

Virtual social networks as a booster for reaching livable villages: examining Serbian casesⁱ

1.0. Villages in Serbia

Trends of abandonment and degradation of rural areas in Serbia in the last ten years reached the progression peak. There is a huge amount of rural territories with extreme demographic changes which lead to very serious imbalances in economic and social life on a local community level. Migration of rural inhabitants to urban centers lead to the completely abandoned villages, villages with no children, inhabited by elderly people, with large percent of one person families. The deeper and more integrated analysis of contextual change processes is necessary in order to identify all significant drivers of these trends.

1.1. General profile

Rural areas cover 85% of territory of Serbia and are inhabited with 55% of population, with average of 63 inhabitants per square km. Serbian rural territory has 41% of gross domestic product (GDP) and provides 50% of employment. However, unemployment rate in rural areas is still high (21%) and so is the level of poverty. Gross domestic product per capita in Serbian rural areas is lower than the national average.

Agriculture is major activity in most villages, with generally low yield rate and low income to the farmers. The key reason for this lies in the fact that it is difficult to access major markets, information and financial capital. Rural population represents the poorest social-economic group in Serbia.

There are about 4,800 villages in Serbia. A large number of small villages belong to the group of villages with 100 to 500 inhabitants. The villages are often far from each other, with no road connection, small population density and typically have a number of small farms. A special problem is population age (in 200 villages there are no people younger than 20 years of age), migration and low levels of education. The level of the drop in village population can be seen in the fact that in the next fifteen years some 1200 villages will disappear in Serbia.

Main driver which lead to this present situation is more than two decades of overall socio-economic transition process. The main consequences can be recognized in marginalization and neglect of social and public services delivery on a local level, especially for rural areas. It has been followed with rapid decline of quality of life in rural areas. Village population moves to urban areas because a large number of villages in Serbia do not have asphalt roads, telephones, sewage systems, Internet, cable TV. In some villages in mountainous and hilly areas even electricity is luxury. On the other side, widely adopted “modern” society life style, fostered the cultural changes. Younger part of rural population in search of a new life style migrated to urban areas accepting sometimes worse basic living conditions than they already had. The remaining population in the villages, entangled in the traditional patterns of thinking and behaving, has become less and less able to maintain the minimum quality of life standards and economic sustainability.

1.2. Planning and governance

Formally, Serbia has accepted European model of rural development. Plans, strategies and laws have mostly been adjusted to European. According to the National Plan for Rural Development from 2001, “*basic objective of the development of villages and rural areas of Serbia is to increase the quality of life in rural areas by means of preservation, renovation and sustainable development of their economic, social and environmental vitality*”. Based on such development documents, strategic priorities of village development are “*reduction of differences and establishment of a development balance between cities and villages, restructuring of agriculture, diversification of production and encouragement of*

entrepreneurship, village identity preservation and renovation, preservation of the quality of specific rural landscapes, foundation and revitalization of village community centers, development of professional structure for planning and realization of activities regarding rural development and agriculture, preparation of the population to actively participate and assume responsibility for their development". According to those development plans "The idea of villages and rural areas development in Serbia has to be based on recognized specificity of rural areas...It is necessary to make root changes in production structure, farm organization, resource management, control system, market accesses, environment protection attitudes, etc., which also assumes major changes in the way of life currently known in rural areas".

Beside that, Serbia has a developed institutional system for development management, so that there are different ministries in charge of different development aspects, and they are: Ministry of State Governance and Local Self-governance, Ministry of Agriculture, Forestry and Water Management, Ministry of Economy and Regional Development, Ministry of Mining and Energy, Ministry of Infrastructure, Ministry of Youth and Sports. In addition, there is a large number of state agencies, funds, offices and bodies on all levels of governance. However, in spite of all that and in spite of all started systematic changes in political-economic system and in spite of a clear picture of key issues for rural area development, adopted plans, strategies and laws, the villages in Serbia still die out and disappear. Besides systematic problems regarding centralization of political and economic power, corruption, centralized „top down“ governance and planning, big problems still are low governance capacities, undeveloped civil society structures and the lack of appropriate instruments and measures for implementing national strategies on a local community level.

Some programs or projects intended for "*revival of villages, return of youngsters to the villages, village tourism, stimulation of organic production and its export to European Union*" are not implemented due to unfinished decentralization process (regionalization and local authorities economic independence are still unimplemented), but some also because of low institutional and organizational capacities and undeveloped social capital of local communities. Local governments in Serbia are still using traditional approach to govern local development: traditional, top - down approach developed spatial and urban plans, fixed centralized budget programs of infrastructural development and services supply. Thanks to intensive international support in last ten years some new methodologies and instruments have been introduced (participative local strategic and action planning, ICT support...) fostering local collaborative processes and transition of planning system towards higher quality, efficiency and effectiveness.

There is a very low rate of civic productive engagement in local development issues. One of the reasons is lack of trust in governance efforts due to previous experiences. Formalism and incompetence, corruption and manipulation in the previous development processes led to serious economic and life quality decline, so they don't respond to the government initiatives. On the other side, there is a low level of awareness, knowledge, social relations necessary to develop creative local initiatives and solutions among rural citizens.

2.0. Raising social capital: searching for new instruments

On the other side, new trend of possible importance for the issue emerged. There can be recognized growing number of urban residents unsatisfied with urban life quality. They started to gather in different kind of networks and organize their efforts in a process of reevaluation and redefinition of basic values of modern living. Reinforcing the values of human and nature harmonization, community joint initiatives, neighborhood closeness, healthy living, etc. they are looking for some new ways to act and implement changes in everyday life.

In most of the cases the citizen initiatives (even those in line with current policies) failed to organize and to join forces with local institutions due to lack of their power or inability of

government structures to recognize their potential and value if they are not fully “formalized” according to current regulations.

Nevertheless, these growing “*new quality of life*” motivated social network forces started to create new, “*informal*” and innovative ways to organize and disseminate their standpoints and initiatives. They are mostly using computer managed communication support and Internet as a main tool. This social phenomenon of interest based networking used full potential of rapidly spreading social networks supported by internet services as Facebook, Twitter, and other. Since Internet is becoming the integral part of everyday life in Serbia, it is therefore presumed that it can be a useful tool for wider social empowerment through broader network of people, dissemination and exchange of knowledge. Additionally, a certain number of virtual network initiatives motivated by improvement of different rural life aspects started to appear.

This identified phenomena motivated us to further explore the nature of Virtual Society Network’s (VSN) performances and its impact to the social capital and civic engagement in community development. We focused our research on identification and analysis of VSN dedicated to rural life revival and discussion how they, due to their capabilities to act, can be included in the process of rural development planning and management. Main research goal is to identify possible benefits of their integration in to local rural development process.

2.1. Virtual social networks as a civic engagement tool

Theoretical and practical researches worldwide gained comprehensive understanding on issues that affect ways and range of VSN role significance in different development processes. The main lesson is that deep understanding of VSN impact scope can be reached only within the specific social and economic context. Beside that, they are seen as a important tool for rising social capital and reaching wider civil society engagement in processes of development planning and governance. They offer new creative ways to foster collaborative processes by establishing effective communication between actors especially in the processes of reaching common understanding, group visioning or problem solving.

Social capital is concept generally interpreted as “*features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit*” (Putnam 1995a: 66). The concept of social capital highlights the value of social networks relations in cooperation processes and confidence building in order to reach greater civic engagement in rising environmental, social and economic quality of a community. Putnam (1993) argues that networks of civic engagement are key factors of the process of building up social capital. An individual can learn about the trustworthiness of another individual through personal interactions. However, information about a person’s trustworthiness also travels through his or her social network of relationships. Social networks with dense interactions contribute to social capital by fostering reciprocity, and sustaining information about past collaborative successes.

Some researchers argue that VSNs - formed trough or based on computer managed communication trough Internet - are actually pseudo-communities (Harasim, 1993) or should only be considered as metaphors for communities (McLaughlin, Osborne, and Smith 1995). Although there are obvious differences between virtual and “face to face” (FtF) social or community networks, in this paper it will be assumed that virtual communities are “*real*” communities because the participants believe they areⁱⁱ.

It is important to distinguish two different types of VSNs: (1) Physically Based VSN (PBVSN) - ones which involve the more traditional sense of a physically based community adding electronic resources for its citizens’ use; and (2) Geographically dispersed VSN (GDVSN) - members participating due to their shared interests which do not have to be banded to their shared locations (Blanchard, Horan, 1998).

2.2. Virtual social networks contributions (to social capital)

We can recognize four main VSN's contributions to social capital: increase network density, improve exchange of information and social support, foster reciprocity and build trust among network members.

Network density. Both GDVSN and PBVSN can have negative impact on local community and its social capital by fading need for FtF relationship of its members with their local communities. Despite that, they also may increase social capital of a local community because they contribute to overlapping with other networks (both virtual and FtF): "Information about group members will travel through relevant social networks only if some subset of members are participating in multiple networks / groups together... Overlapping with FtF networks is more likely to occur in groups that form over PBVSN virtual communities than in GDVSN communities of interest". Nevertheless, we can conclude that both types of VSN have the most positive effect on social capital if they can increase network density and facilitate the spread of information (Blanchard, Horan, 1998).

Exchange of information and social support which VSN enable within groups are the basic essential contributions to social capital. Important feature of VSN is the ability to search for others who share specific interests and thus form communities of interestⁱⁱⁱ. People are more likely to find others who share highly specialized interests when they can search a broader population, but it is also possible that people can find others who share their specialized interest in their physically based virtual community (Michaelson 1996). They foster equality of status (Hiltz and Turoff, 1995), facilitate weak ties (Pickering and King, 1995) and encourage multiple, partial relationships "off line" (Wellman and Gulia, 1999).

Norm of reciprocity. Reciprocal support is a vital part of VSN and the evidence that it occurs is substantial (Wellman and Gulia 1999). People can easily obtain assistance from others when the group is large: a single act of helping can be more easily viewed by the entire group, so in aggregate, small individual acts of help can sustain a large virtual community (Wellman and Gulia, 1999)^{iv}.

Trust. It is a vital part of social capital. It was believed that the computer managed communication lack of physical, nonverbal information would prevent development of social relationships. Actually this lack of social "cues" and outright anonymity lead to some social systems benefits: (1) individuals can increase their first (and subsequent) impressions by thoughtfully composing and editing their comments (Rheingold 1993a; Walther, 1996), and (2) disenfranchised, "low" power or vulnerable groups can participate in group discussions without having to encounter stereotypes and prejudices based on their characteristics (Rheingold, 1993b; Schuler, 1996).

According to this, social capital increases when opportunities for civic engagement are facilitated by VSN. Both types of VSN cause a general increase in trusting and norms of reciprocity, but the effect on social capital will be stronger when VSN overlap FtF networks and facilitate network density in general. VSN is a tool for fostering communication between members and then over time, networks, norms, and trust will be strengthened and social capital in this community will increase.

3.0. Virtual Social Networks for revival of Serbian villages

In recent years, Serbia has recorded a considerable increase in the number of users of different Internet services for support of social networks and even an overflow of forums and blogs. The motives for starting VSNs differ, going from the most common "personal" ones to those concerning certain events, life styles or brands. What is important for this research is the fact that there are some examples of VSNs that resulted in revival of certain segments of life in some more or less abandoned rural areas.

Below we'll present four VSNs and analyze their effects. Before presenting the case studies, we will show the characteristics of ICT development context in which these VSNs are taking place. There are two reasons for this: (1) access possibilities (in physical, economical and knowledge terms) determine the level of development and spread of VSNs, and (2) the context represents the frame of our expectations from VSNs as a civic engagement tool serving to support village development and strengthening of rural social capital.

3.1. ICT development context in Serbia

In recent years in Serbia the importance of ICT development has been recognized and they are mentioned in almost all strategic documents^v. However, even though regulative and strategic documents provide a solid environment for ICT development, Serbia still lags behind other European countries in almost all key indicators of information society development.

According to the latest research of the World Economic Forum on ICT, Serbia takes 93rd place among 138 countries on the ICT list of competitiveness^{vi}. With 39% of households that have the Internet connection, and 50.4% of households owning a computer Serbia holds one of the lowest positions in Europe^{vii}.

The most important data on ICT use in Serbia^{viii} are given in table 1. which shows that there is a big difference in computer numbers and the Internet access between urban and rural parts of Serbia, and also that there are considerable regional differences^{ix}.

| | Owning a computer (%) | Growth rate 2009-2010 | Internet connection (%) | Growth rate 2009-2010 |
|------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| Serbia | 50,4 | 3,6 | 39 | 2,3 |
| Central Serbia | 44,4 | | 31,7 | |
| Vojvodina | 52,9 | | 41,8 | |
| Belgrade | 60,1 | | 21,3 | |
| Urban population | 58,7 | 2,7 | 49,3 | 5,1 |
| Rural population | 38,8 | 4,7 | 24,1 | 9,5 |

Table 1. Values of indicators showing percentage of households owning a computer and those that have the Internet connection in 2010. Source: Republic Statistic Agency publication, 2011.

ICT development context in Serbia is also characterized with the following problems:

- Computers and the Internet in Serbia are still a privilege and necessity of a demographically narrow population group: (1) there is a big gap among subpopulation of different wealth status^x, and (2) among subpopulations defined by age, sex and educational level^{xi}.
- Low coverage of Serbia with wideband Internet.
- In comparison with its neighboring countries Serbia still has high prices of the Internet connections, especially for advanced access options.
- Besides a low number of the Internet users, a low level of new users is also noticeable as well as lack of intention among non-users to start using it. About 47% of Serbian citizens think that they do not need the Internet^{xii}. Without awareness regarding usability of the Internet in everyday life, there will be no growth in its presence and utilization.
- Inadequate number of programs intended to make the population computer literate and insufficient access to ICT, especially in underdeveloped and isolated areas.
- Lack of trust in e-services, especially in terms of security of financial transactions over the Internet.

Analysis of the motives and purpose of the Internet utilization shows that the Internet in Serbia is used mostly as a communication tool: sending e-mails (77.8%), chatting, forums, and social groups (44.5%). Data on the purposes of the Internet utilization are given in Table no. 2.

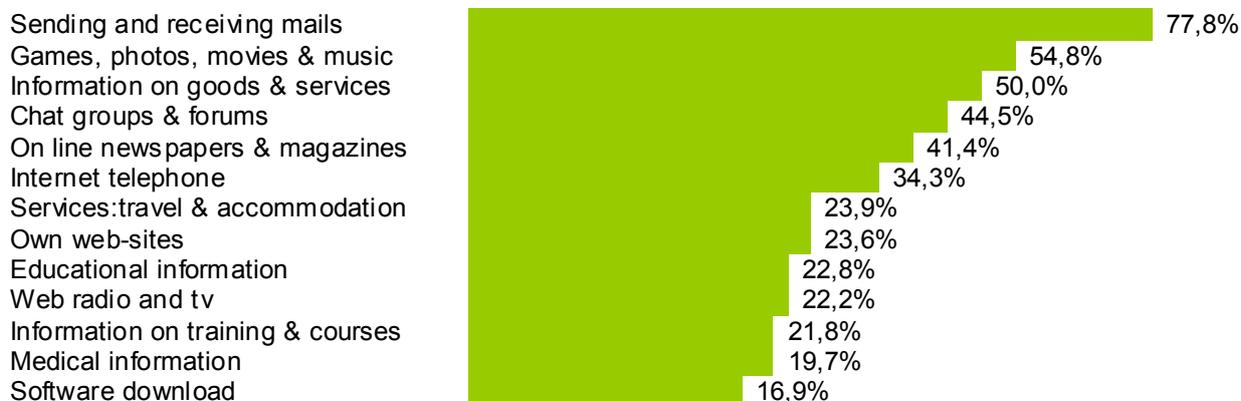


Table 2. Motives of the Internet utilization in Serbia 2010. Source: Republic Statistic Agency, RS,

The most commonly used /visited Internet service is Facebook – it takes up to 88% of all visits to social services. According to the number of Facebook users Serbia is the leader in the region (2.7 profiles open so far), which proportionally to the number of inhabitants takes Serbia takes 17th place in Europe, ahead of Croatia, Montenegro and Bosnia and Herzegovina. The fact about a large number of Serbs «hooked» to Facebook becomes even more impressive when we remember that only every second household in our country has a computer, which is considerably below European average (71%).

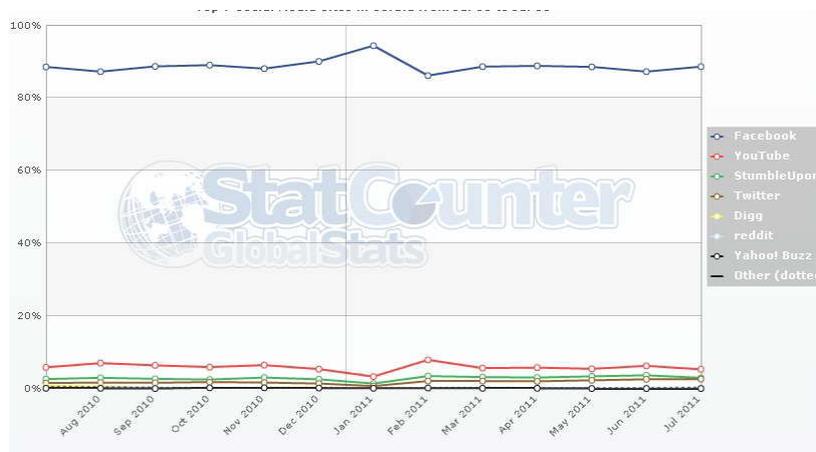


Figure 1 – Utilization of the Internet services in Serbia – August 2010 – July 2011
Source: http://gs.statcounter.com/#social_media-RS-monthly-201007-201107

Preliminary analysis of Facebook groups helps us identify a large number of groups dealing with different aspects of village developments. They gather around the topics such as:

- Searching for healthier and high quality life styles that respect existing natural and created values,
- Searching for an alternative for city life and consumer society,
- Improvement of agriculture, environmentally friendly agriculture (organic and biodynamic agriculture),
- Social inclusion and education of rural population,
- Sustainable building and land utilization: energy-efficient houses, self-building, local materials,

- Protection of traditional values, nature, landscapes, architecture and traditional crafts.

Sixteen Facebook groups are organized around eco-village topic. To mention some of them:

- Life in a village – The idea of this group is to connect all people interested to live in the villages of Katici, Mucanj, Mocioci and Ivanjica, as well as to promote these villages as clean air spa.
- Eco-village – return to nature and freedom. The idea of this group is to connect those who want to live in nature. The idea is to create eco-villages in Serbia.
- Rtanj area eco-village of Vrmudza – The group gathers because of the eco-village in the foot of the Rtanj mountain named Vrmudza – hill of Sokolovica in the municipality of Soko banja. The aim is to promote living in a self-sustainable household, in agreement with nature, and in a cohousing community where people produce healthy food and offer ecological tourism.

3.2. Case studies

Below we shall present some of the initiatives that resulted in life quality changes in several villages. Their driving motives, achievements, durations and effects are different. Several levels of effects can be recognized based on how long lasting impacts they have had on the community:

- **First order effects** – they represent results mostly of material nature, realized soon after the action started and mostly represent the primary motive for starting the action. They are easy to identify and their impact is short lasting;
- **Second order effects** – they show that the community’s social capital increased and their impacts are linked to the actions initiated or made possible by the first order effects, such as: new partnerships, coalitions, new initiatives, plans of future action. Their impact is longer lasting than that of the previous ones;
- **Third order effects** - regard the changes in the system of values thus affecting the perception of people’s personal roles, problems and ways of solving the problems of the community. Their impact is long lasting.

3.2.1. VSN 1: Collection of toys for the children from the Mucanj mountain villages

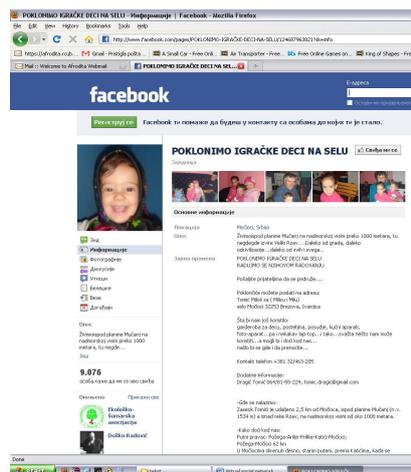


Figure 2. VSN1 facebook page and the effects of the first order.

Source: <https://www.facebook.com/profile.php?id=10000207553828&sk=wall#!/pages/POKLONIMO-IGRACCKE-DECI-NA-SELU/124687963821?sk=info>

Initiative: Humanitarian action “Let’s give toys to the village children”. Those who initiated it wanted to help mountain children and they opened this page on Facebook.

Initiator: Dragić Tomić, Chairman of the Association of Valevo Farmers founded in 2005 to develop rural tourism with an aim to lure young people to return to villages.

Members of this social network: non-government organizations, private and legal persons – 9000 followers.

Virtual service: Facebook.

Duration: 2009 - today.

Motives: “I wanted to do something for these people, primarily for the children. It is a fact that young people don’t easily decide to remain in these villages and start families under these mountainous conditions...Generally speaking, my idea is to raise awareness of the people. Why Facebook? I simply realized how powerful a medium it is at this moment. It is the most visited one; all people are there, so that I was certain that noble people and people with good hearts would give their contributions to this action. It is important to have the story spread out thus giving the whole action a full weight, and generally the aim is to promote this area and motivate young people to remain in the villages. When we brought the gifts to the Tomić family they were, of course, happy to get toys and other gifts, but most important for them was that someone remembered them, that they have friends, company. It is very hard to describe the warmth and emotions we felt in their home”^{xiii}.

First order effects: Several families from Mocioci village got gift-packages with toys. They also received other forms of help: some families got money and the number of people buying products from this area has also increased as well as the number of tourists.

Second order effects: Numerous contacts have been established with the people outside the village – the social capital has increased.

3.2.2. VSN 2: Free land-lots – get your own cottage – make money

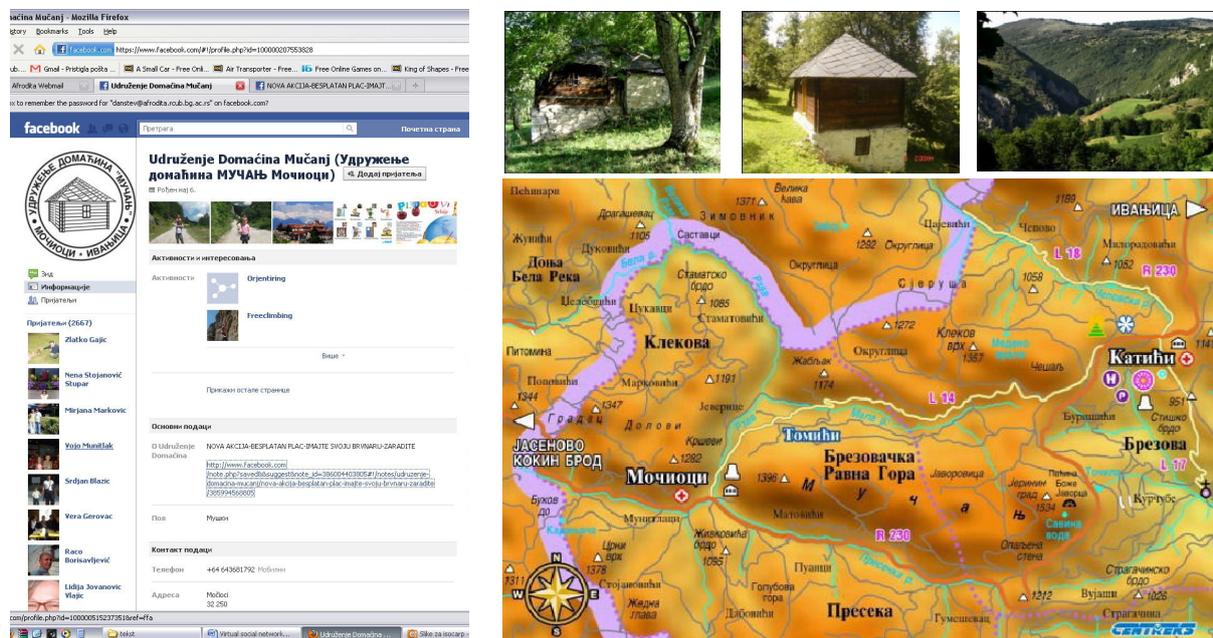


Figure 3. VSN2 Facebook page and houses and landscapes of the hamlet of Tomići, mountain Mucanj
Source: <https://www.facebook.com/home.php?ref=hpskip#!/profile.php?id=10000207553828&sk=info>

Initiative: Members of the association offer free land-lots where interested investors can build houses. The conditions are as follows: the investors become the owners of the land on which the house is built and users of other land necessary for utilization of the building; the building has to be in permanent function and when it is not used by the owner it should be rented to tourists – all income goes to the owner of the building; the building must be constructed of

natural materials in etno-styles; with an aim to permanently promote villages and develop rural tourism one euro from every night paid for shall be put in a fund to be formed; the building size is up to the investor; the investor can plant trees and autohtonous plants; the work is to be started right upon the agreement, and dead line to finish the building is one year, upon which all the rights are withdrawn.

Initiator: "Association of Mucanj Farmers". It was founded by 5 households of the Tomic hamlet in order to "combine the knowledge and try together to improve the village life, keep the young from leaving, promote the area and solve some so far unsolvable issues (utility problems, sale of farming products, etc.)".

Members of social network: non-government organizations, private and legal persons – 2667 followers.

Virtual service: Facebook.

Duration: 2010 - today.

Motives: "This way we want, commercially, to revive the village, encourage village tourism development and try to create a small Eco-Etno village". The people from the village understood that "the state has no will or power to do that itself" so they decide to take things in their own hands and find solution.

First order effects: Three signed agreements. Several more announced. Some of the interested investors are foreigners from Russia, Switzerland and Greece.

Second order effects: More visitors to the village and better sale of food products from this area (potato, kaimak, cheese, honey, snaps). This and other actions taken by this Association managed in short time to keep people from leaving the village. Some young people have even returned from the city. The plan is to have all members of the Association gather together to start producing food stuff and improve the village tourism.

Third order effects: Understanding that a single person can never achieve as much as an organized group of people. Enabling people to search for creative and innovative solutions. Change of common ways of thinking and acting.

3.2.3. VSN 3: With health against poverty



Figure 4. Web site of the Association and Association members.
Source: http://www.komoraks.co.rs/l_mi_to_mozemo/Kontakt.htm

Initiative: Teaching unemployed people how to start production of organic food. Parents of disturbed children gathered together in an attempt to help their children, themselves and their families. On abandoned land lots in nearby villages they started farming the aronia plant – medical herb plant with berries that cannot take any chemical treatment, grows on any land, is specially resistant to draught and frost, easy to pick (does not fall off). They succeeded and were even given an international award and money for social innovation. They also started hypo rehabilitation^{xiv}, a programme totally innovative in our region (treatment involving horses for disabled persons + sport horse riding).^{xv}

Initiator: Mirjana Stevanović, elementary school teacher, mother of two daughters and a son born with Dawn's syndrom. She is unemployed and divorced. The chairwoman of the Citizens Association of Citizens and Parents of Children with Special Needs.

Members of the social network: NGO, Ministry of economy of the Republic of Serbia, legal and private persons

Virtual service: www, web site, e-mail

Duration: 2007-today

Motives: A large number of the Association members have broken families, are unemployed and in constant battle with sickness and poverty. Considering possible solutions for their problems they realized that "all of them have some forgotten landlot in some village. Ideal for organic production, but also for treatments, for new life of higher quality in natural, supporting surrounding, to prove the community that even on the margins we still can start a good initiative and give guidelines to others". The plant was chosen based on the following criteria: it should be a perennial plant, not too needy (as few as possible people and machines and minimum chemical treatment), it should be in high demand so that it could be commercially sold when the project has been finished. Aronia was the only plant to meet all these conditions. When they started planing it, the plant was totally unknown in Serbia and unrecognized in the Registry of fruit plants. After their campaign that they maintained in all possible ways, planting Aronia in Serbia became rather big in size.

First order effects: The project trained 41 long-term unemployed people in the techniques and principles of organic farming. All were contracted to work for six months. Since they were among the poorest of their communities, they were given the tools needed to make the optimal use of resources. The majority of those taking part became so motivated that they joined with others to form the Eco farmers Association.

Second order effects: the project received an award (EUR 16,000) from Erste Foundation. The Association plans to buy two new plants for two families and buy a land lot for construction of a processing plant for Aronia berries. Although the focus was on organic farming, the model itself is transferable to other sectors. Besides the Association members some other disabled persons from Krusevac will get jobs. Thanks to the project, the little-known chokeberry is now officially registered in Serbia as a fruit!

Third order effects: A new model of social employment in rural Serbia. The project is a result of challenging own resources and potentials - an increased number of people joining the action, changing the perspective of their own position and abilities^{xvi}, for example, Aronia plants will be given to the Nikolic family with three members suffering from muscle distrofia, but still engaged in farming, proving that "even in wheelchairs it is possible to cultivate the land when the motivation is strong". The Association starts new projects and establishes cooperation with new members^{xvii}

3.2.4. VSN4 : Creation of the Balkan Eco-village Network



Figure 5. Balkan Eco-village Network web site and training for construction of straw houses. Source: <http://meb.ekosela.org/>

Initiative: Foundation of the Association Balkan Eco-village Network (MEB). MEB is a member of the Global Ecovillage Network.

Initiator: Green network of activist groups in cooperation with the Association Eia from Pula. Eco-camp Ortijes from Mostar (Bosnia and Herzegovina) and Knej from Cakovac. It emerged as a result of their project financed by the Regional Environmental Center for Central and Eastern Europe and Global Ecovillage Network - Europe.

Members of the social network: NGO, legal and physical persons interested in working and helping in permaculture and in developing environment friendly technologies in Croatia, Bosnia and Herzegovina, Serbia and Macedonia.

Virtual service: web site, facebook, twitter,

Duration: 2005 - today

Motives: Operative objective is to render help in creation and networking of educational centers for permaculture and ecological technologies. General objectives are: to encourage a sustainable life style in communities in both urban and rural areas that would prove with their own example that better world is achievable; to enable creation, collection and free flow of knowledge on possibilities of a sustainable, permacultural life style. Contribution to the creation of a harmonized, responsible, free and creative human society based on peace and love, and ethical principles of non-violence, equality and tolerance of differences. A society that respects the principles of caring for people, land and environment and preserves life in all its diversity and wholeness.

First order effects: Increased number of new members (individuals and associations). Several courses have been held in permaculture and creation and management of eco-villages. A book "Green tools for sustainable revolution" has been published, a web page has been constructed, discussions and round tables have been held as well as a workshop on building houses with straw bales, erection of wind and sun power generators and on getting compost with Californian worms. People have been trained on how to apply for projects and how to communicate with local governance.

Second order effects: Nine initiatives have been encouraged on foundation of eco-villages in the region.

Third order effects: Collection and distribution of information on eco-villages and initiatives as well as realization of above actions resulted in an increase of people who are aware of and understand the ideas promoted through this network.

4.0. Conclusion

It can be concluded that to achieve livable villages it is necessary to find new, creative tools (in addition to existing ones) for (1) improvement of social capital, and (2) improvement of the model of rural development planning and management.

Social capital. It is necessary to work on the capacity increase / strengthening of rural population for sustainable behavior by increasing their awareness and knowledge and teaching them how to self-organize themselves, take initiatives and accept responsibilities for their development. The villages and their population should be made less dependent on state programmes and subsidies and more on self-initiativeness and inter-connection.

Examples shown illustrate the claim that virtual social networks and the Internet can have a considerable impact on the development of social capital and encourage civic engagement of rural communities in Serbia in spite of their current low level of development and information availability. Only these few examples show numerous direct and indirect benefits of VSNs and their contribution to both individuals and community. Some of these are: provision of better information; easier communication; development of new crafts and improvement of existing ones; assistance to the people with special needs; improvement of goods and services supply, creation of new jobs and encouragement of business actions; overcoming of social or geographical isolation; improvement of social relations and strengthening of local community togetherness. These effects are interlinked, and some are even mutually

supportive. For example, improvement of abilities and craftsmanship of individuals from communities with low living standards strengthens the probability that some of them will manage to find or to keep jobs. Thus, in addition to increasing their income and quality of life, this directly improves the living standard of the community as a whole.

In accordance with this, the administrations should undertake actions regarding information and education on association and self-organization, distribution of good practice experience and their promotion in media.

Planning and management. Actual top-down, linear model of creation of development policies in Serbia is not good enough for an increasingly complex, dynamic and uncertain development context. Such model does not yield good enough results or at least does not yield them fast enough. On the other hand, VSNs point out in a new way all the happening in the society and offer supplements to traditional models of acting in that world. They are dynamic in nature, make it possible to look at the problem from different aspects and in an interactive way try to understand the problem and act accordingly. They involve the concerned ones and those who wish to act. They represent a distributed network of knowledge where relations among the elements are more important than each individual element itself. They act and change in real time. The changes happen and are noted in small time delay. The system is constantly subjected to checks and testing. Such systems easily adapt and evolve.

Therefore the system of planning and management has to be made (among other things):

- Sensitive and applicable to existing local initiatives and local specific characteristics, but also
- Encouraging for new initiatives that have high level of self-organization and adaptiveness as well as a developed system of mutual teaching.

So, when we are talking about active involvement of VSNs in the system of development planning and management we can distinguish actions that can be taken in regard to: (1) existing VSN initiatives, and (2) support to the creation of new ones.

The first steps for involvement of existing VSNs are simple and easy to implement, efficient and require minimum expenses, and their benefits for the community are numerous. The first step is to connect VSNs with official networks (virtual and «classical») of planning and management systems, first of all with on-line official networks of local self-governance (PBVSN). This makes it possible to connect VSNs with networks of organizations and institutions in charge of and interested in the same development issues. Key benefits of such process are multiple: (1) for administration: identification of relevant actors and their involvement in development processes and implementation of the plans and programmes, as well as creation of conditions to delegate organizational competences to organizations of civil sector; (2) for planners: involvement of relevant actors in the planning process creates conditions to make better, more effective and efficient plans; (3) for citizens: better connection with the management and planning system, access to resources and information and provision of support for development initiatives.

Support for the development of new VSNs and their integration into the development management and planning system of Serbia are considered adequate and potentially very effective especially in regard to the villages, because the areas in question are usually inaccessible and with bad infrastructure, low number of inhabitants, remote households, few social events and chances for exchange of ideas, experiences and problems. Enabling these areas to access the networks is possible only with the help of the state. In addition to providing the network coverage and points of access, it is necessary to take actions to educate and enable people to use ICTs, i.e. to promote media possibilities and inform the public.

We think that further research should include more comprehensive testing of VSNs as a development resource, do a more detailed analysis of possibilities and ways of institutionalization of their inclusion into the system of planning and management, define stimulative actions for creation of new VSNs, discuss organizational and operative issues of implementation of VSNs as a tool for development planning and management, but also of civic engagement.

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ⁱⁱ The Internet is a series of networks connected to other networks which comprise a very large network, often called “global village” (Baym, 1995; McLaughlin et al., 1995). However, it is observed that people can maintain only a limited number of ties so that unlimited relationships and communication with the rest of the world is unlikely (Wellman and Gulia, 1999). It is found that overlap in social networks between people involved in a friendship in a geographically dispersed VSN was quite low as compared to “face to face” (FtF) friendships. However, the dispersion of one’s network is more likely to occur when an individual primarily participates in geographically dispersed VSN of interest and not physically based ones. Physically based VCN would increase the chances of overlapping with FtF communities

ⁱⁱⁱ Wellman and Gulia (1999) term this “boutique shopping” in that the person “shops around” for a wide variety of social and informational resources to meet his or her needs

^{iv} An interesting finding from Parks and Floyd (1996) is that personal relationships between members of a virtual community are common and that these relationships are likely to move off line and include other kinds of communication.

^v In the 2006. Republic of Serbia adopted Strategy for information society development. Beside that, there are adopted many necessary laws and other regulatory documents of high importance for the issue.

^{vi} Research included three dimensions - general business, regulatory and infrastructure environment for ICT; the readiness of individuals, businesses and governments to use ICT in their daily work, and the actual use of modern information and communication technologies. Compared to the previous report, Serbia is regressed to 84th positions in the last two years. Countries in the region are ranked as follows: Slovenia - 34, Montenegro - 44, Croatia - 54, Macedonia - 72, Bosnia and Herzegovina - 110 place.

^{vii} Percent of households owning a computer: Netherlands 91, Sweden 88, Slovenia 71, EU average 71, Hungary 63, Croatia 55, Macedonia.54. Percent of households that have the Internet connection: Sweden 86, Denmark 83, EU average 65, Slovenia 64, Hungary 55, Croatia 50, Macedonia 42. Serbia’s position in relation to the region is somewhat better in terms of coverage of fixed phone lines. However, by the number of mobile phone subscribers Serbia is in front of the Bosnia and Herzegovina, while by the number of Internet users is just ahead of Albania and Romania

^{viii} Surveys were conducted according to the Eurostat methodology. Data for Kosovo and Metohija are not available.

^{ix} This gap is slightly reduced in comparison to 2009. year

^x The probability that a household member (regardless of where access to) use the Internet is about 3.5 times higher in households with incomes higher than 150 euros per capita (53%) than is the case with those whose income does not exceed 50 euros per (16%).

^{xi} On-line are more often men (31%) than women (18%), youth from 15 to 29 years (48%) rather than people from other age groups, pupils as well as students, while at least those with primary education (only 1.4% of them use the parking internet).

^{xii} About a quarter said that non-users do not know how to use a computer, or that it itself can not afford. This is directly related to the aforementioned problems of coverage and accessibility, and usefulness of Internet access. Citizens still do not recognize their potential and possibilities of use.

^{xiii} From the article: "They collected toys for children from the mountain villages at the foot of Mucanj" daily Blic, author of the article Baba Bojovic, Wednesday, 30.12.2009.

^{xiv} <http://www.socialintegration.org/erstestiftung-nsi/micropage.html?p=1946>

^{xv} <http://www.vecemjenovosti.info/vesti/naslovnna/aktuelno.69.html:302824-Eldorado-za-razbibrigu>

^{xvi} See more on http://www.b92.net/video/video.php?nav_category=905&nav_id=527498

^{xvii} Faculty of Architecture University of Belgrade, Faculty for Applied Ecology, Balkan Community Initiatives Fund