

# STATE AND CONDIDTION FOR IMPLEMENTING ICT IN RURAL TOURISM IN THE REPUBLIC OF SERBIA<sup>1</sup>

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## Abstract

*Information and communication technology (ICT) has been rapidly developing since seventies of twenty century. ICT development has affected to all spheres of society. ICT can help industries to be more competitive on the market. Advantages of business that can be realized by using IT influenced that its application has been made in all sectors of the economy. Implementation of ICT in some countries has shown that ICT can play a key role in business (for example, Small Business and Entrepreneurship), as well as the impact on the development of certain regions (rural or urban), or on development of local economies, etc.*

*Advantages that can bring implementation of ICT also recognized in tourism business. Implementation of ICT is nowadays especially present in so-called "mass forms of tourism". Application of computer reservation systems (CRS) and global distribution systems (GDS) completely changes the role that intermediaries (travel agencies/tour operators) have until recently. On the other hand, the application of ICT in rural tourism has been late. This has resulted in the backwardness of rural tourism development for other forms of tourism. This is a global problem.*

*A characteristic of rural tourism is the physical distance between the rural tourism supply and demand which is located in the urban city centers. A role of tourism intermediaries is to make their connection. The application of ICT has significantly contributed to improvement of intermediaries business. In order to made rural tourism supply available for urban tourist demand, one of the important conditions is to educate local rural population for use IT in rural tourism business. This requires special training programs. This comes*

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<sup>1</sup> This paper is the result of the project No. 46006 – III „Sustainable agriculture and rural development in function realizing strategic goals of the Republic of Serbia in framework of Danube region“, financed by the Ministry of Education and Science of the Republic of Serbia in the period of 2011 – 2016.

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*from the fact that progress in the development of ICT has enabled a wide range of tools and services with which improved business in tourism.*

*Rural tourism in Serbia has been developing since the seventies of the twentieth century. The period in which rural tourism recorded the stagnation of development and later lag, was in the nineties and reason is „well-known events“ that were characteristic of the entire area of former Yugoslavia. After 2000 begins new accelerated development of rural tourism. A special expansion has been recorded since 2006, when the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia allocated around 92 million dinars to develop rural tourism. Today, almost all regions in Serbia have a greater or lesser level of development rural tourism. What appears as a problem in tourist business is just a lack of application ICT. This is characteristic of the organization and management of rural tourism at all levels from local, regional to the national. Also, the use of the Internet in the tourism business is not satisfactory.*

*As one of the tasks which stands in front of Serbia is development of network economy, which would be based on the adopted Strategy for the Development of the Information Society till the 2020. Expectations are that the implementation of ICT should contribute to develop rural tourism, and increasing the income of the local population, also it would enable farms as small business entities to remain competitive in the tourism market which is precisely one of the characteristics increased competition. The aim of paper work is based on the analysis of the current situation in the sector of rural tourism in Serbia and point out the importance that can bring implementation of ICT in rural tourism business. Article indicates the necessary steps which would promote business of rural tourism in the micro level (small family farms) and macro level (operations at the level of rural tourist destinations – villages, local rural areas, region or country as a total destination system).*

**Keywords:** *rural tourism, destination, business, Internet, databases.*

## **Introduction**

ICT is one of the future's basic technology fields pressing their fingers to the first quarter of the 21<sup>st</sup> Century.<sup>3</sup> Therefore, countries must use IT in every sector of the economy to win the competition.<sup>4</sup>

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<sup>3</sup> Akca, H., Sayli, M. and Esengun, K., (2007): „Challenge of Rural People to Reduce Digital Divide in the Globalized World: Theory and Practice“, Government Information Quarterly 24 (2007), pp. 404-413. Hollifield, C. A. Donnermeyer, J. F. (2003): „Creating Demand: Influencing Information Technology Diffusion in Rural Communities“, Government Information Quarterly 20 (2003) pp. 135-150, etc.

So far, in the literature there is no general consensus about what are the critical success factors of application IT. According to research conducted at the Technical University of Eindhoven (*Netherlands*), critical success factors are discussed from the technical and organizational point of view. On the technical side, the focus is on the information system, whereas the organizational part, emphasis on organizational culture, structure and business processes. Within these divisions continue to vary factors affecting the long-term goals (strategic) and the factors that influence the short-term operational objectives (tactical).<sup>5</sup>

The practice in some countries has shown that the impact of IT on specific categories of business (eg, small business and entrepreneurship), then the impact on the development of certain regions (for example, rural or urban), and impact on local economies is vital.<sup>6</sup>

*Enright and Newton (2005)*<sup>7</sup> stated that “a destination is competitive if it can attract and satisfy potential tourists, and this competitiveness is determined by both tourism specific factors and a much wider range of factors that influence the tourism service providers.” The number of tourism destinations worldwide is constantly growing. As destinations strive for bigger market shares, there is great competition on the international tourism market. Competitiveness is increasingly being seen as a critical influence on the performance of tourism destinations in competitive world markets.

One of the area which aim is to make closer rural tourism supply with urban demand (to make their connection), is via ICT. Those destinations which present their promotional activities to a wider range of consumers/tourists will be in a better position, or better words is that destination will be in a position to achieve higher incomes and therefore would be more competitive. Hence, the interest in tourist destinations should be directed towards the development of ICT.

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<sup>4</sup> Gul, A., Mutulu, S. and Bal, T. (2004): „*Informatics in Food Industry in Cukuruva Region Turkey*“, Information Technology Journal, 3 (2), pp. 133-138.

<sup>5</sup> Stankić, R. (2014): “*Key Success Factors for Implementation of Business Information System*”, pp.18-25. Proceeding No. 8. University in East Sarajevo, The Faculty of Economic, Brčko, November 2014. Web site: [http://www.efbrcko.ba/doc/Zbornik\\_Radova/13.01.2015.%20Zbornik\\_2014\\_EF\\_Brcko\\_web\\_izdanje.pdf#page=24](http://www.efbrcko.ba/doc/Zbornik_Radova/13.01.2015.%20Zbornik_2014_EF_Brcko_web_izdanje.pdf#page=24)

<sup>6</sup> Premkumar, G. and Roberts, M, (1999): “*Adoption of New Information Technologies in Rural Small Businesses*”, p. 467. The International Journal of Management Science, 27 (1999) pp.467-484.

<sup>7</sup> Enright, M. J. and Newton, J., (2005): „*Determinants of tourism destination competitiveness in Asia Pacific: Comprehensiveness and universality*”, p. 340, Journal of Travel Research 43 (May): 339–350.

Popović, V, Milijić. S. and Vuković, P. (2012)<sup>8</sup> defined principles of tourist development: economic sustainability; social and cultural appropriateness; environmental acceptability; encouraging the tourism destination development in order to create competitive tourism products, as well as institutional and functional organization of tourism area offer; development of all-year round tourism offer; creating conditions for integrating the tourism with complementary sectors of economy and society – through partnership between the public, private and non-governmental sectors (eg. ICT networking of stakeholders etc.); strengthening the cross-border cooperation in tourism and complementary activities; harmonizing the tourism development regulations with European standards; and ensuring public participation in conceiving and implementing sustainable tourism spatial development.

### **Characteristic of rural tourism in the Republic of Serbia**

The modern trends in the tourism market move further from the concept of mass tourism offered by vacations in destinations located on the seashore and/or mountain ski resorts. There is a strive towards activating all segments of tourist demand in order to achieve the best results in tourism development. In this way the countries, i.e. destinations that do not possess the resource base for developing the so-called “mass tourism” or besides that, seek their chance on the tourism market by offering alternative tourism products, such as thermal baths, spa and wellness tourism<sup>9</sup> and various form of sustainable tourism based on interaction between the multifunctional agriculture and regional natural and cultural values<sup>10</sup>, especially in high nature value (HNV) farmland areas<sup>11</sup>.

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<sup>8</sup> Popović, V., Milijić. S. and Vuković, P. (2012): „Sustainable tourism development in the Carpatian Region in Serbia“, p. 45. SPATIUM International Review, No. 28/ 2012, pp. 45-52.

<sup>9</sup> Vuković, P., Čavlin, G. & Čavlin, M., (2015): „Complementarity in Development of Rural Tourism with the Development of Thermal Baths, Spa and Wellness Tourism“, p. 260, journal: *Ekonomika poljoprivrede/Economics of Agriculture*, pp. 259-270. No.1(1-284), 2015 Belgrade.

<sup>10</sup> Popović, V. and Živanović, M. J. (2012): "Wine Tourism and sustainable rural development in the Danube basin area in Serbia", p.1566. Thematic proceedings: *Sustainable agriculture and rural development in terms of the Republic of Serbia Strategic Goals Realization within the Danube region - Preservation of Rural Values*, the Institute of Agricultural Economics, Belgrade, pp. 1565-1584,

<sup>11</sup> Popović, V., Vasiljević, Z., Bekić, B. (2012): "HNV farming in the area of the Radan mountain and the role of agri-environment payments", p. 69. Thematic proceedings: „Rural areas and development“, Vol. 9. European Rural Development Network, Institute of Agriculture and Food Economics – NRI, Poland, Institute of Agricultural Economics Belgrade, pp. 67-88,

Accepting attitudes of phase development of rural tourism with the appropriate characteristics presented by Zodorov, A. V., (2009)<sup>12</sup>, it can be concluded that the Republic of Serbia, as well as most other countries, rural tourism developed on the same way with the same characteristics; even accurately it can be determine duration of development phases.

The first phase, *independent establishing*. Rural tourism in Serbia has begun to develop since the seventies of the twentieth century. Villages who have been "pioneers" of development were: Sirogojno, Seča Reka and Deviči. The leading tourist agency "Yugotours" and "Putnik" involved in the affairs of bringing foreign tourists to rural areas soon after began. Thus, according to the data from Tourist Organization of Serbia from 1992, in the municipality of Knić were about 35 000 foreign guests from 21 countries. The largest number of tourists was recorded from Great Britain, Germany, Russia and Italy.<sup>13</sup>

Municipalities of successfully developing rural tourism by the year 2000 were Brus, Valjevo, Gornji Milanovac, Ivanjica, Knić, Kosjerić, Kraljevo, Lučani, Mionica, Požega, Prijepolje, Rača Kragujevačka, Dimitrovgrad, Užice, Čajetina, Čačak and Šabac. Indicators of rural tourism development in Serbia between 1990 and 2000 were presented in *Table 1*.

**Table 1. Indicators of rural tourism development in Serbia\***

Year	1990	2000
Number of villages	50	41
Number of farms	800	170
Number of beds	3 000	800

\* Tourist organization of Serbia, data

Source: Milojević, Lj., (2004): „Rural Tourism in Serbia“, p.30, UNWTO: „Rural Tourism in Europe: Experiences, Development and Perspectives“, pp. 27 -31, Proceeding from Seminars, Belgrade (Serbia and Montenegro, 24-25 June 2002), Kielce (Poland, 06-07 June 2003), Yaremcha (Ukraine, 25-26 Sept. 2003) published by UNWTO 2004.

<sup>12</sup> Zodorov, A. B., (2009): „Comprehensive Development of Tourism in the Countryside“, Studies on Russian Economic Development, 2009, Vol. 20, No. 4, pp. 453–455.

<sup>13</sup> Todorović, M. and Bjelac, Ž., (2009): „Rural tourism in Serbia as a Concept of Development in Undeveloped Regions“, p.455, journal: Acta Geographica Slovenica, 49-2. (2009), pp.453-473; Milojević, Lj., (2004): „The Social and Cultural Aspects of Rural Tourism“, p. 117, UN WTO: „Rural Tourism in Europe: Experiences, Development and Perspectives“, pp.115-121, Proceeding from Seminars, Belgrade (Serbia and Montenegro, 24-25 June2002), Kielce (Poland, 06-07 June 2003), Yaremcha (Ukraine, 25-26 Sept. 2003) published by UNWTO; Štetić, S. and Todorović, M. (2009): „Rural tourism“, University of Belgrade, the Faculty of Geography, p. 65.

The reasons for the appearance of negative trends in development of rural tourism in the observed decade should be seen primarily through deep political, social and economic crisis which was reflected on all segments of society and therefore the on tourism.

The strengths in development of rural tourism which characterized that decade were: good preservation of natural resources and their large number, rich cultural and historical heritage, large number and diversification of rural settlements, the wealth of local traditions, Traditional hospitality, and diversification of the tourist product. Same characteristics also are present nowadays.

Weaknesses included: inadequate rural infrastructure, "archaic" tourist product, underdeveloped information system, unsatisfactory level of quality accommodation and other services, lack of educational programs (training) farmers to provide adequate quality of service, lack of experience, lack of motivation, underdeveloped awareness in rural areas of economic and other benefits of the development of rural tourism.

The second phase, *dedicated development* began in 2006. Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia has been allocated in total amount 91,580,215 dinars for rural tourism development and diversification of economic activities in the countryside in the period since 2006 to 2008. In 2008, there were 173 beneficiaries of these funds (141 registered agricultural producers, 23 associations of citizens, 7 legal persons and 2 cooperatives)<sup>14</sup>.

The largest amount of assets distributed in the region of Western Serbia and Vojvodina, while through the districts most assets were distributed in Zlatibor district, and at least in the North Bačka district. Analysis of the types of investment indicates that 91% of allocated funds directed to the restoration of traditional rural households (renovation, extension and renovation of facilities, equipment, etc.), while 9% allocated to promotional and educational activities.

Until the year 2011, there were no reliable indicators of rural tourism development in Serbia. That is when *The Master Plan of Sustainable Development of Rural Tourism* (2011) was made, which presented the results

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<sup>14</sup> "Analysis of the Budgetary Support to the Development of Rural Tourism in Serbia and Diversification of Economic Activities in the Countryside" (2009), the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, RD Sector, p. 2.

that 106 local tourist organizations made in cooperation.<sup>15</sup> According to this source, rural tourism encompassed 2.7 million overnight stays, which is the sum of individual overnight stays in rural tourism (145,354)<sup>16</sup> and the number of common tourist overnight stays usable for rural tourism (2,556,128)<sup>17</sup>. Rural tourism provides more than 32,000 beds (registered and unregistered), where more than 10,000 beds are in the countryside. The total number of beds is estimated to bring more than 5 billion RSD annually in income and 5 bn. RSD in direct income to the tourism sector. The income of 10 bn. RSD does not include visitors who stay for a night or stay with their friends or family (although they also spend money on tourism and other services during their stay) and it does not include the indirect contribution to the local economy in the sense of income and employment. The income of 10 bn. RSD is 16% of direct GDP from travel and tourism, as calculated by the *World Council for Travel and Tourism in Serbia* for the year 2010, which is 64.2 bn. RSD<sup>18</sup>. Based on this, we can conclude that rural tourism today has an up-going trend in development. It can be concluded that after the year 2008 until 2016 (after approval financial resources) development of rural tourism is nowadays present almost in all regions of the Republic of Serbia.

### **Information and communication technology (ICT) in rural tourism**

It is found that a whole system of information technologies (SIT) is being adopted by *all segments* of the travel industry. The SIT, however, will not attack the human content of tourism. Rather, it will affect the core information-intensive areas of management, organization, product blending and packaging, marketing, distribution, and industry linkages. Factors likely to affect the diffusion of the SIT in tourism are identified. Implications of technology adoption for future organization, management, and distribution of tourism services are drawn out.<sup>19</sup>

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<sup>15</sup> Vuković, P., Čavlin, G. and Čavlin, M., (2015): „*Complementarity in development of rural tourism with the development of thermal baths, spa and wellness tourism*“, p. 261, journal: *Ekonomika poljoprivrede/Economics of Agriculture*, pp.259-270., No.1(1-284), 2015 Belgrade

<sup>16</sup> This data comes from the municipalities and LTOs. As pointed out in this document, “*no central institution is in charge of gathering this data, except the Council of each municipality or the LTO*”, p.15.

<sup>17</sup> The Master Plan states: “*The Common Tourist Overnight Stays Usable for Rural Tourism*” means accommodation in rural areas that can be used by tourists who visit the rural areas, but cannot be called “*rural households*”.

<sup>18</sup> Ibid, p. 74-75.

<sup>19</sup> Poon, A., (1988): „*Tourism and Information Technologies*“, *Annals of Tourism Research*, Vol. 15, pp. 531-549.

Travel agents utilize computerized reservation systems (CRS) to obtain information and make bookings. Hotels use the technologies to integrate their front office, back office, and food and beverage departments. Airlines use technologies for almost every aspect of their operations, from schedule generation to flight planning and analysis.<sup>20</sup>

*Allen, J. C, et al.* (1993)<sup>21</sup> points out that the new ICTs made that the distance between tourist destinations and visitors are irrelevant for the normal course of business nowadays. Small rural enterprises can due to ICT equally participate in competition on tourism market with the "urban enterprises" and in that sense can exercise a certain kind of competitive advantage.

On the other hand, the lack of ICT can lead to a reduction in demand for holidays in rural destination, reduction in economic activity, and therefore may adversely affect the development of rural areas, that could lead to a reduction in future investments.<sup>22</sup> ICT opens up new markets that previously were not available to rural tourist destinations and provides a numerous of advantages in business<sup>23</sup> and provides such a large number of advantages in business.

ICT to rural residents give possibilities:<sup>24</sup>

- to promote rural tourist products,
- to use benefits of e-trade,
- to make transfer knowledge from urban to rural areas and vice-versa,
- to apply in official state procedures - for example, applications for funds from various state funds, such as funds intended to stimulate the development of rural tourism, etc.,
- to use geographical information system (GIS) for management of natural resources, etc.,

*Hollifield, C. A. and Donnermey, J. F.,* (2003)<sup>25</sup> point out that IT allows overcoming physical barriers and help to restructuring rural economy and

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<sup>20</sup> Ibid, pp. 531-549.

<sup>21</sup> Allen J. C., Johnson B. B, Leistriz, L. F. (1993): „*Rural Economic Development Using Information Technology: Some Directions for Practitioners*“, Economic Development Review 1993; 11 (4), pp. 30-33.

<sup>22</sup> Premkumar, G. and Roberts, M. (1999): „*Adoption of New Information Technologies in Rural Small Businesses*“, p. 467, The International Journal of Management Science, 27(1999) p.467-484.

<sup>23</sup> Hollifield, C. A. and Donnermeyer, J. F., (2003): „*Creating demand: influencing information technology diffusion in rural communities*“, op. cit., p. 136. Premkumar, G. & Roberts, M. (1999): „*Adoption of New Information Technologies in Rural Small Businesses*“ op. cit., p. 468.

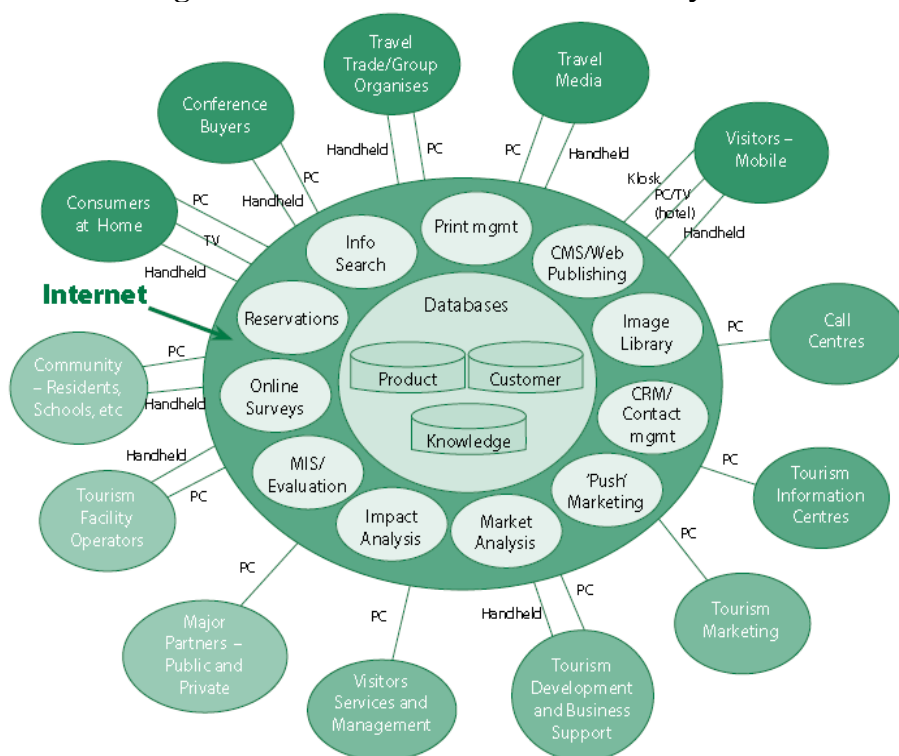
<sup>24</sup> Akca, H., Sayli, M. and Esengun, K. (2007), op. cit. pp. 406-407.

<sup>25</sup> Hollifield, C. A., & Donnermeyer, J. F. (2003), op.cit, pp.135–150.



set long-term sustainable development. They find for people for whom there is good communication connections there exist bigger interest to adopt new innovation and technology. Low population density of rural areas make obstacles for application of highly advanced ICT. The authors point to existence of a time "gap" that occurs when adopting way how to use ICT by local stakeholders and possibilities for practical application in rural business and the continuous progress that is immanent for ICT. *World Tourist Organization – UN WTO (2007)*<sup>26</sup> argue that ICT and e-business enable destination organizations to develop and implement a wide range of e-business relationships with consumers, product suppliers and market intermediaries. *Figure 2* provides a diagrammatic representation of a destination e-business system. It shows (reading from the outer ring towards the centre) different categories of users, accessing the system through one or more channels (PC, handheld device, interactive TV, kiosks, in-car systems, etc). Having accessed the system, the users may select from a wide variety of services (or applications) that will draw, in turn, on the appropriate database(s).

**Figure 1. Tourist destination e-business system**



Source: UNWTO (2007): "Practical Gide to Tourist Destination Management", Madrid, p.129

<sup>26</sup> UNWTO (2007): "A Practical Guide to Tourist Destination Management", Madrid, p.128.

## IT literacy and education programmes

Using the Internet in the tourism business in Serbia is in initial phase. Businesses late in the development of ICT for developed countries of Western Europe and North America. This kind of trading is a new and represent great challenge, but also and a threat. Reason because it inevitably leads to the disappearance of the classic tourist intermediary. In the future, it can be expected expansion of new electronic tourist intermediaries.

Intermediaries in the tourism business in Serbia use applications of GDS and it must be notice that system "Amadeus" has the largest market share.<sup>27</sup>

The limiting factor in the application of IT in rural tourism in Serbia is level of computer literacy of local stakeholders. According to the data "ECDL" (*European Computer Driving Licence*) from 2012, Serbia is on the field of computer literacy six times behind for Slovenia, and more than thirty times behind for some EU countries.<sup>28</sup>

Data presented by the Republic Statistical Office (RSO) on the basis of research conducted and published in September 2013, whose results were published by the Ministry of Foreign and Internal Trade and Telecommunications, says that in the meantime Serbia made progress in process developing IT literacy:<sup>29</sup>

- More than 2.4 million citizens of Serbia use the Internet every day or almost every day, which is more than 300 000 in 2012.
- Computer owns 59.9% of households, and the Internet connection has 55.8%. Number of households that have a computer is 4.7 percentage points higher than in 2012, while the number of Internet connections increased by 8.3 percentage points.
- Internet connection owns households with a income for more than 600 euros monthly (of such households in that category was 89.8%), while among households with an income of 300 euros it is only 39.5%.
- In the cities, computers has 66.3% of households, while in villages 50.9% of households. It was noted that the difference is process of decreased, if it compared with data from 2012.

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<sup>27</sup> Pavlović, D. and Spasić, V., (2008): „*The Effects of the Application of Modern Information Technology in the Operations of Small Travel Agencies*“, p.155, journal: Turizam i hotelijerstvo, Vol. 5/No.1, pp. 148-156.

<sup>28</sup> Web site: <http://www.ecdl.rs/arhiva/index.htm> (accessed: 25. 06. 2016.).

<sup>29</sup> The Ministry of Foreign and Internal Trade and Telecommunications of the Republic of Serbia, <http://mtt.gov.rs/slider/raste-broj-korisnika-interneta-u-srbiji/> (accessed: 23. 04. 2014).

OECD (1994)<sup>30</sup> highlight that education and training represent one of the most important factors in development of RT. Training for rural tourism professionals, planners and administrators is less well developed. Also, the use of the *Internet* in the rural tourism business is not satisfactory. One of the main obstacles to the computer implementation in RT business is non-education of the local rural population (farmers).

*Baum, T, at al.* (2001)<sup>31</sup> made distinguish between formal and informal education system. These are the concepts that are complementary, and there should not be divided, because their combination leads to better effect in the development of tourism. Education of farmers will enable higher quality services. The quality of services has in recent years become a major factor in choosing a tourist destination.<sup>32</sup>

Training and education are essential in the development of rural tourism, especially in the initial phase of development. Training and education are taking place at several management levels:<sup>33</sup>

- 1) *Training for officials in the administration.* Education and training programs are essential for this important group, because many officials who work in Government or municipalities are aware of the benefits of the development of rural tourism.
- 2) *Education of trainers.* Trainings are necessary for individuals involved in appropriate positions at the local level. With the appropriate knowledge and skills, these individuals who are well positioned, have the opportunity to train other individuals at the operational level.
- 3) *Training for direct service providers.* Providers of rural tourism product and operators require education and training in the following range of topics: care for consumers; knowledge of languages; standardization of tourism products; understanding the needs of the partners; knowledge about tourist product; basics knowledge regarding marketing; work on computer and Internet.

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<sup>30</sup> OECD (1994): “*Tourism Strategies and Rural Development*”, Paris 1994, OCDE/GD (94)49, p.44.

<sup>31</sup> Baum, T., Wahab, S. and Cooper, C. (2001): “*Education for Tourism in a Global Economy*”, pp. 198-212, in “*Tourism in the Age of Globalisation*”, edited by Wahab, S. and Cooper, C. published by Rothelge, Taylor & Francis Group, London and New York.

<sup>32</sup> Vuković, P., Arsić, S. and Cvijanović, D., (2010): „*Competitiveness of Rural Tourist Destinations*”, p. 58, journal: *Ekonomika poljoprivrede/Economic of Agriculture* 57, januar-mart, Beograd, God./Vol. LVII, N0 1(1-153), 2010, pp. 47-60.

<sup>33</sup> “7. *Training and Education*”, p. 9, WTO seminar, “*Rural Tourism in Europe: Experiences and perspectives*”, Belgrade, Yugoslavia, 24-25 June 2002, Conclusions, web. link: <http://dxtq4w60xqpw.cloudfront.net/sites/all/files/docpdf/rural-sem-2002-concl.pdf> (accessed: 05.07.2016)

It is necessary that residents get acquainted with all the possibilities that can be offered by development of rural tourism: 1) create additional incomes for farmers; 2) strengthening agriculture through the sale of agricultural products to tourists; 3) strengthening the entire infrastructure in rural areas; 4) preventing the process of depopulation; 5) development of trade; 6) development of traffic; development of the service sector; etc.

### **Need for development database of rural tourism products and its connection to GDS**

Haines, P. (1994)<sup>34</sup> considers that DIS gives opportunity for small holders of tourist supply that they should stay in competitive struggle with large tourism companies that have complete access to sophisticated IT. ICT should consist of:

- *Product Database.* Containing accommodation, transportation, attractions and public facilities.
- *Client data base.* Containing profile detail (client history, contact information) of actual and potential travelers.
- *Marketing assets.* Comprehensive selection criteria and the possibility of collecting addresses, the possibilities of relational databases, summary information for marketing planning.
- *Finding information.* The mechanism that allows easy retrieval of information relevant to users.
- *Booking.* The ability to profile information stored for potential client and to reserve the whole "range" of various tourist services.
- *Distribution.* The ability to offer all previously via communication technologies.

UNWTO (2007) make difference between traditional and emerging distributive net. Traditional systems consist of:

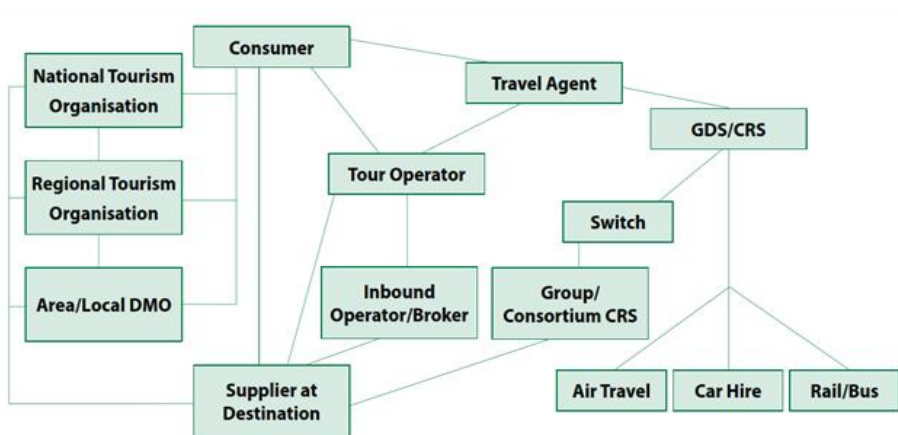
- Direct consumer to supplier channel;
- The DMO playing a facilitating channel role through carrying product information in brochures, information offices, webpages, etc.;
- Intermediaries including travel agents, wholesale tour operators and inbound tour brokers;

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<sup>34</sup> Haines, P. (1994): „*Destination Marketing System*“, pp.50-63. in Schertler, W., Schmid, B., Tjoa, A. M, and Werthner, H., (eds.): „*Information and Communications Technologies in Tourism*“, Proceedings of the International Conference in Innsbruck, Austria, 1994 , Springer-Verlag, Wien.

- Dedicated technology distribution systems such as Global Distribution Systems (Amadeus, Galileo, Sabre, etc.) and Central Reservation Systems (*Figure 2*).

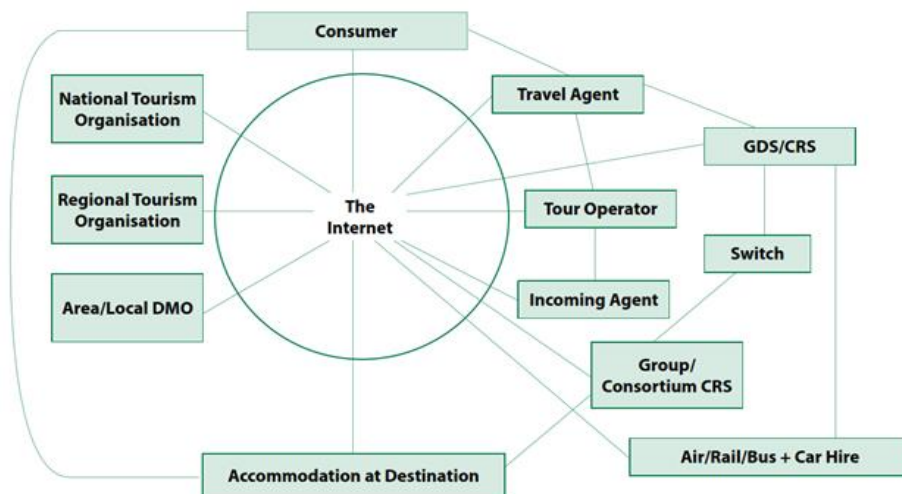
**Figure 2. Traditional travel distribution systems**



Source: UNWTO (2007): "Practical Guide to Tourist Destination Management", Madrid, p.73.

UNWTO argue that under the emerging distribution systems includes all systems that use *Internet technology* with which the improved business because of the opportunity to consumers via the *Internet* have access to a wide range of information about various tourist destinations and tourist products, and based on available information, as well as appropriate "tools" offered by modern ICT create your trip and stay in the area in a way that suits them (*Figure 3*).

**Figure 3. The emerging distribution systems**



Source: UNWTO (2007): "Practical Guide to Tourist Destination Management", Madrid, p.73.

For the time being for the needs of rural tourism there is no central server at the global level, with databases that combine data collected from all servers, or there is no information that in near future can expect the existence of a global database that will be able to collect, integrate, process and offer good organized information in the field of rural tourism. Since 2006, the company „Pegasus Solutions Inc.“<sup>35</sup> which is a global leader in advanced technologies and services to hotels and travel distributors and is the world's largest hotel representation service, with the largest:

- Central reservation system (CRS),
- System of processing electronic bookings via the *Internet* and global distribution system (*Amadeus, Galileo, Worldspan, Sabre*)
- System for processing agency fees in the world, operates in Serbia through company "Congrexpo doo".<sup>36</sup>

The mission of this company is to maximize the revenue and profitability of hotels and intermediaries in tourism around the world, ensuring the use of the most advanced and most innovative technology in the tourist industry.<sup>37</sup> The aim of this association is a global sales service as well as marketing of accommodation facilities. Including accommodation facilities in the "Pegasus" system "Utell" or "Unirez" enables access to the Global tourist market. In this way the accommodation facilities becomes available for more than 650 000 travel agencies worldwide and is available for booking in any part of the world. This system is connected to a number of hotels in Serbia such as "Serbia", "Union", "Alexander Place", "N", "Gymnass" etc. This enables that the accommodations are available to tourists and travel agencies from all over the world. In Central Serbia reservation system includes the "on-line" system "Booking Serbia"<sup>38</sup> through which it is provided possibility for booking units of rural tourism (rural households, farms, villas, pensions, etc.). On this way it is possible that small units are connected to a global distribution system.

However, what appears as a problem is the fact that the system does not include all the accommodations units of rural tourism in Serbia, and that list is not updated continuously. Between the offers, which is located on the "on-line" system "Booking Serbia" and database which in this moment has the largest accommodation supply of rural tourism in the Republic of Serbia which is presented on the website of "The Rural Tourism of Serbia" ([www.selo.rs](http://www.selo.rs) and [www.selo.co.rs](http://www.selo.co.rs)), currently there is no connection. Expectations are that in

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<sup>35</sup> Web site: <http://www.pegs.com/> (accessed: 28.04.2016).

<sup>36</sup> Web site: [http://www.congrexpo.co.rs/?p=about\\_us](http://www.congrexpo.co.rs/?p=about_us) (accessed: 28.04.2016).

<sup>37</sup> Web site: <http://www.ekapija.com/website/sr/page/65799> (accessed: 28.04.2016).

<sup>38</sup> Web site: <http://www.bookingserbia.com/> (accessed: 28.04.2016).

the foreseeable future these connections ("link") could be established and potential tourists, travel agencies would be in position to offer a complete accommodation offer of rural tourist destinations to costumers/tourist.

National Association "*The Rural Tourism of Serbia*" established nine associations in 2002. Today association is counting more than 500 members. In 2004, the association has set up a presentation [www.selo.co.yu](http://www.selo.co.yu) which is designed as a database of the total rural tourist accommodation deals. In 2005, it realized project "Promotion of rural tourism in Serbia," which includes all municipalities and tourism organizations of municipalities and cities that have a rural tourist offer. During the years, the Internet site has recorded continuous rise in the number of visitors, and in 2006 over 200 rural households that are located in the database of the site received 90% of the guests particularly through the website. Thanks to the results of the Internet website, the National Association "*Rural tourism of Serbia*" is an active member and representative of Serbia in the "*European Federation of Rural Tourism*" (EUROGITES).

### **Conclusion**

Rural tourism in Serbia has been developing the last forty years. The rapid development started 2006, when the Ministry of Agriculture, Forestry and Water Management gave assets for diversification of economic activities in the countryside and rural tourism development. As a result of this fact, rural tourism nowadays is present in almost all regions of Serbia.

In order to accelerate development, it is necessary to make appropriate management and marketing activities, as well as the modernization of the facilities and tools from which would improve the quality of tourism services. Expectations are that on this way the rural tourist product will be more competitive on the tourism market.

One of the activities which would certainly contribute to development of rural tourism is implementation of ITC in tourism business. In order to achieve this it is essential that all stakeholders (at all levels from top to operating) pass the appropriate educational programs. This requires good organization of courses and training. In such programs should be included Ministry of Trade, Tourism and Services, Ministry Agriculture, Forestry and Water Management, the Tourist Organization of Serbia, as well as local administrations. Also, it is necessary that the existing advisory services are able to present for local farmer's benefit which bring rural tourism business, as well as the advantages of using ICT.

Nowadays tourism business trend is to do business via Internet and GDS also replaces the role of tourism intermediaries. This is particularly evident in the so-called "forms of mass tourism." In Serbia, for many years operating system "Amadeus" with good results and in recent years operate system "Galileo".

In the world there is no unique database of rural tourist products (rural tourist accommodations) currently. Organizations that deal with rural tourism at the international and regional level (for example, EUROGITES etc.) on websites usually forward visitors to the national organizations and associations of rural tourism.

Unique database of rural tourism supply does not exist in the Republic of Serbia. Existing lists of accommodation facilities are not complete and do not update regularly. If one of these databases would be connecting to one of the GDS, the supply of rural tourism products would be made available not only domestic but also foreign market. The results would be: increase of tourist trade, higher revenues from tourism, and the higher number of tourist overnight stays etc. This would make positive effects on development of rural tourism, which supposed to represent one of the mechanisms on which it could stop the negative trends that nowadays burden life of local population rural areas (depopulation, migration of local population to urban city centers, reducing macro-economic indicators, etc.). On this way development of IT could contribute to rural development.

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