

Smart Solutions for the Development of Rural Communities

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1 ABSTRACT

United Nations report "World Urbanization Prospects" (2011) predicts that 90% of European population will live in urban areas within 2050. New development processes in cities, as well as regeneration of existing degraded areas, are often made in the perspective of building a smart city. Generally, there is an attempt to design smart mobility, smart management services, smart tourism, etc.. Intelligence of a city is, however, erroneously measured as a function of the amount of technological infrastructures made available by administrations. Such infrastructures have to be considered as means to exchange information and ideas. Therefore, people, following the development of ICT and the increasing diffusion of smartphones and tablets, become users and at the same time creators of new urban landscapes, developed through the integration between physical and virtual spaces. This model of smart city is usually associated to huge metropolitan areas, where a high number of users justifies the large investment needed for ICT network implementation. In this paper we will analyse how the concept of smart city applied in rural context should assume very different connotations focusing more on issues of participation and collaboration between citizens and administrations to find economically and environmentally sustainable solutions for local problems.

2 BOTTOM-UP DECISION MAKING PROCESS: A COMMUNITY-BASED APPROACH

The concept of participation is very difficult to clearly define, because of the complex framework and the experimental nature of any participatory process.

Public participation to planning processes can be defined such as policies, techniques and strategies that are able to involve citizens and stakeholders in decision-making, and to support decision-makers in defining shareable scenarios for future development of cities.

Participation is, therefore, an approach which tries to obtain active involvement of different stakeholders in a planning process, in order to ensure a final, useful and usable result, closer to their needs.

Considering this point of view, some important factors can be underlined.

First of all participation involves people who using space, local actors, final beneficiaries that are determined depending on the case and the size of the project, according to appropriate considerations and analyses. There are no fixed rules, but specific features of the place interested by interventions allow to identify them.

Then, participation should imply the existence of a final result: there is the need to get at a proposal that could be more or less accepted by institutions. Everything that does not produce a proposal is not participatory planning, but simple consultation.

Sherry Arnstein (1969) described the detailed aspects of participation, highlighting the possible manipulation that could concern participative processes. Through the metaphor of a ladder, Arnstein identified eight levels of participation, divided into three parts.

Bottom rungs are "Manipulation" and "Therapy": these describe levels of "non-participation" that have been contrived to substitute for genuine participation. Their actual objective is not to enable people to participate in planning or conducting programs, but to enable power-holders to influence participants.

The second band is "Tokenism", that includes "Informing", "Consultation" and "Placation": these levels describe conditions where citizens have not the power to insure that their views will be considered by decision makers; so only power-holders maintain the right to decide.

The higher rungs are "Partnership", "Delegate Power" and "Citizen Control", levels of "citizen power" that describe increasing degrees of decision-making clout of citizens.

However it should be clarified that 'participation' does not mean giving city government to people: for this task, citizens already elect institutional representatives, whose responsibility is to define and to implement policies.

Participation has not to be the ultimate goal of governments, but it has to be considered as a valid support. Citizens ask for a level of participation allowing the construction of programs and public initiatives tuned with their priorities and their needs (Arnstein, 1969) and this means a democratic process, a collective construction of decisions.

2.1 Bottom-up and top-down approaches in planning

In recent decades, removal of typical hierarchical relationships adopted in planning processes has been announced several times, theorizing a sort of convergence towards planning models that combine top-down policies, promoting the prescriptive feature of the plan, and bottom-up initiatives that increase value of local specificities introducing flexibility (Murgante, 2012).

It is usually supposed that “bottom-up policies are not adopted because of the lack of effective top-down policies” (Musco, 2009). This is not a contradiction: even if bottom-up policies derive from social needs, they have to be included by local administrations, under the current top down framework.

According to Murgante et al. (2011), during 1960s the transition from a purely top-down approach to a ‘reticular interactive’ one interested strategic planning: knowledge and imagination of society began to play a fundamental role in order to discover desirable scenarios. If we consider Harvard (Bryson, 1987) and Minnesota (Bryson, 2004) models, SWOT analysis became a central instrument to examine internal and external environments, producing a stakeholder analysis taking into account organizations, groups, people and all citizens, who can have a key influence on strategic processes.

Adopting the reticular approach, there is the widest possible involvement of all potential stakeholders in order to avoid possible conflicts which could stall the whole process and, above all, create a broad and shared planning vision.

Visioning concerns not only actors, who can be represented by institutions, but it also considers the possibility that collective knowledge may stimulate the search for optimal solutions.

According to research of convergence between bottom-up and top-down approaches, a plan sends and receives impulses from its community: on one side, it defines what are nonnegotiable uses, defining constraints that should intercept safeguarding instances; on the other side, stakeholders propose possible transformations. A plan has to pursue the need of preservation and transformation, safeguarding collective interests and avoiding, at the same time, the possibility to lose any private investment (Pazienti, 2002).

In order to involve more people in planning process, it is fundamental to distinguish between simple citizens and organized stakeholders: stakeholders are influential subjects for an initiative, while in great part of cases citizens’ opinions provide ideas or claims that often remain unheard. This distinction is important because, in our view, citizens could give impulses in terms of needs, claims, demands, imagination, ideas, projects, which can be accepted or not by a plan (Murgante, 2012).

Visioning methods have been adopted in a lot of cases, in order to define fundamental and significant bottom-up contributions: one of these is the “workshop”, a method which allows to identify the most significant requests and to choose priority ambits of intervention, through a careful analysis of needs and local problems.

Unfortunately, this approach has been often applied in contexts where decision makers do not wish to share decisions with the community.

2.2 Community involvement in decision-making processes: from Advocacy to Wiki-planning

In 1960s some experiences, developed in USA, underlined that a low level of quality of life is closely connected with the capacity of communities to define their own living conditions (Jacobs, 1961).

The strong rooted ness of residents to places where they live is a key factor in determining quality of towns and neighborhoods, because it generates people desire to contribute to choices affecting their territory.

A first attempt to involve a large number of citizens in decision-making process was done by “Advocacy Planning”, a theory conceived and supported by Paul Davidoff (1965).

According to Davidoff’s idea, a planner has to be pluralist and to represent different interests, especially the low-income people’s ones: he argued that a planner not only has to analyze social problems in order to find solutions, but he also has to be a sort of lawyer for weakest social groups.

“Advocacy Planning” is strictly connected with another theory called “Community Planning”: adopted in 1960s, it represents a planning approach that carefully analyzes citizens’ interpretations of places where they live, giving less importance to technical and expert knowledge. In this view, planning is not only a technical activity: it is also a political activity in which the information produced by dialogues and comparisons with local communities is fundamental for governments.

One of the most important exponents of this community-based idea is Forrester(1999): he encourages public sector to learn social and environmental values through participative processes, because a participated plan could be easily adopted without subsequent changes and its objectives reflect ideas supported by inhabitants.

Another form of citizen involvement is “Placemaking”: rooted in community-based participation, it aims at creating livable places in cities through the interaction between designers and citizens.

The concept behind Placemaking was originated in 1960s, by several authors like Jacobs (1961) and Whyte (1980), who offered innovative ideas about design of cities.

The approach considers community opinions as a fundamental instrument to improve urban spaces: a direct knowledge of a place can give significant information about its functioning, its problems and about people priorities.

This information is then used to create a common vision for public places. This vision can quickly evolve into an implementation strategy, beginning with small-scale, do-able improvements that can immediately bring benefits to public spaces and to people who use them.

Since 2000, the diffusion of ICT has introduced important innovations about governance and democracy: the use of Internet can integrate traditional approaches to participation, as it can be a mean to inquire about citizens opinions concerning administration and decision making processes.

Traditional participatory methods are often inadequate and inefficient: these types of interaction presuppose physical presence of citizens during organized meetings, but in a lot of cases people who can really help participation have not the possibility to attend such meetings. Unfortunately, economically active population (employers, professionals, entrepreneurs, etc.) does not have enough time to participate, consequently only children and elderly opinions are collected.

Moreover, the participative phase begins when programs or projects have been already defined, and this fact causes a general mistrust towards public administration.

These are not occasional situations in traditional participative processes: we could affirm that a useful solution come from electronic participation, based on an asynchronous interaction.

In particular web platforms, expressly conceived to participated processes, can offer instruments encouraging a constructive dialog among citizens, technicians and PA, that helps the identification of specific objectives and that allows to inform a large number of people about the results of the process, obtaining a great reply about community’s desire.

In Wiki-planning approach, citizens unconsciously reach the higher levels of Arnstein’s ladder, helping the typical steps of planning.

The advent of Web 2.0, where people are voluntary sensors (Goodchild, 2007), allowed high levels of interactions thanks to the transition from a one-way to a two-way approach: in the first citizens are simply informed on what the contents of a plan are, while in the second one people can express their ideas, that could influence choices of the administration (Murgante, 2012).

Social platforms can lead from a closed model of decision making based on professionals government and representative democracy where participation is mainly relegated to election (Noveck, 2009), to an integration of representative democracy and weak forms of direct democracy, where a decision maker has the possibility of directly consulting citizens in order to take a particular decision.

We could say that Wiki-planning theory derives from Advocacy Planning: Davidoff’s idea made citizens aware of their own role and so they became able to balance the power of big public and private agencies. In Wiki-planning these actions take place through the help of virtual environment and cloud services and all people have the same position on the scale of responsibility.

3 LOGICAL FRAMEWORK APPROACH

Already used in the '70s, the LFA method can be now defined as an effective technique to analyze problems in order to identify objectives and activities that could solve them. It is therefore a mean that improves quality of projects, through an analytical approach to design and management of programs oriented to obtain specific objectives.

The use of the LFA allows:

- to clarify purposes and to justify the existence of a project;
- to clearly define key elements of a project;
- to analyze project formulation at an early stage;
- to facilitate communication among all parties involved;
- to measure success or failure of programs.

Moreover, the method has got a lot of vantages:

- it ensures the analysis of fundamental problems and local criticalities, in order to provide better information for decision makers;
- it is a guide for a systematic and logical analysis of key-elements that form a well-done project;
- it improves planning, underlining connections between project elements and external factors;
- it provides a better instrument for monitoring and analysis of project effects;
- management and administration benefit from standardized procedures that collect and assess information.

The use of this approach is strictly connected with the setting of development projects: these types of projects have the aim to bring desirable changes in the contest of implementation and in society in general. The definition of future expectations is a very important step because it makes possible to check at a later stage the measure of program success related to its objectives and to target groups (NORAD, 1999).

With a synthetic operative definition, we can affirm that LFA is based on the design of the logical nexus framework in which a project is characterized by input of resources, implementation of certain activities and outputs that should contribute to desired future objectives.

Input, output and activities are therefore the base elements of the project. However they are not factors that influence its success: it depends not only on factors that can be controlled by project management, but also on a series of external assumptions. During design phase and implementation it is necessary to analyze and to control these external factors, because they could be the main cause of project failure (NORAD, 1999), even if everything has been realized as expected.

So LFA can be considered useful not only in the early stage of project concept design, but also during the implementation of projects.

This approach is composed of two phases:

- analysis: this phase examines the existing situation in order to develop the desired future situation and to identify some strategies to achieve it; the analysis is done with the help of stakeholders, who contribute to the definition of main problems and objectives;
- synthesis: strategies are made clear in order to be applied; the Logical Framework Matrix allows to identify activities that have to be undertaken, available resources, resources that have to be found, and it allows to verify coherence and relevance of choices as regards context of implementation.

In the stage of analysis we can find:

- situation analysis, that is in turn composed by analysis of stakeholders, of problems and objectives;
- strategy analysis.

Instead, in the stage of synthesis we find:

- logical framework matrix;

- implementation.

In particular problems and objectives are analyzed by means of a problems and objectives tree.

First of all there is the need to find the focal problem derived from the available information about the existing situation. Then, the construction of the problems tree allows to organize problems considering the relationship between causes and effects.

While the problems tree provides the negative image of reality from stakeholders' point of view, the objectives tree, which is its dual, outlines the desirable future, rewording all problems and making them into objectives (positive statements).

The last tree allows to select the strategic axes of the project.

These strategies became feasible projects through the help of the Logical Framework Matrix (LFM).

Matrix construction allows two levels of reading, referring to:

- overall and specific objectives of the program, expected results and activities which have to be undertaken to reach them (vertical axis);
- concreteness, relevance and measurability of each objective, result and activity, on the basis of objectively verifiable indicators and sources of verification.

In the framework proposed by Las Casas et al. (2009), we can find two types of indicators: efficacy indicators, which measure the degree of objectives achievement, and effectiveness ones, which measure the relation between resources used and realized products.

Intervention logic	Objectively Verifiable Indicators			Sources of Verification	Assumptions
Overall Objective	Context Analysis 1. Objective Pertinence 2. Objective Relevance	Efficacy Indicators	Effectiveness Indicators		
Project Purposes					
Results/ Outcomes					
Activities	Inputs				
Preconditions					

Fig. 1: Logical Framework Matrix (Las Casas et al., 2009).

We can say that LFA is an operative tool to establish strategies and guidelines for project implementation and to understand the logic behind the project so that any changes are necessarily conformed to overall project design.

4 REFERRING TO THIS PAPER, THE APPROACH IS PRESENTED AS A SUPPORT FOR A PARTICIPATIVE WORKSHOP EXPERIENCE, WHERE IT ALLOWED TO DEVELOP STRATEGIES, CONSIDERING THE NEEDS OF INVOLVED GROUP AND LIMITING THE UNCERTAINTY THAT CHARACTERIZES A DEVELOPMENT PROGRAM. THE EXPERIENCE OF GLORENZA

“Hack my town” workshop was presented as a challenge, a “hackathon” among Universities in order to find solutions to “smart villages and territories” problems, but it was more than a challenge: it was an occasion of cultural exchange and meeting among Universities coming from different places and fields of study (cfr. <http://hackmytown.unibz.it>)

Sponsored by Free University of Bolzano, it took place in Glorenza, a small medieval village located in the North of Italy, in Val Venosta, near to Swiss boundary.

Participants experienced how a small mountain village can become a smart village through the synergy between students and their professors, stimulating from one side scientific discussion and from another side a creative environment, where new conceptual solutions can be found.

The workshop lasted three days: the work was developed during the second day, after a meeting with the local community that provided us a lot of information about the city and local problems.

In spite of the short available time, the collected information allowed to develop significant solutions, optimized by a bottom-up approach that involved local people to highlight issues of the place: the involvement of citizens and local administrations may allow to avoid waste of public resources focusing the attention on local community motivations.

The meeting with citizens showed that the most important problems perceived by the community were connected with the two pillars of local economy: agriculture and tourism.

Local people underlined that agriculture is almost only based on apple growing: at first, this cultivation was situated in less extensive areas, but then global warming has led its presence also at higher altitude levels.

The use of pesticides in industrial apple growing has led problems to other cultivations and to livestock and this fact has represented a relevant concern for local community, which aims at introducing new agricultural practices based on different types of crops and at ensuring earnings for farmers.

As regards the tourism, we can say that it represents one of the most important development axes.

Stakeholders consider Glorenza such as a “tourism thermometer” thanks to its historical beauties. Even if the village is very attractive, tourism connected to historical and cultural riches seems to be not enough exploited: there is the need to attract more people for a longer period.

Problems might be caused by seasonal tourist traffic: people visit Glorenza above all during summer, while wintry tourism presents some difficulties.

Summer holidays are favored by high naturalness of the area and by a large number of activities such as hiking or climbing.

Cycling has a great importance: there is an extensive network of bicycle paths and the rail network of Val Venosta allows transporting bicycles, making connections easy.

At summer end, Glorenza begins to empty: during winter people prefer to stay out of the city, near to the ski lift.

Moreover, tourist accommodation has problems too: there are some small hotels with few beds, and so they are not able to accommodate a large number of people.

Stakeholders denounced also a weak cooperation among local administrations: for example, regarding Adige river, which is an important territorial resource, there are a lot of discussions but measures cannot be adopted because municipal districts aim at asserting their own interests.

Finally the meeting underlined some considerations about the local community.

According to stakeholders, people are characterized by a strongly traditionalist and conservative culture, which leads to lack of interest towards the village and some constraints towards innovative changes, such as the use of internet and technologies. Medieval beliefs persist among people: for example, property is generally inherited only by the eldest male.

Many initiatives, as open-air markets or cycling tours, meet people dissent, because they bring noise in the city. As a main example of people behavior towards innovation, stakeholders remembered that in the past Glorenza did not become the terminus of the railway line because of its inhabitants that opposed the action with a referendum.

All collected information during this meeting have represented the base knowledge to understand what are positive and negative features of the place and to focalize the attention on particular resources that should be valorized. Through these information we have defined main investigation areas.

5 THE PROJECT

In this section of the work the project development is described.

We point out elements connected to the application of the methodology in the specific “workshop” activity in order to demonstrate their usefulness.

In Glorenza case, this approach has been used to find rational solutions for village problems reported by the local community and to elaborate bottom-up strategies that could be considered a valuable support in the development of the area.

As previously described, LFA is composed of a phase of analysis and another phase of synthesis.

The analysis phase includes:

- context analysis;
- evaluation of concerns emerged during the meeting with local community;
- S.W.O.T. analysis;
- problems and objectives tree;
- strategies identification.

The phase of Synthesis includes the Logical Framework Matrix.

Concerning the case study, it is important to underline that the implementation of workshop activities in Glorenza was based on only 3 working days. Such a short time allowed us to consider only some specific aspects in context analysis.

So results discussed in this work have to be considered as a preliminary, not exhaustive attempt.

Val Venosta territory is characterized by very high environmental values: there are many protected areas, as SIC (Site of Community Importance) and ZPS (Special Protection zone), and Parks.

The area is served by mobility infrastructures of Autonomous Province of Bolzano and is crossed by one of the most important roads, linking Italy and Switzerland: SS 41 starts from Sluderno and ends in Tubre, at the mountain border post of Müstair, passing through Glorenza.

As regards the population, today Glorenza has 898 inhabitants: comparing official population data from National Statistical Institute between 2004 and 2014, there are not particular critical points in population structure, except a slight tendency to growing old.

Geo-statistic assessment of population density, based on Kernel's method, shows a concentration of people along Val Venosta valleys and underlines a marginal position of the town compared with the nearby towns of Sluderno and Malles.

About tourism, the local system called Malles-Venosta, that includes 5 municipalities (Curon Venosta, Glorenza, Malles Venosta, Prato allo Stelvio and Tubre), counts 1500 beds divided between hotels and other forms of tourist accommodation.

This local system looks peripheral compared to the surrounding context regarding the accessibility to tourist services.

Referring to Val Venosta system, web-mapping of facilities and services, developed through the reuse of web open data, underlines a fragmentary system, concentrated in villages that could be considered as the "doors" of the closely natural system.

People concerns emerged from the participatory meeting allowed to identify the main problems according to the specific point of view of Glorenza local community.

Summing up, it can be said that first of all Glorenza stakeholders denounced a risk linked to an agricultural practice based on a monoculture: the territory is interested almost exclusively by apple growing, an intensive cultivation that causes the alteration of the agricultural landscape and the excessive dependence of local economy on one seasonal production.

Concerning tourism, people underlined a marked drop in wintry flow of visitors, caused by the relative distance of Glorenza from ski lift plants, closer to other towns in the valley.

Moreover the village seems to have a supply of accommodation facilities limited to a small number of guests.

Finally there were some considerations about cultural features of local community linked to traditional and conservative forms of economical and social organization.

Glorenza people seem to be resistant to current forms of innovation (social, technological, economical, etc.) and not very inclined to contribute to village improvement, a typical behavior of isolated mountain communities.

The results of the analysis have been represented by S.W.O.T. matrix.

Strengths include:

- presence of a great environmental and cultural value;
- high architectural quality of the medieval town;
- good level in preservation and maintenance of the historical centre;
- balanced population structure;
- economical wellbeing of population;
- high quality of road infrastructures and mobility connection to provincial main centers for services.

Among the weaknesses we find:

- cultural features of local community, mainly based on traditional and conservative attitudes;
- scarce community involvement in decision-making processes and in territorial management;
- agricultural practice based on a monoculture;
- low level in the transformation of agricultural raw material (milk, fruit and vegetables);
- widespread lack of interest among people about internet and technologies, or, in other terms, innovation;
- marked drop in wintry flow of visitors;
- lack of integrated prospects for tourism development.

Opportunities are:

- Glorenza's leading role in the territorial identity of Val Venosta;
- funding opportunities from European Union programs and policies;
- geographical proximity with strong economic systems (CH,AU);
- investments in internet high speed connection.

Finally, threats includes:

- lack of community collaboration to find innovative forms of development and cooperation;
- higher development of the nearby cities compared to Glorenza;
- lack of cooperation among tour operators and lack of trust towards new forms of tourist accommodation.

The problem tree, showed in the following figure, shows problems identifying causes/effects logic: this elaboration has highlighted the inadequate exploitation of environmental and cultural resources as focal problem.

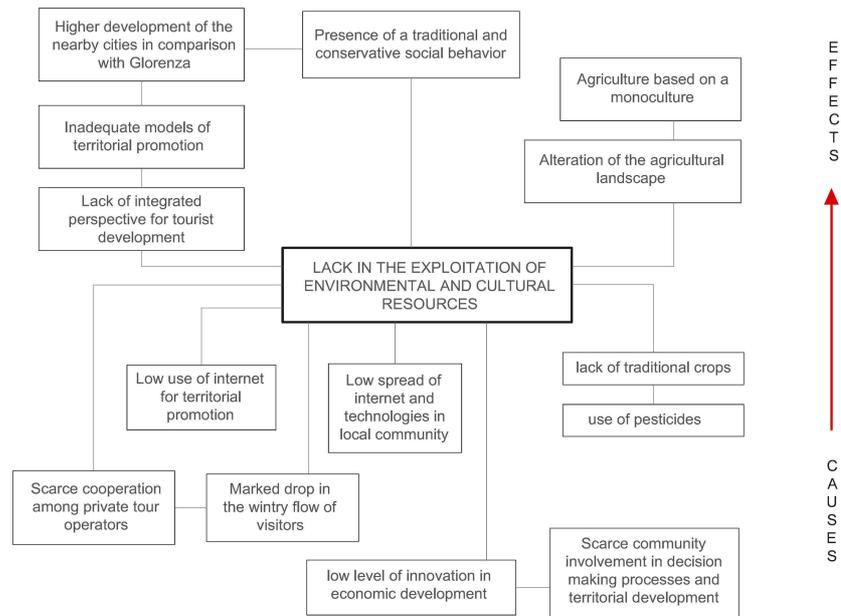


Fig. 2: Problem tree.

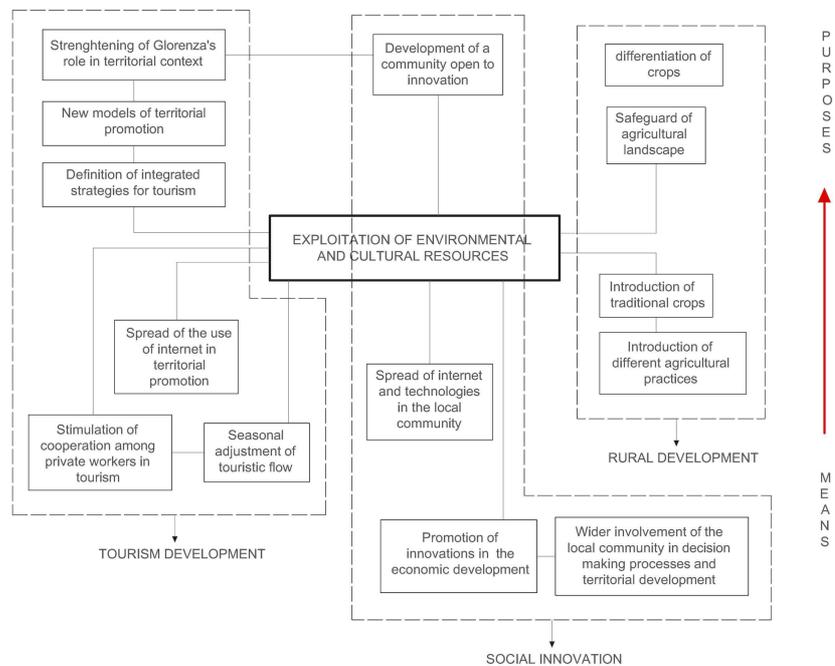


Fig. 3: Objectives tree.

Social innovation theme represents a transversal strategy, which can be considered as the fundamental basis (also the precondition) for territorial integrated development: main actors (individual citizens and associations) have to be part of a participative community, that considers itself able to contribute to territorial growth.

So, it becomes necessary to invest in “citizens’ empowerment”: in this way people realize they are able to improve the quality of their life and so they become aware of their central role.

Glorenza’s community will become a “smart community”, if citizens are involved in decision making, reporting their needs and possible solutions for city problems.

In a “smart” viewpoint, information spreading is relevant for community involvement: in Glorenza, investing in ICT means first of all bringing people near to web opportunities through education and knowledge.

As regards tourism, public and private actors have to work for the safeguard of Glorenza’s historical heritage because it represents a unique resource in the wider Val Venosta area, and they also have to promote innovative changes in tourist services and supply chain, in marketing and branding.

Rural development aims at exploiting environmental resources and at protecting rural traditions.

SOCIAL INNOVATION		OBJECTIVELY VERIFIABLE INDICATORS		SOURCE OF VERIFICATION	ASSUMPTION	
		Efficacy Indicators	Effectiveness Indicators			
OVERAL OBJECTIVE	Development of a smart community open to innovation					
PROJECT PURPOSES	O.1 – People’s involvement in decision making processes	N° involved people/ Tot	Shared projects and saving of resources	Questionnaires	Decisions based on the citizens’needs	
	O.2 – Larger use of internet and technologies	A N° people that use internet and technologies		Questionnaires	Improvement in the spread of information	
	O.3 - Development of a city that can be considered as a node for innovation networks	N° events; N° participants	Increased profitability of tourism in relation to the events	Tour operators’ data; Departments for relations with research Institutes		
RESULTS/ OUTCOMES	P.1.1 – Participatory planning workshop as a support for the territorial management	N° stakeholders; N° meetings			Presence of participants that represent the widest number of stakeholders’ needs (associations, institutions, technicians ...)	
	P.1.2 – Space and equipment for meetings	Capacity	Management costs/ m²	Project data	Space that are always available and equipped	
	P.1.3 – Open Data portal in order to increase government transparency and accountability	N° accesses	Available data/ Investment Updated data/ Available data	web	Presence of citizens that choose to collaborate with the local administration	
	P.2 - Courses that help the spread of digital technologies and social networks	N° qualified persons; Improvement in the knowledge of technology	N° Qualified persons/ Investment		Citizens’ participation	
	P.3.1 - Conference center	Capacity	Management costs/ m²	Project data		
	P.3.2 - Conference and workshop	N° conferences and workshop that are realized N° participants N° involved institutions	N° organized events/ Investment		Improvement in the spread of knowledge	
	P.3.3 - Agreements with national and international research centers	N° involved research centres		Publications	Synergies among institutions and research centres	
ACTIVITIES	A.1.1 – Individuation of stakeholders; Organization and implementation of workshops	INPUT	Provincial Fund; European Regional Development Fund (ERDF) 2014/2020; Qualified staff for the implementation of the portal.		Presence of a public authority able to favor transparency and cooperation	
	A.1.2 – Selection and adaptation of public places					
	A.1.3.1 - Data research					
	A.1.3.2 - Creation of suitable open datasets					
	A.1.3.3 - Implementation of the portal		European Social Fund (ESF) 2014/2020; Specialized agencies for the implementation of training courses		Citizens’ participation	
	A.1.3.4 - Data monitoring and data update					
	A.2. - Organization and implementation of training courses		National and International Researchers			Cooperation with research centres and Universities
	A.3.1 – Selection and adjustment of public spaces					
	A.3.2 - Organization and implementation of meetings with Universities and organizations that support business growth					
A.3.3 - Networking actions	European Structural Fund 2014/2020			Cooperation with research centres		

Fig. 4: “Social innovation” strategyMatrix.

We can speak about “endogenous development” if the local community will cooperate in the selection and the promotion of territorial high value and resources as inputs for the construction of strategies.

Territorial identity is a very important element because it makes a place different from another one: the reintroduction of typical products is a relevant strategic mean for rural valorization and its contribute can improve the image of the area as a whole.

For each strategy, Logical Framework Matrix has been created to clarify operational terms of implementation: the matrix identifies overall goals, project purposes, activities and results, highlighting principles of effectiveness and efficiency in public expense and verifying relevance and consistency of choices.

The figure 4 represents the first Matrix related to “Social innovation” strategy.

As regards the social innovation, the overall objective is the development of a smart community open to innovation. The project expects:

- people involvement in decision making processes;
- larger use of internet and technologies;
- development of a city that can be considered as a node for innovation networks.

TOURISM DEVELOPMENT		OBJECTIVELY VERIFIABLE INDICATORS		SOURCE OF VERIFICATION	ASSUMPTION
OVERALL OBJECTIVE	Reorganization and exploitation of local resources	Efficacy Indicators	Effectiveness Indicators		
PROJECT PURPOSES	O.1 – Strengthening of the summer tourism	Δ N° Tourists / year (June - September)	Revenues in the summer months/ Total revenues	Corporate data	
	O.2 – Increase of the wintry tourist flow	N° Tourists / years (except summer months)	Revenues (October - May)/ Total revenues	Corporate data	
	O.3 - Qualification and development of the tourist services and the supply chain	User satisfaction level	Increase in efficiency / Investment	Questionnaires	Coherence with the expectations of the target groups
RESULTS/ OUTCOMES	P.1.1 - Historical and artistic itinerary	N° points of interest of the itinerary		Project Data	Increase of the attractiveness of the place through local cultural resources
	P.1.2 - Programs and catalogues (also online)	N° distributed copies	Compared with the investment		
		N° online access		Web	
	P.2.1 - Public transport service that links Glorenza to the ski lift plants	N° users / month	Compared with the investment	Provincial Agency for Mobility	Presence of tourists that choose the public transport
	P.2.2. App for the monitoring of the transport service that can provide useful information about the lines, the waiting time and any critical weather condition	N° download		Provincial Agency for Mobility	
	P.3.1 - Efficient organizational models and qualified staff	N° qualified persons/ year	N° qualified persons that work in the tourism industry		
	P.3.2 - Beds (B&B)	N° arrivals e presences / year	Presences/ available beds	Corporate data	Coherence with the needs of the target groups
		N° Beds	Compared with the investment	Corporate data	
	P.3.3 - Certification for the tourism businesses	N° certified businesses		Chamber of Commerce	Increase of the competitiveness of the tourist services
	P.3.4 - ICT services for the accommodation facilities and the restaurants	N° accomodation facilities and restaurants with ICT services/ Tot	Compared with the investment		Increase of the competitiveness of the tourist accomodation
ACTIVITIES	A.1.1 – Project and implementation of the itinerary	INPUT	Provincial funds for tourism development		
	A.1.2. – Project and implementation of the catalogue, also with multimedia devices				
	A.2.1. 1 - Selection of the routes		European Regional Development Fund (ERDF) 2014/2020; Provincial funds		
	A.2.1. 2 - Organization of the bus lines				
	A.2.1. 3 - Design and implementation of the ticket offices				
	A.2.2. 1 - Information gathering		European Regional Development Fund (ERDF) 2014/2020; Experts on data management		
	A.2.2. 2 - Creation of open datasets				
	A.3.1 – Organization and implementation of training courses		Provincial funds; European Social Fund (ESF) 2014/2020		Participation in training courses
	A.3.2. – Design and implementation				
	A.3.3 – Certification services for the tourism businesses				
A.3.4 – Financial incentives for the ICT services	European Regional Development Fund (ERDF) 2014/2020		Presence of companies that take advantage of the financial incentives		

Fig. 5: “Tourism development”Matrix.

The first purpose of the project is connected with the organization of participatory planning workshops and the creation of an open data portal in order to promote interactions among PA and local community and then to increase government transparency and accountability.

According to the principles of openness and transparency, in this way, public administration redefines relations with citizens, that can have a continuous monitoring of the undertaken decisions.

Project activities include also networking among Universities and research centers and the organization of conferences and meetings in order to introduce innovation and development into the area.

European Structural Funds may be used for this purpose.

The second strategy concerns “Tourism development” (figure5).

Reorganization and enhancement of local tourism development aims at:

- strengthening of summer tourism;
- increase of wintry tourist flow;
- qualification and development of tourist services and supply chain.

In Glorenza, summer tourism is already well organized, then the project proposes the integration of hiking and outdoor activities, carried out during the summer, valuing the historical and architectural beauties in the city center that differentiate the village from the neighboring ones.

The project aims at the creation of an itinerary that can valorize them, since they are tangible expressions of local culture, and the development of programs and catalogues for the visit.

The problem of seasonal tourism is mainly caused by the relative distance of the city from ski lift plants: the project intends to propose the creation of appropriate public transport services, monitored through smart-phones which provide useful information about lines, waiting time and any critical weather condition.

Accommodation facilities require a reorganization: there is the need to integrate the current offer with other forms of hospitality, such as "bed and breakfasts", which could be more suited to user needs.

In order to qualify tourist offer, the plan provides training courses for staffs and the diffusion of ICT services for the effective promotion of tourist accommodation and restaurants.

In order to preserve landscape and rural peculiarities of the area, the project provides the strategic line called “Rural development”(figure6).

The specific purposes are:

- introduction of traditional crops such as pears and apricots;
- development of organic agriculture;
- development of a commercial chain of agricultural products.

The diversification of crops is based on the introduction of other typical cultivations, different from growing apples. Therefore it is necessary to awaken farmers towards the opportunities offered by the rediscovery of these typical crops and the possibility of a local production, in order to add more value to agricultural sector.

The alteration of agricultural landscape, caused by pesticides, leads to consider the hypothesis of an organic agriculture development with the creation of new production rules and of new production facilities.

As for the commercial chain of agricultural products, the project includes the development of a local distribution system, linked also to tourist and cultural exploitation, and the participation of producers in national and international marketing events.

Then, the development of business networks can also favor:

- the increase in competitiveness and productivity;
- the diffusion of know-how;
- the innovation development;
- the certification of production process;
- the internationalization of companies;
- the cost reduction of business management.

RURAL DEVELOPMENT		OBJECTIVELY VERIFIABLE INDICATORS		SOURCE OF VERIFICATION	ASSUMPTION
OVERALL OBJECTIVE		Efficacy Indicators	Effectiveness Indicators		
	Protection of the rural landscape and exploitation of its peculiarities				
PROJECT PURPOSES	O.1 – Introduction of traditional crops and diversified farming practices	T/year products on the market	Compared with the investment	Rural Development Program; Provincial offices	Presence of farmers that trust the introduction of traditional crops
	O.2 – Development of organic agriculture	T/year products on the market	Compared with the investment	Rural Development Program; Provincial offices	Presence of farmers that choose organic farming
	O.3 - Development of the commercial chain of agricultural products	N° trading companies N° products on the market Δ local products on the market	Compared with the investment	Chamber of Commerce; Rural Development Program	Synergy with activities for tourism promotion
RESULTS/ OUTCOMES	P.1.1 - Pears and apricots	HA of apricot and pear plantations	Compared with the investment	Land registry office	
	P.1.2 - Product certifications	T/ years certified products		Chamber of Commerce; Product certification bodies	
	P.2.1 - Production rules for organic farming	N° farms that adopt organic standards		MIPAAF (Ministry of Agriculture and Forestry)	Presence of a large number of farmers that comply with the rules
	P.2.2 - Processing plants of organic products	N° processing plants	Compared with the investment	Chamber of Commerce; Provincial offices	Finished products are brought on the market
	P.2.3 - Organic certifications	T/ years certified organic products		Chamber of Commerce; Product certification bodies	Rise in value and in competitiveness of the local products
	P.3.1 - Shops and food tastings connected with tourism	N° shops		Chamber of Commerce; Web	
	P.3.2 - Marketing of local products	N° sales networks (also online)	Compared with the investment	Chamber of Commerce; Web	
	P.3.3 - Business networks	N° combined companies	Rationalization of business charges	Chamber of Commerce	Increase of the national and international competitiveness
ACTIVITIES	A.1.2. ; A.2.3 – Product certification services	INPUT	Private funds		
	A.2.1 ; A.2.2. 1 – Financial incentives for farmers that choose organic agriculture		European agricultural fund for rural development (EAFRD); Provincial funding		
	A.2.2. 2 - Implementation of the processing plants of organic products		European agricultural fund for rural development (EAFRD); Provincial funding		Cooperation between agricultural sector and tourism
	A.3.1 – Development of a local distribution system considering typical products as suitable elements to characterize the tourist supply		Incentives offered by the Chamber of Commerce; Private funds		
	A.3.2 - Participation of the producers in national and international marketing events		Incentives offered by the Chamber of Commerce; Private funds; Provincial funding		
	A.3.3. 1 - Selection of companies for sharing the goals of innovation and competitiveness				
	A.3.3. 2 - Formulation of a common program				
A.3.3. 3 - To draw up a contract					

Fig. 6: “Rural development” Matrix

6 CONCLUSION

Referring to methodological aspects, the use of LFA proved appropriate to develop bottom up strategies during a participatory workshop. The steps of the method agree with the basic actions in the implementation of a workshop:

- identification and analysis of expressed problems;
- definition of objectives and activities to solve them;
- to foster a rational approach to the formulation of bottom up strategies.

The strict application of the method has allowed us to analyze problems expressed by the local community, acting as a guide to a systematic and logical analysis of connections among key elements of a well-structured project.

The introduction of smart solutions in a small rural context could be not very easy: Glorenza is, in fact, characterized by a limited predisposition for both technological and social innovation.

For this reason, there is the need to prepare citizens for necessary changes, making them aware about opportunities that ICT tools can give.

The project experience has shown a particular value as it led to interact social groups, experts and representatives of public administration.

If these activities became more widespread and systematic, they could lead to effective strategies and development projects based on people needs and on goalsharing.

The described approach could represent a model for spreading participatory workshop applications, based on LFA method, in other peripheral areas characterized by similar social, environmental and economic features.

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