

Innovative Rural Regions: The Role of Human Capital and Technology

Complejo San Francisco, Cáceres, Extremadura, Spain, March 22-23, 2007

Thursday, 22 March, 2007

SESSION 4: Enhancing rural business competitiveness through technology

17:30 – 19:00 Technological advances such as broadband contribute to reduce the geographic barriers that once characterized rural areas, enabling them to compete with other regions. This session will provide examples of how technology can foster and sustain competitive rural businesses and how communities benefit from the externalities generated by these businesses. This session will include both the perspective of the public sector as a provider of framework conditions for business innovation and of private actors themselves and the use they make of technology to increase the productivity and competitiveness of their businesses.

Chair: Diana Brittan, Chair, The Carnegie Commission for Rural Community Development, UK Trust.

Introduction: Tom Johnson. Director of Community Policy Analysis Center, University of Missouri - Columbia, US .

Discussant Panel: Luis Millán Vázquez de Miguel. Regional Minister, Information and Technological Development, Extremadura, Spain.

Kwang-Wook An, Director, Information Planning Division Ministry of Agriculture and Forestry, Republic of Korea.

Graham Russell. Director, Business in the Community (BICT), UK.

Roque Lage Gallé. Regional Director, IBM in Andalusia, Canarias and Extremadura, Spain.

Speech.

Greeting the chair, presenter, and board partners

I would like to begin my speech with a reflection, which, in a general way, introduces the origin of the reality we are living.

We could say that from the Neolithic period, which was the origin of the rural world, all the revolutions have followed one of these directions:

- Running away from the rural world or
- absolutely changing it in a fundamental way

Thus, we should bear in mind that:

- The greatest ancient empires developed around large urban areas,
- The fall of the Roman Empire took place together with the fall of cities and the return to rural areas,
- the way of overcoming the Middle Ages was supported by cities, which gained more power than nobility,
- Religious and political revolutions in the Modern Ages had their origins in universities and the streets of the cities,
- The Industrial Revolution required large concentrations of people to be its working force,
- The Post-Industrial Revolution has joined the traditional industries and a variety of public utility services in the largest urban areas.

Nevertheless, at the turn of the century, the emergence of the Information Society, the Knowledge Society, the Technological Revolution, that we are

involved in, due to an electronic, communicative, information development, makes us recognise that it could not be done before by the human kind.

Nowadays, Revolution is possible from the rural areas,

- without the necessity of abandoning it and
- without the necessity of changing it until its grounds

This kind of Revolution radically changes the way in which our citizens live, without transforming the rural areas.

Evidently, a process for changing values is required, a cultural transformation, in which, specially, the Public Administrations need to be implied.

A variety of infrastructures has been and continues to be fundamental for the development of the rural areas. Minor and major roads, railways, highways, etc. are forms of proximity, of physical communication, which makes commerce, interchange, in short, development, easier.

Radio and TV broadcasting are also ways of facilitating development by means of quickening knowledge about social evolution a its different sectors.

No doubt, these aspects helped to diminish in the rural areas the feeling of being peripheral, but it has not contributed to effectively break down prejudices which have been deeply-rooted for centuries.

Nevertheless, the emergence of new communications highways and roads (with the revolution of Information Communication Technologies) makes us find the real original infrastructures, since:

- they are able to break the existing prejudices down,
- but not only that, adequately used and implemented, they are able to positively emphasize the fact of being a rural area.

We have to take into account that both types of infrastructures, the physical and virtual ones, are necessary and complementary for the social change to take place, but we also have to take into account that the required periods and aptitudes for their use are quite different.

This is so, because the main problem for traditional infrastructures focuses on infrastructures themselves, that is, the question is how to get the technical and economic means to execute the works, without taking into account the necessity of investing in training citizenship for their use, since they should have been knowing how to use them for centuries ago.

And it happens that, applied to the case of the new virtual infrastructures, societies started to follow the previous models. Thus, in the 1990's, the world returned to think that the main problem was that of infrastructures and their building, without thinking that they would be useless if citizenship did not learn how to use them.

Unfortunately, from a global point of view, as regards ICT's, we are still in the middle of a long way towards the building of communication networkings and, hardly, we have started to run the necessary technological literacy plans.

I would like to comment a fact, as a real example to illustrate the strategy followed by Extremadura and which I would like to briefly present to you as a basis for the good practises, that we have developed, and we would like to share with you.

Year 1878

- Graham Bell shows his telephone invention in the Exhibition of Philadelphia (in that 1st stage, he was not able to speak through it far from a distance of a 1000 steps)
- A native from Fregenal de la Sierra, Extremadura Region (Sánchez Arjona) bought some telephone devices with the system Gower-Bell, with the purpose of experiencing for enlarging, inicitally, the effective distance up to 8 km.

Year 1880

On december 24th Fregenal was linked in Fuente de Cantos to the telegraphic line Badajoz-Cádiz. 3 days later a public test took place. It was the 1st interurban telephone line in the world with a distance of 130 km.

- Around that date , the 1st permanent telephone line between the american cities of Boston and Providence is establised, separated by a distance of 60 km

Source: VOLTES, Pedro, El reverso de la historia. 4. Humoradas y rarezas de la Historia de España, Circulo de Lectores, Barcelona, 1994.

Pages. 255-258

In spite of its innovative position in the implementation of the telephone, in Extremadura Region the connection through telephone lines of all his villages and towns took more than one century.

As exclusively regards telephony, I would like to emphasize the well-known impact of the fixed telephone system in the rural areas. As well as, I would emphasize the enormous succes of the implementation and use of the mobile telephone system for the inhabitants of these areas.

From the 1st public telephone booths to the availability of mobile phones, passing through the rural telephone system (TRAC), the rural areas have

assumed - and enjoyed – the innovations offered by the telecommunication sector.

But there has been limitations imposed by the own telecommunication dealers restricting networkings and services, giving priority to profitable urban areas over rural ones. These limitations became a brake for the citizenship's access to new technologies.

However, the Internet revolution at the beginning of the 1990's supposed the generalization of flat fares for Internet access through basic telephone lines at the end of the 1990's.

The limitations of the rural telephone system (TRAC) – based on analogical telephony – and the limited availability of digital telephone stations for guaranteeing the sufficient broadband, made some critic voices to claim for the same conditions in both, urban and rural areas.

The outlook was fundamentally changing, because the coming of a new society, which was closer than ever, made the development gaps clearer. The ICT's become the final evidence of the 20:80 society (San Francisco CA USA. 1995), so priced by many, and which was provoking too much inequality.

Coming back to the case of Extremadura, bearing in mind that telecommunications are the key element for our strategy of regional development, not only because they break rural isolation, but also because they are basic tools for economic, cultural, welfare development of citizenship and entrepreneurs of the rural, isolated areas, and lacking of a comprehensive model for Europe or Spain, we started to run a variety of adequate initiatives for our Region.

First of all, we created a networking for everybody, aiming to avoid the former process which took a hundred years. So, the Regional Intranet, guaranteed broadband access for the whole population in Extremadura (more than 1400 nodes in the Region upon LMDS technology), through public centres (schools, secondary schools, administration offices, libraries, health centres, etc.)

As ICT networkings are useless without people knowing how to use them, from the very beginning we run Technological Literacy Plans, by means of specialised centres (New Centres of Knowledge, NCC) in villages and peripheral areas of towns, as well as by means of public centres, to guarantee the running of a variety of Information Society projects for population in general.

After that the Extremadura Broadband Extension Plan started to guarantee availability of broadband for households and companies in a 100% of municipalities and villages of Extremadura. Nowadays, our Region is not only the unique national territory in a privileged, but also socially fair, situation.

As an example, let's see what happened with employment. 20th century tendencies of economic history focused on concentrating population around the means of production, consequently meaning a cost for the quality of life conditions due to overcrowding and environmental aggression. If we consider a productive model in which that conditions are not necessary, we should look at the rural areas, but not as the place for gathering subsidies and preserving like a museum, but as an alternative scenery for the development of different ways of liking work and human beings.

This example could also be applied to any other scenery: personal relationships, teaching, learning, business, access to public services, etc.. Networking has changed the concept of centre and periphery: the rural areas are no more in the periphery of any society, but it is the personal attitude towards the networking which positions each individual in the centre or the periphery.

Summing up, after the creation of the intranet, the process continued by creating the following networks:

- Education Technological Network. All the schools connected with broadband. Ratio of 5 pupils per 1 computer in pre-primary and primary education and 2

- pupils per 1 computer in secondary and vocational training education.
- Technological Literacy Plan.
Popular Universities and New Centres of Knowledge
 - Vivernet. New Technology Business Centre, “for young people without money”, to encourage new businesses with a technological base.
 - The Jara Project
Regional Health System network joining centres and hospital in an integrated system
 - Scientific Technological Network
Optic fibre network for interconnection of Technological and University Centres among them and to the worldwide research and commerce networkings.
 - e-Administration
Network for citizenship and local and regional administration, as well as for different administration proceedings. It involves Digital Citizenship Plan.

At the moment, there are in process of establishment the National Centres of Reference on

- Free-Software (CENATIC. National Centre of Reference on the implementation of ICT). Almendralejo
- Networking (CETA-CIEMAT. Extremadura Regional Centre of applied technologies). Nacional reference for Grid Computing. Trujillo.

I want to emphasize the fact that the majority of the applications we are developing are based on free software (GNU/Linux), which we have adapted to different necessities and demands of those who use them.

In this way, we have LinEx for education, libraries, accounting, business, the health system, games, etc. and, at this moment, we are migrating all the regional administration system to free software.

At this moment, we find that the bases for a new model become a reality in Extremadura. The limitations for getting it are no more imposed: we have the capability of imagining, and running every individual project of life in this 21st century society. For this reason there are another important projects for entrepreneurs like the *Gabinete de Iniciativa Joven* (Young Initiative Office) or *Fomento de Emprendedores* (Entrepreneurship Promotion)

Extremadura municipalities, independently of its size, have a public network of access to ICTs and in every municipality there is the possibility of accessing private networks of commercial services with broadband.

In the design of our strategy, we always think globally for acting locally, because we know any change of the global system could keep us apart from this revolution.

Besides, following our philosophy, ITC's are already a part of local strategies, in the development of Angenda 21 plans in Extremadura, collaborating with the cohesion of policies in different areas (economic, social, cultural and environmental), in favour of a sustainable development, from local to global.

To be honest, our barriers are not technological or infrastructural ones, they are really a challenge of transformation in our daily activities, depending on an non rejectable principle of social and territorial cohesion.

We have learnt that sharing knowledge is a good way to learn more, for this reason I invite you to share your experience with anybody who wants to listen, because we already know that this is useful for developing.

Throughout this process of sharing knowledge, Extremadura has been invited by organizations, universities, a variety of societies, and national, regional and local governments from different parts in the world, in order to put into practise a new strategic model in the Information Society.

Latin America is the most active demander of cooperation and whom we signed the majority of agreements to, though we are running projects with other European countries, with Malaysia (states of Terengganu and Perak), with India, etc..

All this means national and international recognition of Extremadura Region's strategy in the Information Society. I will give some prominent examples:

- Front page of "Washington Post" (Sunday. November 3, 2002)
- National Prize for Computer Science, Ramón Llull (September 2005)
- European regional innovation awards, European Commission, Information Society category (april 2004)

I would like to finish recommending a couple of surveys and remembering the importance of an recent Alliance called GAID, to bear in mind for not failing in our processes of integration and cohesion in the rural areas.

The surveys, I consider of high interest, are carried out by the UN and the OECD.

The first one (2006), "Breaking Barriers. The Potential of Free and Open Source Software for Sustainable Human Development. A Compilation of Case Studies from Across the World", is an article (pages 75-82) focusing on the case of Extremadura.

<http://www.apdip.net/publications/ict4d/BreakingBarriers.pdf>

The second survey, which will be presented very soon, is carried out by the OECD with title "Open Educational Resources. Opportunities and

Challenges". It contains cases of interest, analysed in different parts of the world (Extremadura among others) and it is worthy to be noted.

And finally, as I have mentioned before, I would like to remind you that on 28th march 2006, the UN General Secretariat passed the Global Alliance for ICT's and Development (GAID). This decision was taken upon the internationally recognised necessity of an open, multi-agent forum, to gather governments, international organizations, civil society, private sector, means of communication and other entities, in an effort to take a better advantage of ICT's for development. It is also worthy to be considered in order to have available clear examples of the current situation.

The aim of GAID is contributing to the transformation of the spirit and outlook of WSIS in actions and promotion of the ICT's use to reach the internationally agreed objectives of development, including the Millennium Goals.

GAID was created by Kofi Annan as an open and flexible organism to make the Information Society a reality in the world, as they were established in:

- The Millennium Development Goals
- First World International Conference on Information Society (Geneva 2003)
- Second World International Conference on Information Society (Tunisia 2006)

In a few words, Kofi Annan substituted the United Nations ICT Task Force, he created in 2001 for the World Conferences, with this new organism called GAID.

The first meeting was held in Kuala Lumpur (2006) and the second one in California (february 2007), in Silicon Valley, where we have debated and analysed recently run and financed projects.

Luis Millán Vázquez de Miguel
Cáceres. 22 march 2007.

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It is a great honour being a member of the group of experts of this Alliance and I want to highlight the importance of the UN strategy for removing the technological gap.

We already know the importance of sharing knowledge and how-to methodology with the OECD, because we have already collaborated in different projects of this organization, and it has helped us understanding that the effort we made has a great value for others and that it is our responsibility sharing it.

This is what I tried to transmit with words. Thank you very much.