

## LOCAL DEVELOPMENT OPPORTUNITIES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT BY APPLYING THE CONCEPT OF "SMART VILLAGE" IN ROMANIA

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### ABSTRACT

*In this article we aim to study the opportunities for developing and applying the concept of "Smart Village" in rural Romania. This concept will focus on developing rural communities, smartly using local resources, applying innovative, low-cost solutions. Intelligent development will take into account and respect the traditions and rural cultural identity.*

*The priority areas we propose for the Romanian village are: smart lighting, renewable energy, intelligent payment systems for local taxes and charges, selective collection of garbage, "digital city hall".*

*In this paper, we propose the presentation of the platform concept for interconnection, communication and link between different initiatives, which will reflect the interest, actions and discussions at different levels, between different branches, which will allow the exchange of innovative ways of creating rural areas sustainable, more attractive and will take away many rural areas in difficulty from social, economic and informal exclusion. Therefore, the electronic platform helps to make rural development programs more effective, highlighting the state of implementation of development strategies and policies, which will also contribute to a better absorption of funding sources in various rural localities still underdeveloped today.*

*In the context of the public administration reform strategy, local development policies and the Smart Village concept will be the main vectors of a modern governance process at the local level.*

**KEYWORDS:** *Smart Village, renewable energy, sustainable development*

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### 1. INTRODUCTION

The rural area, worldwide has undergone numerous transformations over time. Globalization, economic crises, global policies applied at the level of European governance and, implicitly national, the subsidization of some sectors, etc., have put their mark on the traditional village, transforming it into an administrative unit that is unattractive for the young inhabitants and sometimes not at all friendly with the remaining inhabitants, due to the lack of infrastructure and services.

In this context, young people are increasingly seeking to move to other jobs, which offer them successful opportunities in finding a well-paying job (Costache et al., 2015).

To stop emptying villages, local communities must adapt to new circumstances or by innovations in the management of its own resources or by adapting and implementing best practices. The strategy of copying successful public policies and programs has its roots in changing a development paradigm that took place in the 1970s and 1980s (Harvey, 1989; Keating, 1998; Brenner, 1999).

The effects of globalization have led to an increase in the proactive role of local communities that have begun to plan their own development strategies (Burlacu et al., 2018 a, b).

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An example of this is the formation of Local Action Groups (LAGs) that have had a positive impact in the European Union. Following a study in Germany (Pollermann et al., 2013), more precisely, a survey of the members of the Local Action Groups shows positive results regarding the quality of cooperation and communication within them, with a positive impact on the well-being of the community (Ioniță et al., 2009 a, b, c).

Local authorities, even those from different socio-political backgrounds, have faced the same challenge of economic development, and their responses, in some cases, have been innovative policies that allow them to adapt to the global environment and / or reduce the urban-rural gap (Mayer, 1995; Porter, 1998; Harding, 2005; Bacliija, 2012). Of course, the development and application of management strategies at the local administration level, as well as their effects at the community level, have been influenced by many factors, among which we mention: historical evolution, population mentality, legislative framework, ethnic structure of local population, political environment and other (Jianu et al., 2019).

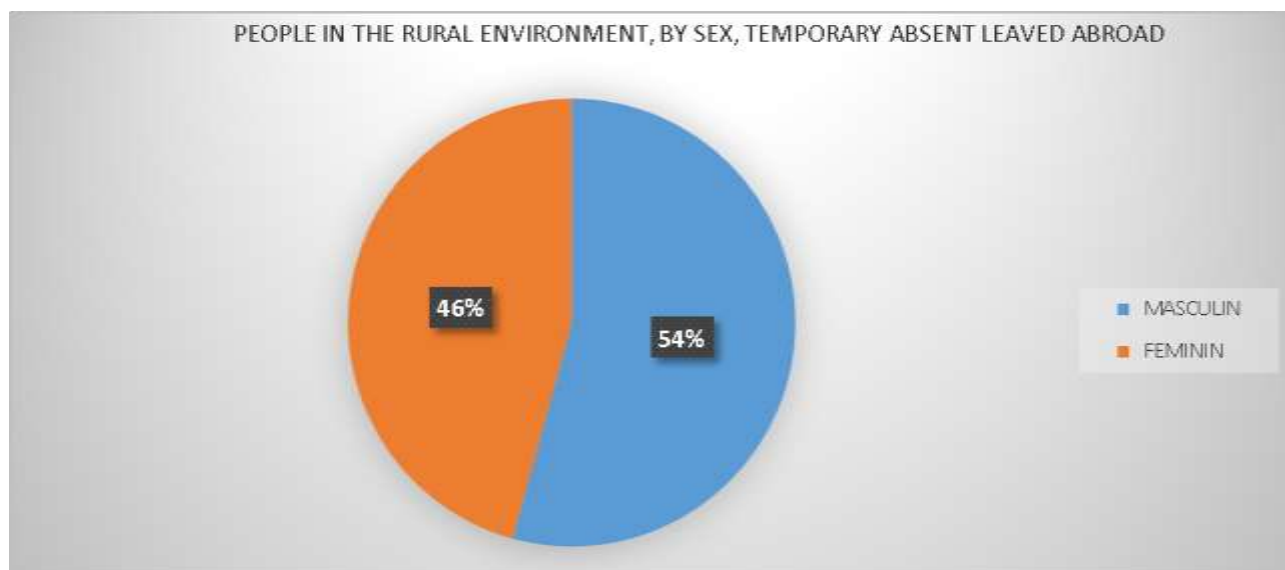
## 2. ABANDONING ROMANIAN VILLAGES

We can say that Romania is a predominantly rural country, considering that the rural area occupies approximately 90% of the country's surface and 45% of the population lives in the rural area according to the last census (Population and Housing Census, 2011).

Over time, there have been numerous phenomena that have made their mark on the rural environment. Among those, which we consider to have a significant impact on the Romanian rural area being: forced co-operation, urbanization of the rural space, reconstruction of private property based on the Land Fund Law and migration of the rural population.

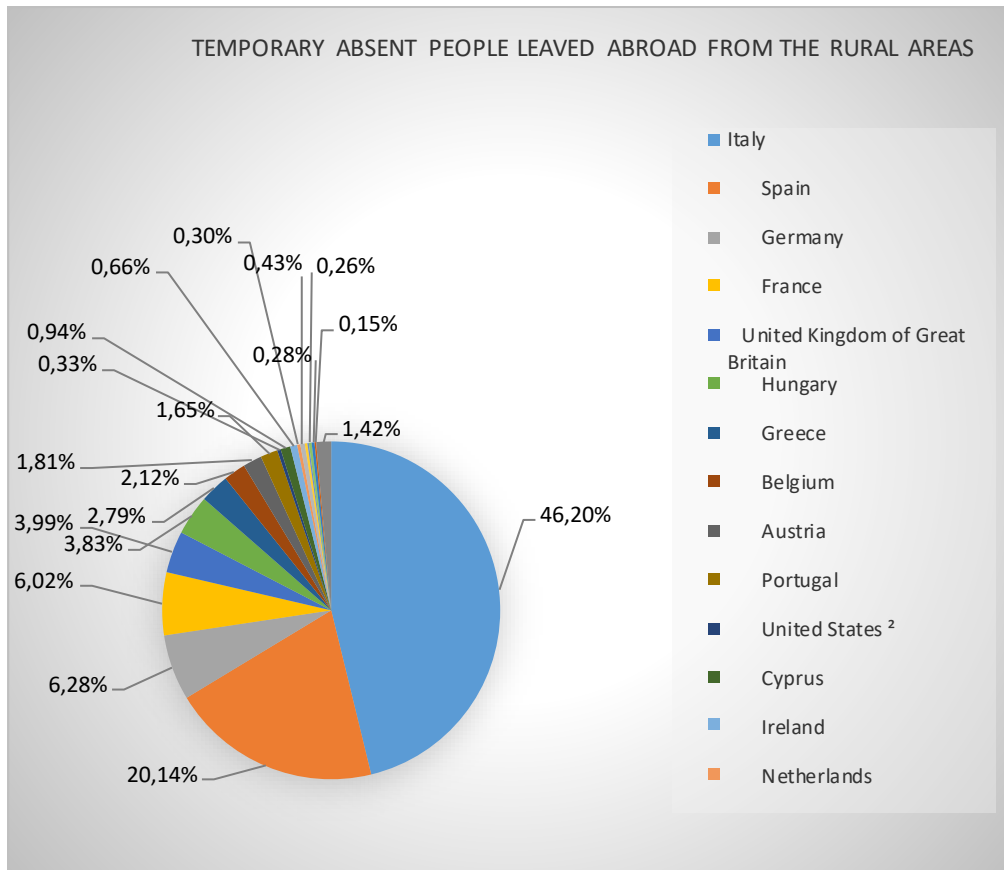
Currently, we are facing an unprecedented migration of rural population. Unfortunately, we have no official information until 2011 (Census of Population and Housing, 2011).

As can be seen from Chart 1 the feminization of the rural population is still perpetuated because the share of the male inhabitants who leave the rural area is higher (54%) than the female population (46%).



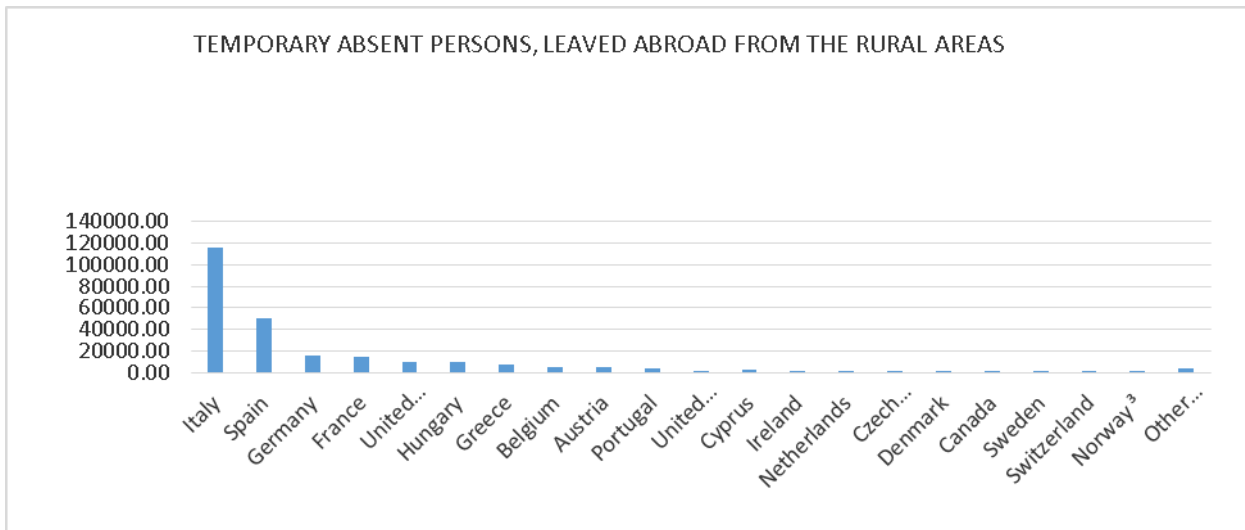
**Chart 1. Share of persons from rural areas, by sex, temporarily absent left abroad**

*Source: own works based on the Population and Housing Census, 2011.*

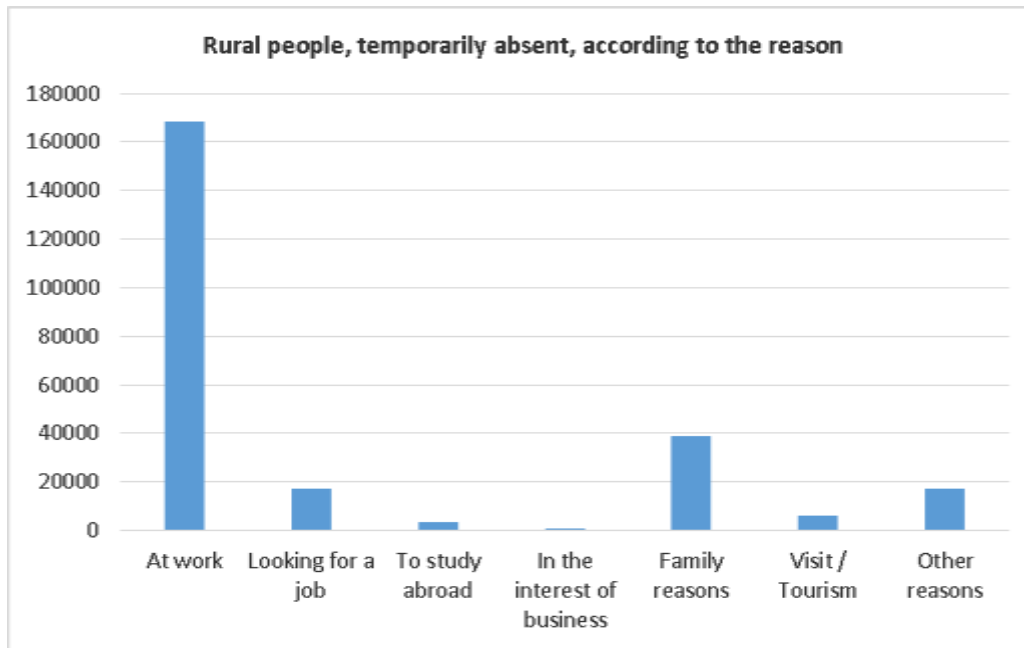


**Chart 2. The percentage of temporary rural persons absent left abroad**  
 Source: own works based on the Population and Housing Census, 2011.

Most people who left the rural area went to Italy (46%) and Spain (20%).

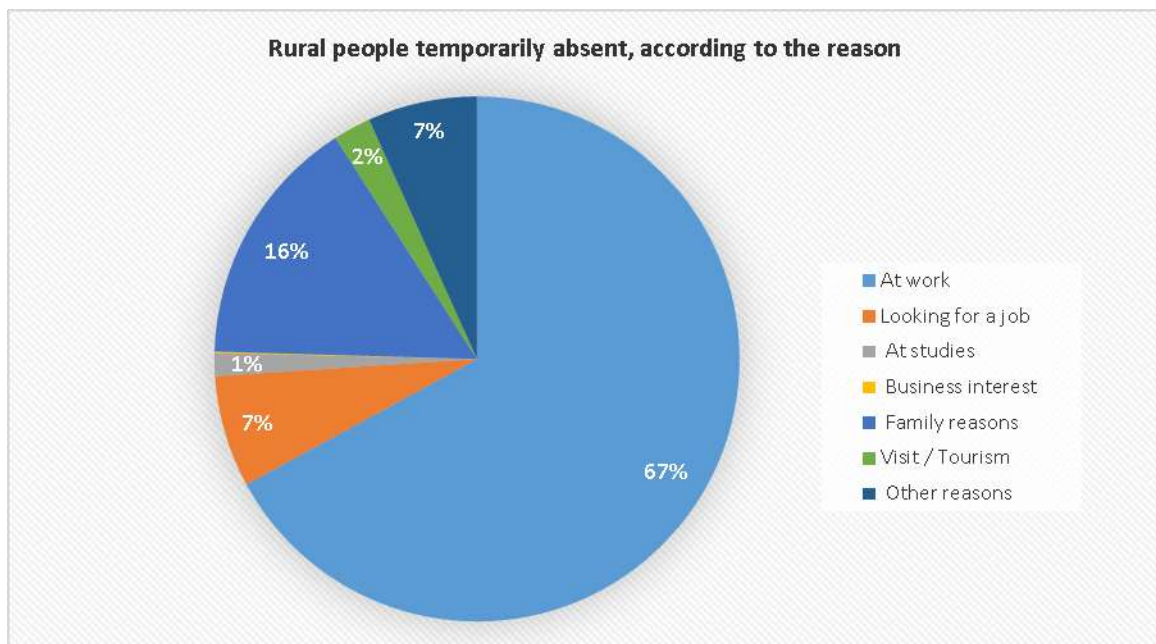


**Chart 3 People from temporary rural areas absent left abroad, by countries**  
 Source: own works based on the Population and Housing Census, 2011.



**Chart 4. People from the rural area temporarily absent by reason**  
 Source: own works based on the Population and Housing Census, 2011.

The main reasons invoked by them were finding (67%) and looking for a job (7%).



**Chart 5. Percentage of people from rural areas temporarily absent by reason**  
 Source: own works based on the Population and Housing Census, 2011.

The massive migration of the inhabitants from the rural area to a job demonstrates that the rural area is not attractive to the community in terms of employment opportunities (Burlacu, Gutu & Matei, 2018). If the phenomenon continues, we will face massive depopulation and serious economic and social problems (Rădulescu et al., 2018 a, b).

### 3. "SMART VILLAGE" – AN IMPERATIVE CONCEPT AT NATIONAL LEVEL

The development gaps between rural and urban but also between the local and the European rural determine us to make the assertion that it is imperative that the local communities in Romania, together with all the local actors, contribute to the elaboration and application of strategies that will contribute to the construction of "smart villages" (Bran et al., 2018). Why smart villages? Because rural communities need jobs, access to basic services, connectivity and intelligent transport solutions, as well as a climate conducive to entrepreneurship that is based on harnessing the natural and anthropic potential on the one hand, and on the other part on the transfer of knowledge that leads to innovation (Negescu et al., 2019). In this context, it is necessary to be able to develop new business models, such as electronic services to enable existing rural businesses to better connect, integrate and cooperate with European urban enterprises. (Profiroiu et al., 2019).

In early September 2016, more than 340 rural stakeholders gathered in Cork, Ireland and developed a new vision for EU rural areas.

In the section "A better life in rural areas" containing the Cork 2.0 Declaration, the expectations and desires of rural areas were presented. Among the priorities that could be addressed would be those that require policies to pay particular attention to reducing the digital divide between rural and urban areas, as well as developing the potential offered by the digitization of rural areas (European Commission, 2019).

The concept of "Smart Villages" can be considered relatively new in the field of EU policy making. In this sense, smart villages refer to the rural areas and communities that are based on the advantages as well as on the development and capitalization of new opportunities that allow the inhabitants to ensure a decent standard of living and comparable to that of the inhabitants of urban area (Bran et al., 2018b).

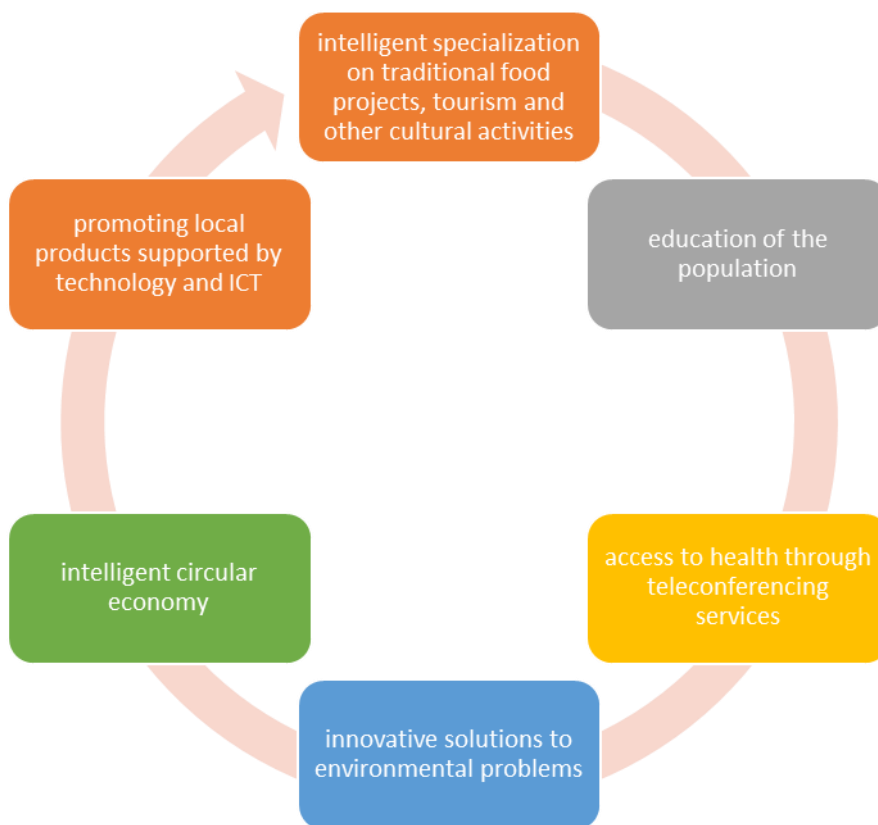
Thus, in smart villages it may be necessary to set up but also to modernize services through digital technologies, innovations and use of knowledge, for the benefit of the inhabitants as well as of the business environment. In such villages is essential to both good governance and citizen involvement and technology requires investment in infrastructure, with direct impact on business development and human capital (Burlacu et al., 2019).

A smart village would pay attention (European Commission, 2018):

- population education;
- access to health through direct services or based on assisted teleconferencing;
- innovative solutions for environmental problems by applying the circular economy;
- promoting local products supported by technology and ICT;
- the implementation and full use of intelligent specialization on traditional food projects, tourism and other cultural activities that could become a significant advantage for the respective community.

Taking the European Commission's perspective regarding the intelligent community defined in the "smart city", by "smart village" we could understand, in a similar way, the rural community benefiting from the telecommunication networks and the information and communication technologies integrating the digital services for the more efficient use of resources and infrastructures in order to ensure the needs of its citizens.

A representation of the smart village derived from the representation of the intelligent government / education system of the "smart city" is shown in figure 1 below:



**Figure 1. "The Smart Village"**

*Source:* By the authors after EU Action for SMART VILLAGES, EC, 2018

This concept is based on digital and social innovation for the revitalization of services. (Burlacu & Jiroveanu, 2009). In this regard, we have analyzed the ways in which rural services can be improved and made more sustainable such as: health, education, social services, transport, retail and energy by implementing tools for information and communication technology (ICT) and through community led projects and actions (ENRD, 2019).

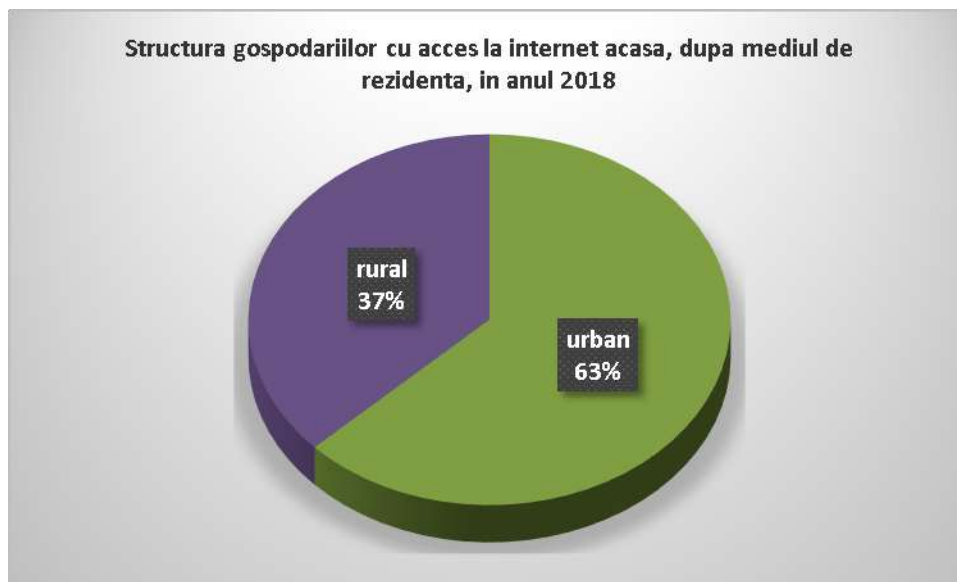
"Smart and competitive rural areas" (SCRA) is one of the themes of the European Network for Rural Development (ENRD) during the 2014 - 2020 period.

The theme SCRA 2014-2020 has focused on the following topics:

- Food and beverage supply chains
- Rural business
- Smart villages

These research sub-themes aim to provide indispensable contributions to address many of the major societal challenges, such as climate change or sustainable food, biomass and energy supply.

Smart villages are based on a Smart Management network, which is an open, multifunctional communication network, suitable for: transmitting data from sensor networks used to remotely manage public infrastructures (lighting, water, waste, transport, etc.) offers new services for citizens (free Wi-Fi internet access, tools for social assistance for the elderly, using distance video assistance, e-health, e-learning, tourism and local business promotion, etc.) (ENRD, 2019).



**Chart 6. Structure of households with access to home internet, by residence environment, in 2018**

*Source: own processing after INS, 2018*

As can be seen in graph 6, the rural area also presents a significant gap in the area of Internet access compared to the urban area. If it is desired to stop depopulation of the rural area it may be advisable to start from offering this service free of charge, in order to identify development opportunities and connectivity with the business environment, be it national or international.

#### **4. LOCAL GOVERNMENT NEEDS AN INITIATIVE AND LEGISLATIVE POWER FOR MODERNIZING THE PUBLIC ADMINISTRATION**

The local administration is closer to the citizen and can be more responsive and adaptable to his needs. But local governments are very limited by the national legislative framework, which, most of the time, can stifle creativity and development initiatives. In this context, the management of the local administration may feel powerless in the face of constraints, blocking the right to contribute to the well-being of an individual local community.

Under these conditions, local management must be even more inventive and creative, so that it can respond, on the one hand, to the direct pressures of its citizens and, on the other hand, to respect the limits given by the state.

The modernization of local government can become the element that a community can successfully use to enable its development. In this context, it is necessary to increase the autonomy of the managers and the responsibility for the results. In other words, a fusion of traditional normative orientation of public administration with that of instrumental orientation of business management (Bačlija, 2012).

Flynn and Strehl (1996) consider that the basis of the differentiation of the administration consists in the constitutional arrangements, the political opinion at national and local level, the public relation with the administration and those involved in administration, the skills and knowledge of the public sector managers, the ideological and political beliefs as well as the administrative culture. Further, they argue that countries with a strong central government implement reforms much easier because of their oversight over public administration. In countries with greater decentralization and where the local autonomy is higher and has constitutional protection, reforms are more difficult to achieve (Bačlija, 2012).

In the specialized literature, some authors (Profiroiu and Profiroiu, 2006) consider that the decentralization and decentralization of local public administration is imperative and involves the following elements: the transfer of competences and responsibilities from central to local administration; transforming the decentralized services in the territory according to the needs of the citizens.

These transformations imply from the local public administration a better connectivity with the needs of the community and the most responsible involvement in the efficiency of the services.

For the decentralization of the public administration and the decentralization of services, there must be a precondition fulfilled, namely the digitization of the rural area. The existence of digital technologies will act as a lever that will allow smart villages to become more proficient and faster in the efficient use of their own resources in order to improve the quality of life of their inhabitants.

## 5. CONCLUSIONS

EU rural areas in general and Romania in particular are important places that hold significant natural and cultural capital, places with strong historical resonances and national identity. To not lose our feelings towards land, traditions, ethnic and cultural multiplicity is necessary to invest in them to become more attractive to all local actors.

From our point of view, beyond the efficient management of local infrastructures and services, the fundamental objective of a smart village is to generate an innovative ecosystem that will provide the premises for sustainable development.

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