monostructurally oriented tourist resorts. It is settled on the rand of the settlement Podčetrtek (530 inhabitants), an old borough with completely agrarian surroundings, and the company Terme Olimia is the largest and most important company in the area, with 50% of all work posts in the settlement, and 30% of all work posts in the municipality. There are several work posts in the health-tourist zone and in the settlement Podčetrtek, and even more in the settlement Olimje, with several private

catering companies and tourist farms, that make a living mostly from the visits of health resort guests and other short-brake tourists. Apart from tourism, the most important activities in Podčetrtek are still farming and service trade. Contrary to the Rogaška Slatina, where more than 90% of all work posts are located in the centre of the municipality, the centre of the Podčetrtek municipality offers only a little over half of all posts.

There is also a close interconnection between the economic and demographic development of Rogaška Slatina. The large economic power of Rogaška Slatina constantly attracted people and thus Rogaška Slatina became the largest settlement in the region (with approximately 5,200 inhabitants). In proportion to it, Podčetrtek with around 530 inhabitants is much smaller. Economic power of the centres of both municipalities and the surplus of positions caused intensive daily migration of workforce. It had a favourable influence on the structure of active population as well as on the structure of population according to age in the surrounding settlements as well. At the same time it prevented an increase in emigration from the peripheral and relatively less developed regions.

Great mobility of the health resort guests and the high ratio of guests on a day-trip (in 2005 approximately 55% of guests came to Terme Olimia spa for a vacation, around 20% visited the swimming-pool complex for a day, while only around 25% came for healing, rehabilitation or health preventive; the structure of guests according to age is also very favourable, for the majority of them belong to the middle generation, while only 22% are older than 60 years), stimulated the development of numerous catering and other service activities outside the health-tourist and recreational zone. The settlements Podčetrtek and Olimje (in the distance of few km) are in the forefront of this field of activities in Slovenia. In Olimje, monastery castle is located as well as the third oldest pharmacy in Europe, a golf-course, and many tourist farms with accommodation facilities. There is also a club aerodrome, a tourist wine road, important objects of cultural heritage and the like. There are 14 marked footpaths leading out of the health resort along with 12 roads with cycling destinations and 10 paths for mountain biking, which lie 30 km far from the health resort. Diverse and numerous tourist services offered have had a great impact on the shaping of the tourist region in the surroundings of Terme Olimia, thus increasing the synergy achieved by merging of tourist influences and giving the region a recognisable character. As a consequence of this Terme Olimia, a once smaller tourist place, has elbowed its way among the ten most important tourist places in Slovenia in the past decade and won several times the first place in the media competition for the best tourist place in Slovenia.

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HEALTH RESORTS AND THEIR IMPORTANCE FOR THE DEVELOPMENT OF LESS DEVELOPED AREAS IN SLOVENIA

Summary

Slovenia comprises regions that are quite diverse in their natural and cultural character in relatively short distances. Vacation travels of tourists have been oriented particularly to four mayor tourist destination areas: to the Sub-Mediterranean (seaside) region, to the Alpine (mountain) region, to the health resorts (spas) of Eastern Slovenia, and to the mayor towns (especially to the capital, Ljubljana). Health resorts are one of the oldest kinds of tourist resorts and started to develop in Slovenia already in 18th and the beginning of 19th century. After the WW II, several new springs of thermal and mineral water were made fit for use through geologic drill holes, thus the area of health resorts was expanded to several new locations. In the 1970s and 1980s health resorts became centers of highly qualified medical rehabilitation centers, based on the use of natural remedies and modern medical treatments.

The beginning of the 1990s marked an important turnabout in the development of health resorts in Slovenia. With the construction of modern "thermal parks", they reoriented into mass tourism, based on recreation, healthy lifestyle, wellness, etc., as well as spending of holidays. So, we could see that after 1990s, the health resorts became the most important group of tourist resorts in Slovenia, with around 1/3 of all overnight stays in the country.

Slovenians' health resorts are mostly located in less developed areas of the country (especially in the north-eastern and eastern part of Slovenia). Majority of them are situated in small settlements with less than 1,000 populations, which means, that their importance is even greater for the employment of the inhabitants and the spatial and functional development of rural areas. There is a close interconnection between the economic and demographic development. The large economic power of health resorts in Slovenia constantly attracted people. The surplus of working posts caused intensive daily migration of workforce. It had a favourable influence on the structure of active population as well as on the age structure of population and natality in the surrounding settlements as well. At the same time it prevented an increase in emigration from the peripheral and relatively less developed regions.

Among the most direct effects of tourist development is the employment in sectors that are directly related to tourism, but on the other hand, the development of the health tourism stimulated also other non-agrarian activities. Majority of the Slovenians' health resorts are situated in less developed areas, so they contributed a lot to the development of those areas.

In this point of view, two types of tourist health resorts have developed in Slovenia:
∞ The older resorts, which had mostly started to develop in the 19th century, and during that period mostly developed into local urban centers. A great economic power of health tourism created there several working posts and attracted population, so the former, mostly agrarian settlements, growth to "multifunctional" urban centers. We could also include in the some group of "multifunctional" urban centers some health resorts in Slovenia in which tourism started to develop later, after the settlements have already been established as important urban centers.

∞ On the other hand developed in Slovenia so called "monostructured" tourist health

resorts, such as Terme Olimia (in Podčetrtek), Čateške Toplice, Moravske Toplice, Čmarješke Toplice, Banovci, which are mostly developed after WW II. They are more of less small settlements, and economy highly dependent on the dynamics of tourist turnover, changes in tourist flows and various trends shaping tourist demand. In addition, mono-structured tourist sites offer little choice to their residents in terms of employment (especially those with higher education).

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dr. Lučka Lorber
Oddelek za geografijo
Filozofska fakulteta
Univerza v Mariboru
Koroška cesta 160, SI – 2000 Maribor, Slovenija
e-pošta / e-mail: lucka.lorber@uni-mb.si