

Changes in Rural Areas and Regional Development

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Abstract: The present study examines how regional development has been affected by social, economic and environmental changes in three regions located in central Greece. These regions were affected significantly by social and economic changes, because of substantial new infrastructure development that took place related to a ski resort and agritourism establishments. Sample data were collected on the characteristics of residents and land use in these three rural areas. The results of the study show that tourist development is very important for the socio-economic improvement of these regions. Using cross-tabulation statistical methods it was found that regions with better infrastructure attract more tourists than regions with inferior infrastructure (p-value = 0.000) and residents with higher education have better income than residents with lower education (p-value = 0.000).

Key words: Regional development, social changes, economic changes, environmental changes

INTRODUCTION

Rural regions are influenced by social-economic changes. More specifically, demographic changes increase social and cultural divergence within rural regions and at the same time affected local values and standard of living. Also, the economy of rural regions differentiates as the service sector is increased considerably at the expense of agriculture. The dynamics of rural change and the non-homogeneous development observed in numerous rural regions has been the object of many studies of political planning for rural development. While planning a rural developmental policy most of countries opt for a policy strategy that takes into consideration the attainment of sustainability.

Sustainable development is a strategy aiming at comprehension of the relations between the society and the environment, as well as particular relations created in the society and the economic system. Sustainable development encompasses three basic dimensions: environmental, economic and social. The basic aim of achieving quality life for every individual at any time in any place that will include decent living and social participation in a suitable environment creates three basic needs:

- Social need: Intensification of social cohesion via justice between individuals, countries, social teams

- Economic need: Economic development to the degree that will ensure sustainability
- Environmental need: Long lasting guarantee of a clean environment on a world standard^[1-4,6,7,9,10]

Taking into consideration previous research such as by Hazel Henderson (The Oregon Benchmarks Program), various scientists have attempted a range of strategies of measuring sustainable development finally concluding in three groups of variables: Social, economic and environmental^[1]. Social variables value the quality of life and development. In general terms, social variables describe populations and demographic density, the level of satisfaction of residents from their research and the prospects that each municipality offers to them, but also more generally, literacy and educational level that affect investment, technology and quality of life. Useful economic variables are those that provide information for economic activities such as profits from tourism and its possibilities. The environment and its protection are essential conditions in the frame of sustainable development. The usefulness of these environmental variables is important, because they give information for regions on the state of their environment and the impact of human activities on it. Environmental variables mainly refer to atmosphere, air, water and the ecosystem^[9-13,15].

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During the last decade, substantial new infrastructure development took place in rural areas in central Greece, which have changed the social, economic and environment conditions in this area. The most important structures that developed and changed the character of the study area were related to a ski resort, agritourism establishments and a new road that joined the city of Athens with these areas. In view of the fact that these areas are now more accessible from the city of Athens, many people, who work and live in Athens, choose and go for vacation to those rural areas. The result is that there is an increasing demand for agritourism establishments and the character of the land is changing from that of farms to residential areas. The increasing population and real estate without a specific plan for growth can have a negative effect on sustainable development^[14,16,17].

The aim of the present study is to examine and illustrate the current socio, economic and environmental conditions through the measurement of variables that describe the quality of life based on the three basic social, economic and environmental needs in central Greece.

MATERIAL AND METHODS

The study area consisted of three regions namely Mariolata, Gravia and Amfiklia located in central Greece. The following data on the social, economic and environmental development of the study regions were collected through a questionnaire survey during the spring of 2007: Demography, infrastructure, access to information, education, employment, transportation, tourism, agriculture, environmental protection, new technology transfer, real estate development, advantages and disadvantages of the regions. The investigators completed the questionnaires by visiting a random sample of residents who agreed to participate in the study and directly interviewing them in order to avoid misunderstanding in the completion of the questionnaires. The statistical frame of the study was based on a sample of 120 residents randomly selected in the three regions of central Greece that corresponds to 3% of population of each one from the three regions.

The data collected were analysed using descriptive statistics for calculating the means and standard deviations of continuous variables and the frequencies and percentages of discrete variables. Finally, cross-tabulations were made between related responses and the chi-square (χ^2) test of independence was used for statistical comparisons among them. We are reporting all significant dependencies with p-values of $< \alpha = 0.001$, our standard significant level.

RESULTS AND DISCUSSION

The three rural regions of Mariolata, Gravia and Amfiklia that were examined are towns with important histories since ancient times. They are located at the foot of mountain Parnassos where the first ski resort in Greece was established next to the valley of the river Kifissos in central Greece. Based on the 2001 census, the town of Mariolata had a population of 539. The town of Gravia had a population of 897 and the town of Amfiklia had a population of 2,500. However, their population doubles during winter vacation and weekends. The most important sector of the local economy is the rural sector (62.9%) with principle products including tobacco, cotton, cereals and livestock-farming. The tourist sector participates with a smaller percentage (11.4%) with its main activities including skiing on the mountain, hot natural spa and agritourism. These regions have more possibilities for tourist development with undeveloped but important archaeological sites and places of natural beauty^[8].

Based on the data analysis of the 120 questionnaires the majority of respondents were men (54.3%) and their age ranged from 30-39 years old (24.8%). Most of the respondents were married (64.8%) and the average number of children per married responder was two. Most of the individuals were public employees (31.4%). Among the respondents who are farmers, 42.9% of them own a private enterprise and 32.4% are employed in the private sector. Their education level was mostly lyceum (61.9%) and their family monthly income was mainly 1001-1500 € (41%). In addition, most of the individuals (48.6%) believe that technology reaches them fast enough, but they are not very satisfied (34.3%) with technology implementation. Also, they believe (76.2%) that the population density is very low. Table 1-4 show the above data.

Table 1: Age of the respondents (n = 120)

Age	percentage (%)
10-19	005.7
20-29	018.1
30-39	024.8
40-49	020.0
50-59	014.3
>65	017.1
Total	100.0

Table 2: Educational level of the respondents (n = 120)

Educational level	percentage (%)
Primary school	020.0
High school	018.1
Lyceum	061.9
Total	100.0

Table 3: Occupation of the respondents (n = 120)

Occupation	percentage (%)
Farmer	021.9
Public employee	031.4
Private employee	019.0
Self employed	009.5
Unemployed	018.1
Total	100.0

Table 4: Income of the respondents (n = 120)

Income	percentage (%)
0-500	008.6
501-1000	015.2
1001-1500	041.0
1500-2000	035.2
Total	100.0

Table 5: Opinion of locals on reasons that tourists are attracted to visit the examined regions (n = 120)

Reasons	percentage (%)
Ski centre	045.7
Relaxation	004.8
Local restaurants	001.9
Resort	001.0
Landscape	017.1
Countryside	012.4
No reason	017.1
Total	100.0

Also, according to the analysis of the data the majority of the respondents (82.9%) believed that their regions attracts tourism mainly because of the ski centre (45.7%) and 96.2% believe that soft tourism will be the most important sector in their area for supporting employment in the future. In addition, they reported that the populations in the study regions double during vacation time because of the tourists. Most (53.3%) believed that the creation of new enterprises could improve local economy and half of these respondents (24.8%) believed that specifically the growth of year around or non-seasonal tourism could improve the local economy. A high percentage of the respondents (44.8%) believe that private initiative for investment is low.

Most of the individuals used their private car for transportation (78.1%) and only 13.3% used public transportation. Also, most of the respondents (76.2%) believe that there is no deterioration as far as air and water pollution in their region and they believe that their city is sustainable (96%). In response to the question about the comparative advantage of the region most of the respondents replied that it is mostly the natural environment (27.6%).

Table 5 shows what the locals think motivates the tourists to visit the examined regions. Table 6-8 show what the locals think are the advantages, the disadvantages and the most important infrastructure of the regions.

Table 6: Opinion of locals on advantages of the examined regions (n = 120)

Advantages	percentage (%)
Geographical position	003.8
Environment	027.6
Local customs	004.8
Hospitality	010.5
Mountainous landscape	005.7
Low population density	007.6
Tranquillity	005.7
Local restaurants	001.9
Green landscape	032.4
Total	100.0

Table 7: Opinion of locals on disadvantages of the examined regions (n = 120)

Disadvantages	percentage (%)
Bad roads	005.7
Local's attitude	026.7
Bad sewerage	003.8
Immigrants	049.5
Infrastructure	005.7
Far distance from urban centres	008.6
Total	100.0

Table 8: Opinion of locals on most important infrastructures in the region (n = 120)

Infrastructures	percentage (%)
Irrigation	015.2
Canals	015.2
Restoration of historical buildings	016.2
Road construction and maintenance	014.3
New buildings	021.0
Cultural centres	018.1
Total	100.0

Furthermore, using cross-tabulation statistical methods it was found that regions with better infrastructure attract more tourists than regions with inferior infrastructure ($p\text{-value} = 0.000 < \alpha = 0.001$). Also, it was found that residents with higher education have better income than residents with lower education ($p\text{-value} = 0.000 < \alpha = 0,001$).

CONCLUSION

The results of the present study indicate that the three examined regions of Amfiklia, Gravia and Mariolata have important advantages that can support sustainable development. These regions are mainly rural regions where the dominant production is tobacco, cotton, cereals and livestock-farming. All three regions are characterized by mild climate, common history and cultural heritage, important archaeological sites and natural beauty, tourism and small to medium-sized enterprises that are related to tourism.

However, today the primary sector based for many years on community subsidies for crop cultivation, e.g. tobacco, is in decline and it can not offer a satisfactory

family income. Tourism, which is a new rising economic activity in the examined regions, could become a supplement for family income. The examined regions double their population during winter vacations and weekends because of tourists, therefore, investment for expanding tourist activities all year around could increase local income even more by founding new stores and enterprises, which will cause the expansion of public and private services like banks, health centres, coffee shops, restaurants, infrastructure and transportation. Tourist development is very important for socio-economic improvement not only for a region, but also for an entire country. However, the respondents' concern about their own 'attitudes' and about 'immigrants' might constitute social barriers to the kind of development that it is proposed above. For that reason it is important educational programs to be introduced that they will target these two issues to improve prospects for tourism development. Nevertheless, this progress demands highly educated people. Therefore, improvement of education, investments and infrastructure without downgrading the natural environment will attract more visitors. In addition, young persons who often abandon their place of origin to live in the cities due to lack of employment opportunities and in search of social-cultural interests could have more possibilities for jobs because of the increase in tourism.

Furthermore, all three regions, besides recent infrastructures developments, still have deficiencies in basic infrastructures-water supply, sewage network, health, education facilities-that impede any developments and degrade the quality of life of residents and visitors.

Therefore, it is very important for the examined regions to introduce suitable policy formulation and program implementation in order to overcome their problems and to have sustainable development. These policies must suggest specific constraints for tourism increase in order to avoid environmental deterioration, to promote vocational programs in order to increase employment, to encourage environmentally friendly activities and most important to create the necessary infrastructure in the area.

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REFERENCES

1. Atkisson, A., 1996. Developing indicators on sustainable community: Lesson from sustainable settle. *Environ. Impact Access Revolut.*, 16: 337-350.

2. Azari, R. and J.B. Pick, 2005. Technology and society: Socioeconomic influences on technological sectors for united states countries. *Int. J. Inform. Manage.*, 25: 21-37. <http://cat.inist.fr/?aModele=afficheN&cpsid=16470573>.
3. Bergstrom, O. and P. Dobers, 2000. Organizing sustainable development: From diffusion to translation. *Sustain. Develop.*, 8: 167-179.
4. Deng, F.F. and Y. Huang, 2004. Uneven land reform and urban sprawl in China: The case of Beijing. *Prog. Plann.*, 61: 211-236.
5. Drummond, I. and T. Marsden, 1999. *The Condition of Sustainability*. 1st Edn., Routledge Publishers, London, ISBN: 0415194938, pp: 242.
6. European Commission, 1998. *Sustainable Development in the Urban Union: Action Plan*, Brussels.
7. European Commission, 1999. *The Structural Funds and the coordination thereof with the Cohesion Fund-Plan of Directives for the programmes 2000-2006*, Brussels 3.2.
8. Hellenic Ministry of the Interior, Public Administration and Decentralisation, 2008.
9. Hopwood, B., M. Mellor and G. O'Brien, 2005. Sustainable development: Mapping different approaches. *Sustain. Develop.*, 13: 38-52.
10. Mitoula, R., 2006. *Sustainable regional development in E.U. and Reshaping of Greek Urban Environment*. ed. STAMOULI, Athens.
11. Moldan, B. and S. Billharz, 1998. *Sustainable Indicators-Report of the Project on Indicators of Sustainable Development*. John Wiley and Sons., UK.
12. Redclift, M., 2000. *Sustainability: Life Changes and Livelihoods*. Routledge, London, pp: 196.
13. Roldan, B.A. and S.A.Valdes, 2002. Proposals and application of a sustainable development index. *Ecol. Indicat.*, 2: 251-256.
14. Saplaoura, P., K. Apostolopoulos and H. Theodoropoulou, 2004. Investigation of possibilities of growth of mountainous regions of country: The case of further endogenous development of province of Metsovo. 3rd Interdisciplinary Inter-university Congress of Polytechnic School of Athens. The completed development in the Mountainous Regions. Theory and Act. Centre of Interdisciplinary Research from Metsovo. Institution of Development of ME.K.DE. Library ME.K.Δ.E., E.M.II.: 3. Athens, pp: 308-328.
15. Snaengenber, J.H., 2004. Reconciling sustainability and growth: Criteria, indicators and policies. *Sustain. Develop.*, 12: 74-86.

16. Stefanou, I. and R. Mitoula, 2004. The contribution of community frames of support and drawing of regional development of EU in the maintenance and appointment of physiognomy of greek cities. Proceeding of the Congress on Policy of Sustainable Growth of Cities in Greece, Sep. 15, Ministry of Environment Planning and Public Works-E.M.P., Athens.
17. Theodoropoulos, H. and E. Fafaliou, 2003. The local aspects of regional and employment strategies, Indicators issues involved in evaluation processes of developmental policies. Collective Volume Lazari A., University of Piraeus, 2: 209-231.