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Collective creative processes in underserved contexts. Lessons of grassroots frugal social innovations.

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ABSTRACT

When limited resources are available, creativity and imagination have better opportunities to develop. Through an emergent approach where the process is left free to unfold and rules are relaxed, new ideas transpire and innovation happens. A multiple case study in the townships of Cape Town, South Africa, will describe the evolution of three processes that brought innovations driven by active groups in their underserved communities. In particular, the unguided process approach allowed the innovations to unfold in an ecosystem characterized by frugality and by the desire to bring about social changes. The active collective participation and the social aims are the driving forces of the processes while their un-designed evolving development is the main element of innovation from the bottom. More than any information and communication technology creation.

Keywords: Frugal innovation; social innovation; co-creation.

INTRODUCTION

Frugality has been used by many, in different contexts, to define a situation where only limited resources are available, where affordability is the driving force (Hossain, 2016) and where constraints (Zeschky et al., 2011) become triggering elements of creativity. Concrete limitations, due to lack of resources, of skills, or of opportunities, are key factors in driving people to achieve better results with less, it is however also true that frugality can be seen through other lenses.

Innovation is usually associated with the creation of a new artefact or modus operandi. It is sometimes considered part of the design cycle, almost the objective of a process that starts from

a need and becomes creative (Dorst and Cross, 2001; Kuusisto and Kuusisto, 2010). Stepping aside from this position and association with the design culture (Von Stamm, 2008), the focus returns on the main conceptual feature of innovation, that is its openness to every possibility. While design is created and developed following a vision of the future (Zimmerman et al., 2007), innovation does not have this characteristic.

Innovation can refer both to the outcome, the product created, and to the process to create something new (Garud et al., 2013). To be innovative, does not always mean being completely original (Bhatti, 2012). An innovative process or outcome can be novel in the way it is used or novel to the users (Van de Ven, 1986), or novel in the context where it is utilised (Fagerberg, 2003).

In this paper, the author will present and analyse three case studies of frugal innovation in underserved urban communities in Cape Town, South Africa. The focus has been put on the process. The process used is an emergent one, based on improvisation supported by the innovation creativity (Montuori, 2003), driven by scarce resources and a keen attention to the immediate needs of the people involved. The processes followed, as well as the solutions adopted, are frugal: projects were started from what was available and required, trying to achieve 'more with less' in order to support a sector of the population as wide as possible at a limited cost. Due to limited budget, infrastructure and available skills, the processes rarely used any form of Information and Communication Technologies (ICTs). Affordability remains a key element for underserved people, together with being necessity and needs driven (Van der Boor et al., 2014).

In this study the focus has not been placed on technology use, acceptance, adaptation or creation, as is the case with many case studies connected with frugality and development found in literature (Rangaswamy and Densmore, 2013). Indeed, the focus has been put on an uncommon procedure, which allowed the case studies and the relative projects to unfold and evolve. Each case was initially selected as representative of a specific category of the communities of belonging (mothers without ICTs skills or interest in them, youth passionate about the possibilities offered by the new media); the analysis was initially focused on the approach to novelty and on the potential interest in it. In the course of the first year, the cases demonstrated their potential for frugal innovation, clearly sharing not only the context situation but also

commonalities in process development. To enable these processes, ICT culturally and contextually relevant to was used (Blanchard, 2010). As a precondition for innovation, the participants engaged with technology to make it malleable, to match their needs (Carroll, 2004; Winters et al., 2008).

Facilitation of the frugal innovation process was developed and supported by a relaxed design style (Olin and Wickenberg, 2001). The theoretical findings reveal that relaxed rules allowed emergence and creativity through culturally specific knowledge.

This multiple case study (Crowe et al., 2011) is the result of three separate cases that disclosed their potential through this approach, showing its potential to be used in different situations. While many ICTs studies connected with people empowerment demonstrate a limited impact on societies (Dodson et al., 2012) and in research (Harris, 2016), this paper would like to contribute to methodology theories, suggesting an approach that allowed practical results in the field.

To support this methodological contribution, the discussion section will draw guidelines for the possible replication of this methodology, answering the question:

How to capitalize on the enabling conditions for frugal innovation to happen in determined contexts through an unfolding unguided approach to allow for disclosure and evolution of the processes?

Before presenting the multiple case study and the relative findings and lessons learnt, we will briefly outline how frugal innovation is often conceived.

FRUGAL INNOVATION IN THE LITERATURE

A lot of the literature on frugal innovation has a business perspective on markets, economy and production and the users are customers (Tiwari and Herstatt, 2012). Even when talking about “the democratizing effects of frugal innovation” (Nari Kahle, 2013), the focus is on markets, more inclusive ones, but still, based on products and consumers. The consumers are a target for the market. They are not the innovators.

Little (2011) talks about “innovating products”: they are not innovative, they exist and get simplified. Heeks (2012) refers to “IT innovation for the bottom of the pyramid” while Mukerjee (2012) titles “Frugal innovation: the key to penetrating emergent markets”.

The focus is on how ‘to cater for the poor’ (Halme and Laurila, 2009), how innovation or innovative products can support the ‘bottom of the pyramid’ (Kaplinsky and Keynes, 2011), with references to ‘inclusive innovation’ (Chataway et al., 2014), ‘below-the-radar innovation’ (Kaplinsky et al., 2009) and ‘pro-poor innovation’ (Hasan, 2016). Not on how the poor can be innovative. Other common expressions include ‘selling to the poor’ (Hammond and Prahalad, 2004) and ‘intuiting the latent needs of consumers’ (Radjou et al., 2012).

Innovation, above all within this economic perspective, is more visible and usually analysed at a macro level. The process often starts in the richer economic regions of the world, where new technologies are created for areas with a reduced GDP, by multinationals whose interests are to expand their possibilities to sell (Agarwal and Brem, 2012) to new customers in emerging markets. The multinationals are creating cheaper products for poorer populations (Ray and Ray, 2011). This kind of innovation is conceived and developed abroad compared to the areas of utilization. At a multinational level the good that might arise for people is an extra, not the main objective (Hammond and Prahalad, 2004; Knorringer et al., 2016).

The meso level, more focused on specific areas and needs, can be a national level, like the case of India where different entrepreneurs create products that acknowledge and support the needs of their population (Basu et al., 2013). The healthcare system, for instance, is expanding, thanks to the reduced costs and the extensive need for expertise in eye and heart care (Rangan and Thulasiraj, 2007). The same happened with the economically fair transport solutions implemented to support a growing population. The meso level can expand and become a macro level once the new technologies and systems created for a specific region are required also abroad. Some healthcare systems created in India got already adopted in the United States of America, where not everybody can afford expensive private healthcare (Khanna et al., 2011). In the literature, this kind of unusual process of innovation born in poor regions and exported to richer areas, is classified as ‘reverse innovation’ (Govindarajan and Trimble, 2012; Crisp, 2015). The focus is again on the possibilities for the markets to expand their growth.

The micro level of frugal innovation is the one looking at specific localized cases in the underserved regions of the world. In particular, it studies grassroots solutions adopted by non-governmental organisations, small entrepreneurs, single groups or individuals who decided to adopt and adapt ICTs to serve their needs (Radjou et al., 2012; Soni and Krishnan, 2014). Sometimes, it is about the creation of new solutions and not only the adaptation of those that already exist (Zeschky, 2014).

In the field of ICT, several initiatives emerged and spread in the last decade, from the One Laptop Per Child project (Warschauer and Ames, 2010) till the recent diffusion of inexpensive smartphones which reached out to remote regions and populations with reduced income (Lee and Lee, 2014). Also these low costs ICTs are business oriented and usually developed far away from the end users. The participants of this study belong to the category of consumers that only in the last two years had access to affordable communication technologies.

CONTEXT and PARTICIPANTS

The three case studies presented in this paper introduce groups of women and youth active in the Cape Town's townships. The majority of the activities presented took place in Philippi, an area with an official population of 191,000 inhabitants (Census 2016). Half of this population lives below the poverty line and in self-built houses made with wood and laminated sheets, often without a concrete floor. The City of Cape Town is working on house building and infrastructure improvements in these areas. Meanwhile many groups of citizens came together during the last twenty years to help each other, to sensitize the broader community about the necessities of the underserved areas and to support activities of lobby and advocacy towards the government (Ismail 2009).

The researcher worked with some of the groups that participated at the time in events, manifestations and workshops organized by social movements. The three cases presented in this paper introduce and analyse the evolution of ICT based projects developed by some of these active groups used to collaborate and engage with social issues. The first case analyses a project developed by a community radio station. The second case involves some groups of Mamas, as Xhosa mothers are usually called. The third case describes the creative processes a network of youth engaged with when deciding to come together.

The radio group started its activities setting up a community analogue radio, still the main communication tool in the area. In the time, the funders and directors realized the possibilities offered by a digital radio; more visibility to possible sponsors and networking outside of their borders, more professionalism in introducing themselves and more possibilities to reach out to a bigger audience. The ties that unite this group depends on the potentiality offered by the radio station itself: to get a job or at least to learn a profession. There is continuity, constancy, willingness and engagement to assure the growth and success of the radio station, for the benefit of the underserved community of belonging and for the possibilities for the individuals involved.

In the case of the groups of Mamas, their ties are strong and connected with their help to the community: support groups for women victims of domestic violence, after school care for abandoned children, mobilization events of sensitization on health and social issues. As the discourse analysis conducted at the beginning of the research showed, those are their priorities (Lorini et al., 2014). Many groups have existed for several years and some of them are affiliated with networks, which operate as social movements at national level.

The groups of youth usually gather for recreational activities, like music and sport. They often support social activities organized by community-based organizations, non-governmental organizations and social development agencies as a possible platform for their art, for entertainment and for educational scopes. To gather recognition and trust from the external stakeholders, several members of the groups attended workshops and accredited training on peer-to-peer education.

Despite the different history of the groups, their reasons of existence and their formation all the projects were based within an historically based community tissue of social transformation and existing social ties, some stronger than others, some carrying stronger internal power relations than others. The commonalities reside in the creativity and innovation developed during processes based on a bottom-up emergent approach.

THE THREE CASE STUDIES. A MULTIPLE CASE STUDY APPROACH

Community radio station group

Iqhayiya FM is a community radio station based in a township affected, like the others, by poverty, criminality and unemployment. To try to alleviate some of this negativity, in 2014 a few young members of the community created a radio station. The name, “Iqhayiya”, is derived from the Xhosa language and means “Pride and Joy”. It was created to give strength and hope to the community through information, education and encouragement.

In 2015, while engaging in a process of growth and professionalization, the activists of the pirate radio station recorded some interviews during an event on a tablet. The impressions collected were the first recorded voices transmitted by the radio station not produced in loco, during a live transmission, but through a device. The second step into digitalization taken by the volunteer journalists was the recording of some interviews through a digital recorder to improve the quality of their information transmission. Those two basic activities, common for every radio station, were a novelty for this community radio station, which started its activity using second hand equipment donated by established radio stations and without having the frequency licence. The following step was the creation of a website through a co-design process with external experts in order to acquire a professional image and introduce the staff to possible interlocutors and interviewees outside the coverage range of the analogue radio. Finally, the use of a smartphone with an application for outside broadcasting connected with their new website made the integration between the analogue and digital radio a reality.

This simple process developed and evolved in the space of almost one year from when the journalists added to the spectrum of their possibilities the use of a tablet, a recorder and of an application for a smartphone. Unfortunately, the smartphone option for outside broadcasts turned out not to be a realistic possibility for the time being due to the costs of the internet connection and to the quality of the smartphones used by the participants in the project. The journalists and technicians possessed basic smartphones and could download the application despite its limited size. For the reason of connection costs, also the website use is limited, not only for online transmission but also for recording and streaming of programs.

Nevertheless, the different phases helped the team to learn a lot about the possibilities to develop a better quality radio production and to discover opportunities available for broadcasting and serving a larger community. The participants possess the skills and knowledge to develop further the project. At present, 2016, the founders of the radio station applied for the frequency

licence to the competent governmental agency conscious that for their community the analogue radio is still the main means of communication.

Youth network

The process that developed into the co-creation of an interactive map to support the youth network began with a digital-storytelling collaboration between artists and grew into a co-design workshop activity. It started without a specific idea in mind because the network was in a phase of reshaping and reflection about their future. At the beginning of the activities attended by the researcher, the participating youth seemed oriented towards re-launching the network organizing an event, a collaboration between groups. During the co-design workshops, initially based on brainstorming and mapping of groups, activities and resources, ideas evolved. A map of the groups with their regular activities and locations positioned on a physical image of Philippi emerged as essential. Checking on Google map, it became evident that what they perceived as an inadequate representation and a need for the community, was something necessary and missing; the area where they operate in looked like a grey zone on Google map.

They never expressed the desire to leave Philippi and develop their activities elsewhere. They constantly emphasized the potential of their locations, the resources available and the need to upgrade their communities. What they realized they wanted to achieve is to be part of the bigger map, to be on it and be acknowledged also from outside of their communities of belonging. It is as well a need for their communities and for the larger community of the society, of the researchers, of the municipality, interested in mapping the areas and knowing the realities. It is a novelty, at least in this context, the way in which something like an update and an upgrade of Google map can start from a grassroots level, not from some individuals or champions of the community or from external organizations or researchers but from a local group. In this case, from a network of groups. The perception of the need became a possibility to be developed and transformed into a concrete project: an interactive website. Even if in other areas of the world this is a common process to involve residents, this is not the case for the context and area where this process took place. In Philippi there is still a limited use of modern technologies due to their costs, above all of connectivity, and ICTs are not yet considered essential or a priority for many residents (Lorini et al., 2014).

The final product, the website, can be considered as a limited innovation, focused on the acknowledgement of certain needs and lack and on the improvement of the system. The bigger innovation resides in the process and the way the result was reached: how the groups participated, expressed themselves and came to a common conclusion about what they wanted.

Mamas group

In the case of the Mamas as well, the process had been the most innovative element. The visible outcomes, after several focus groups, a collective digital storytelling production and a specific request to become computer literate, had been the decisions to manage a blog, to keep on learning and to become computer trainers for other Mamas. The approach to teach people basic computer literacy and new possibilities of use of ICT for empowerment had been experienced in different scenarios, included with underserved communities, indigenous population, children or elderly. In particular, the curriculum selected for the case study existed already and was tested on adult women of neighbouring areas.

The elements of innovation emerged in the time and arrived from the different participants involved: Mamas, trainers, facilitators and researcher. The Mamas asked for a computer literacy training after realizing they needed to learn more about the digital world, for themselves, for their children and for their community. The organization offering the training created an innovative entry-level workshop for people who have never used a computer and who came from underserved communities. The researcher invited some facilitators from the community in order to overcome the linguistic problem: the trainers had never worked in the traditional language. The role of the facilitators themselves evolved from translators of the training to cultural facilitators, able to explain concepts, ideas and to support the development of skills in the most appropriate way, helping the Mamas and the trainers to establish a connection and work on a fruitful path.

In the months, the Mamas requested a series of follow-up activities and more trainings. The fact they did not possess any devices, laptops, smartphones or tablets, was creating a problem in their learning process of remembering all the lessons. However, they kept on asking to people in the community to support them, to let them use the computer to strengthen their knowledge with constant follow-up and repetition. This necessity helped to improve some community bonds as

well, in particular with the younger generations. Some of the Mamas decided to go a step further and deepen their knowledge accessing higher-level training. The elderly ones decided instead to use their knowledge to encourage younger people to develop ICT skills and supported the connection of learners and trainers.

The training was innovative in its format and in its development through the support of local cultural facilitators. Even more innovative is the process through which the elderly members of an underserved community acted: they asked for a training and moved on looking for more opportunities not only for themselves but also for young people. The mothers, never before exposed to technology, searched for new possibilities of digital learning and growing for the new generations.

FINDINGS

The Mamas are innovative in the way they engage, share the information and knowledge and thus bring about innovation in their communities. Despite their limited digital skills and limited interest (their priorities are connected with everyday basic needs and survival discourses), they asked for trainings, and kept on looking for support to maintain the knowledge, improve on it and spread it. They moved out of their comfort, regular and traditional area of activities and positions as community leaders or mobilizers to learn more and, quite innovatively as well, they suggested training and opportunities on ICT to younger generations. Usually the youth are the ones who teach the basic of ICT to the elderly (Bailey, 2010). These Mamas showed that also the opposite could happen for different reasons: to maintain the contact, to avoid feeling left behind, to bring opportunities and to keep on being the engine of the community.

For the same reasons the radio station founders focused their energy and resources on the analogue radio station and not on the digital one. The needs of the community and the service they want to offer are their fundamental aims. Obtaining the frequency licence for a community radio station that could be heard by the majority of the surroundings area counts more than any alternative professionalization and visibility over an information system that is not enough inclusive in their context.

The youth showed their commitment for social change as a priority along the entire process. The idea they tried to develop with the interactive website aimed at supporting the community at large. While the technological aspects of the project were moving slower than expected, their initiatives continued with collaborations with the other groups (they supported the Mamas during the training and for their follow-up and they leased with the radio station during some public events) and with the creation of new activities in the area, the main one being fundraising for a recording studio in a container.

The innovations created in these case studies are information systems solutions, connected with how people can communicate and share information between groups and with the external community and beyond (the radio station, the Mamas' blog and the youth network website). This kind of information systems originates from grassroots level. The processes started from what existed, the active and connected groups, and what was already used, like the analogue community radio station, a WhatsApp group for the youth network and the regular groups meetings of the Mamas.

The innovations through specific ICTs have been limited, compared to the social ones, because of some external factors, like the living conditions in the informal settlements of the communities.

In particular, the radio station members have not developed as much as they could the possibility of using the website because of the costs of connection. The same applies to the possible utilisation of the application for the smartphone to do outside broadcasting. Some options are still too expensive for the participants and for their communities (their actual audience will not be able to follow them online). A second reason for maintaining a low visibility profile and a limited number of activities, is due to their desire to obtain the frequency licence for the station. The founders do not want to compromise their possibilities with the legal system; being visible, while still not officially recognised, can produce a side-effect compromising their application and their future goals and opportunities.

Concerning the Mamas, the usage and appropriation of the skills learnt is still limited due to the lack of equipment. One group of the mothers received a laptop as a donation. It is a shared device that needs to be kept at the centre where they usually do voluntary activities. None of the mothers have access to it on a daily basis and the possibilities to improve, learn more, or simply

remember what they learnt, are reduced. The access to airtime and to internet data bundles is a problem also for them, related to the high costs of connectivity. The possibilities offered by the usage of the blog as a form of community journalism or any other technological solutions are not foreseen as having a direct and immediate impact in their lives or the lives of others. The main results have been the effort to learn more, to keep asking for follow-up and to support and stimulate others to learn. The use of ICTs for the group collectively might develop further from the individuals who will take the lead and support the evolution of the process (Ramirez et al., 2014).

Concerning the youth, they are the more interested in keeping the website alive and using the technological possibilities and above all the social media, for maintaining the contacts and creating and promoting new events, connections and networks. Despite the limited utilisation of their design creation, the interactive website, due to the necessary investment in money and time, the process demonstrated its potential for innovation bringing about new ideas, exposing participants to different uses of technologies and developing creative collaborations. The simplicity of the use of social media, in particular Facebook, and some of the local offers made by the telecommunication vendors, are supporting their extensive use (Dini, 2016). The website can become a framework and container of the main elements distributed and shared on social media. The registration of some members of the network to a training on software development, the utilization of the online based crowdfunding system for a music recording studio based in a container, the development of ideas of smartphones applications for musicians, are some of the subsidiary results of this evolving process.

INNOVATION FROM THE BOTTOM

The types of innovation presented in this multiple case study are innovation from the bottom, not simply meant as the ‘bottom of the pyramid’, the poorest sectors of the population, as they actually are (the majority of the members of the groups involved live in the informal settlements of the townships of origins). In this paper, the bottom is meant as the level of the consumers, the customers, the users, often involved only at a later stage in the design process (Robertson and Simonsen, 2012) to validate a product or to cooperate when the designers have an idea in mind. In these cases, the idea and innovation lie in a grassroots level of participation and approach,

from the bottom of the process, its beginning, and continue during its course in order to improve the possibilities of democratization, ownership from everyone involved and eventually reach sustainability, and in order to achieve a social impact.

In the case studies, the ICT outcomes are not particularly original and innovative. What is more innovative is the process that developed and succeeded in maintaining a high level of participation, a collective collaboration and a constant focus on the social transformation. To reach these results, several elements seem essential for the processes to unfold and develop. Some of these enabling conditions are quite specific of these case studies; they are here summarized to highlight a way of proceeding. A synthesis of the lessons learnt, expressed like guidelines, will follow to suggest a possibility to operate when trying to reach similar results of grassroots unfolding innovation.

Enabling conditions

In all the three scenarios, a climate of knowledge sharing and collective learning was present between all the participants. For instance, the majority of them never took notes during the workshops but count on the memories of each other. A collective rationale based on the social ties and the trust is structural for their group formation and knowledge transfer is embedded by these social structures.

An ecosystem of media is utilized without any value or stigma associated to the use of the different devices, old ones (such as the analogue radio) and new ones (like the smartphones). In some cases, new options are utilized to grant continuity to the old information systems more at risk of forced closure (like the radio website, a support mechanism for the stabilization and growth of the radio station). In the same way, easy to use social media like Facebook are connected with the more complex system of the websites.

Because a lot of people do not possess sufficient technological devices and ICT skills, a collective use of the social media is common and a non-individualistic attitude is widely present. People share the group's pages, their personal instruments like smartphones and even emails.

The digital media ecology of the "yard" supported the creativity and collective development of the processes. In the cases presented, the context is that of the informal settlements, of the

backyards and often of the shacks, where everything comes together in a proximity that brings about familiarity together with necessity.

Above all for the groups of youth, the “digital hub” is considered essential for the possibilities of exposure, connection and consultation. Even when moving from the “yard hub” where they grew up and live, to the digital one where they feel that they can expand further, the groups maintained their cohesion and collective approach to doing things.

Despite the fact that the Mamas have not yet developed a digital hub, they succeeded, as the other groups did, to support with their choices a system of “info-powerment”, where information gathered and processed got transformed into interventions (like becoming trainers, spreading information connected to trainings and workshops, having a constant focus on learning and be updated).

Guidelines

The conditions of active and collective participation, strong ties and trust between the members, social transformation as main objective, can not be granted. Their observation and analysis help to generalize an approach to research that aspires to valorise the uniquenesses of the situations and the capacity of all the stakeholders to capitalize on the local passions, expertizes and capabilities. Other suggestions to replicate fruitful collaborations are derived from the analysis of the processes.

The processes showed the creativity that emerged while working in groups. The discussions, workshops and decisions never took an individualistic approach. This attitude can also help to maintain a constant level of interest and focus towards the collectivity.

The creativity emerged because there was a limited organization of the process itself. From the focus groups, through the digital storytelling creation until the co-design workshops, all the phases were semi-structured and flexible to any evolution.

During these processes, creativity developed from what existed already. It is embedded in the context and not nourished from the outside.

The rules are ‘relaxed’ allowing the participants to have more normality, to interact in their own way. The design process use of ‘deviations’ from the rules and routines of designing allows for cultural specific ways of being to support the participants.

Working at a grassroots level, from the beginning of the process, in a constant dialogue with all the stakeholders but letting the community participants remain the main decision makers, avoids the risk of creating a distance between the needs and the results and between the researchers and the participants. The projects will not need to be appropriated or transferred to the participants. The ownership belongs to them.

A process owned by the interested people opens the door to its sustainability, considered from the beginning and throughout the development of the project. Sustainability can never be taken for granted, despite the frugal resources involved and accessible costs. A grassroots flexible approach can create the bases for sustainability allowing the process to evolve how, when and where necessary. The innovation process will be constant and continuously evolving, supported by the key factors of essentiality and creativity.

These suggestions support researchers and practitioners who aim to transform scarcity into an opportunity (Radjou et al., 2012). A capability that requires an open mind, a sense of flexibility and an ability to adapt. To improvise, to follow the flow of an evolving process, to maintain the ownership of an idea and to let it develop into a sustainable one, involves more than embracing the concept of simplicity and essentiality. Frugality expands its roots moving its borders from the locally simply made and contextually embedded (Douglas 2013) to the generalizability of the creative process, that through improvisation and graduality of the steps, reaches out for broader objectives than the simple affordability.

The serendipity (Kingdon, 2013) and spontaneity (Svensson, 2010) of the process of innovation are the key elements that support its evolution. The openness of the process is what supports the possibility for imagination to develop (as it happens in the divergent thinking of Guilford, 1967). In this space where technical and procedural knowledge are absent (Kristensson et al., 2004), and less barriers to evolve exist, it is possible to reduce the blinders towards innovation and operate in an ecosystem where also participation, inclusion and growth can develop.

CONCLUSIONS

The activities carried out in the communities have brought about some innovation. The processes developed within the time and without a specific framework of action and designed outcomes;

and they are still evolving and bringing about changes. The limited resources employed are another key element in these processes. For these reasons, of improvisation, emergence, flexibility and frugality, the kind of empowerment produced by these processes of social innovation can be defined as sensible. It is tangible for the participants thanks to the learning processes and outcomes, and it is reasonably visible for the other stakeholders involved. Furthermore, it was sensitive to the culture and daily activities of the participants and it was sensible because not imposed, not overwhelming, not aiming at changing completely the lifestyle, the views and the attitudes of the people.

The processes are in development. The activities are moving forward and developing into new ideas and projects. The projects assessment was done with the different groups. An assessment at an individual level could show more changes in the approaches of the people towards ICTs. An evaluation could be foreseen in the coming months. At the same time, another evaluation could deepen the analysis of the results of the processes for the communities at large and of the continuation of the processes in the same direction of social improvement, empowerment, uplifting. Considering that the main idea was to work at grassroots level, with limited resources and leaving the participants free to decide every step, included the option to abandon in any moment the process itself, the results have been substantial.

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