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Developing accessibility plans: methods and tools. Case study

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Abstract. High levels of quality for built environments that meet the needs of the largest segments of population can be achieved by enhancing their accessibility, seen as the attitude of places, goods and services to be identifiable, approachable, understandable and usable autonomously by all. Despite an abounding framework of standards and regulations, places don't always reach a satisfying accessibility degree being, in fact, full of physical and perceptive obstacles. The "culture" of Universal Design has not yet been able to substantially modify the processes of planning and designing the habitat transformation; this calls for shifting the action from the mere compliance with regulation to the implementation of strategies for environmental regeneration. The effectiveness of projects that achieve the highest accessibility degree cannot be separated from the ability to involve all the stakeholders in the decision making process, hence including end users. Consistent policies at different scales and the development of actions with a strategic value can be adopted to meet the vision, such as the planning of interventions guided by appropriate operational tools. The paper refers to the experience carried out in Italy by some municipalities which developed "Accessibility Plan" as planning tool and "Accessibility Lab" as its operational body.

Keywords. accessibility, built heritage, public spaces, planning, user involvement

Introduction

Accessibility is based on the shared values of respect for civil rights, which in the broadest sense includes the ability of all to enjoy the physical space with equal opportunities, in respect of diversity [1]. It requires the involvement of all actors in a relationship of respect between human beings, regardless of the individual potential capabilities, based on an inclusive definition of "environment" and the qualities that the habitat offers to enable people to enjoy it.

Being aware of the importance of this assumption implies knowing how to address a variety of issues from the integration of which a different cultural approach arises, as well as the ability to envision a new habitat, and new possibilities to design living spaces (as well as goods and services) according to the principles of Universal Design.

In this context, accessibility defined as "an attitude of places, goods and services to be identifiable, approachable, understandable and usable independently, in terms of comfort and safety, by everyone" [2], can't be ignored any longer as a key issue to

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achieve high levels of quality of the built environment that meet the needs of the largest segments of population.

In cultural terms, it is now widely acknowledged that accessibility cannot be reductively understood as a technical discipline dealing with regulations and aimed at eliminating architectural barriers, but, first of all, it must be considered as a great collective value [3]. Focusing the attention on the technical performances of the project (although it arises from considering the end users' needs) and the fragmentation of the construction process has greatly contributed to the disconnection between designer and end user, as well as between people and places.

In an apparently evolved context of standards and regulations, we continue to live and work in environments that, although formally barriers-free, do not always reach a satisfactory accessibility degree, *de facto* not providing to users adequate conditions of orientation and mobility, and that also are only partially exploited with respect to the potential qualities that they can offer. This is because the "culture of inclusion", implied into Universal Design, has not yet been able to substantially modify the processes of planning, designing and managing the habitat and to make that fundamental shift that moves the action from the mere compliance of regulation to commissioning acts of real strategies for environmental regeneration [2].

1. Accessibility as inclusive process

Generally speaking, accessibility expresses the ability of an environment to ensure every person an independent life – regardless of age, gender, cultural background and physical, sensory and cognitive functionality. If originally accessibility was associated primarily at meeting the needs for mobility of people in wheelchairs, over time it has been extended also to the needs of people with perceptive impairments; nowadays it refers to the generality of people [4].

Accessibility deals with the exercise of the inviolable rights of the person and it is a key issue for understanding the level of permeability and social inclusion of a community. Just as social inclusion, accessibility should be assumed not as a fact attested by law, but as an ongoing process that starts from an initial conflict between opposing needs and moves to a mutual adaptation of values and behaviors in the shared environment [5].

Because accessibility must be understood as a "process" and not as a "product", it should be noted that assessing accessibility of places, goods and services, cannot be defined in absolute terms, but only as "synthesis of the levels of satisfaction" (accessibility degree) related to the different considered users groups [2] [7]. Thereby, it should be recognized that every planning process which affects the living environment has a multidimensional and cross-sectoral nature and it must start from the analysis of needs and human aspirations of the greatest number of individuals, and must involve with an active and conscious role all the stakeholders since its beginning.

The effectiveness of the project which aims to achieve the highest accessibility degree for the widest range of users is strongly related to factors such as actual possibility to reach the buildings, its load capacity (i.e., its ability to withstand, without distorting, retrofitting works), the available economic resources; last but not least the ability of the project to meet human needs and expectations [2].

The different available methods to involve users in the decision making process tend to reduce the distance between the quality that architects attribute to the project

('potential environment') and the quality of the executed work as perceived by the users ('effective environment') [8], so long as these methods do not represent a formal or paternalistic approach in which the architect-arbiter makes the residents say what he/she wants to hear [9] or an expedient put in place by the authority established to generate consensus or limit dissent [10]. Properly used, these methods can help to create socially shared processes and knowledge able to enrich the design research with several points of view and experiences [11].

Therefore, it is important that the right to "creativity" by a designer should always be balanced with the views of the stakeholders, end users first, who better than anyone else can validate the design process and its practical results beyond any standard the most advanced ergonomic theory can support nowadays. Thus it is important that the decisional process starts from a bottom-up approach and that any solution may include the contribution of the "uneducated experts" who constantly face the consequences of a disabling environment.

To achieve this ethical objective, based on ergonomics and on a human centered approach, the architect must develop sensitive listening skills [12]. This attitude has now become crucial to address an increasingly segmented, diversified and changeable demand.

2. Planning accessibility

If it must be admitted that full accessibility for all is an ideal aspiration, it is also clear that the vision of accessibility as a fundamental value of a community should inform all policies which call for cooperation among all the involved stakeholders (politicians, government staff, designers, builders, residents, etc.) in the processes of transformation of habitats. This vision requires the implementation of consistent policies at different spatial and temporal scales and the development of key actions, such as rising the awareness of the value of accessibility and planning of interventions guided by appropriate operative tools.

Only in this way it might be possible to switch the perspective from a *problem solving* vision (to enucleate a problem and to find out the solution) to a *meet the challenge* vision (to enucleate critical points of a project and to answer the posed challenge in a positive way), satisfying the requirements through a combination of interventions that globally invest the project in its becoming over time – in a holistic, proper way.

"Accessibility Plan", and its operational tool represented by the "Accessibility Lab", provide an example of action that some regional/local public administrations are attempting to develop in Italy. Accessibility Plan's methodology and guiding principles stem from two research works commissioned to University of Florence – Department of Architectural Technologies and Design by Region of Tuscany and Province of Pistoia and carried out from May 2008 to April 2011 [2].

2.1. The Italian situation

In Italy, accessibility to public buildings is ruled by several laws. Law 41/1986 requires the public administrations to develop the Plan for the Elimination of Architectural Barriers (PEBA) for public buildings; law 104/1992 extends this obligation to open public spaces.

According to these acts, municipalities take on the heavy duty to direct the process that leads to more accessible habitat: in fact, they are asked to eliminate the architectural barriers not only in public buildings but also in urban areas, having to ensure, in particular, the accessibility of public places and buildings for public use (chemist's shops, churches, seats of associations, hotels, commercial buildings, and so on). The municipalities also should acquire and integrate into the municipal program of intervention the plan for elimination of architectural barriers drawn up by companies and public bodies for buildings and spaces included in the municipal area and, at last, they should exercise a moral suasion on private bodies who deliver public functions, aiming to achieve their socially responsible behavior on accessibility to places where they carry out these functions.

According to a survey carried out in Tuscany [2] more than twenty years after the law release, only about thirty municipalities implemented the PEBA (less than 20% of the total) and only 60% of these municipalities carried out the planned interventions in an amount equal or greater than 75% of the total [13].

A similar analysis carried out in 2012 by CRIBA (Regional Information Centre for the removal of Architectural Barriers) in Friuli Venezia Giulia Region shows the difficulties in fulfilling the laws: only 9 municipalities of the 127 surveyed (that is 8% of the municipalities of over 2000 inhabitants) developed a PEBA, and only few works carried out were specifically targeted to removing architectural barriers. As reported by the municipalities, the failure was mainly due to the "lack of financial resources" and to the relevance of "other priorities".

It should also be remarked that not infrequently where PEBAs have been drafted and implemented, poor and unsatisfactory results have been often achieved (or even a worsening of the existing situation resulted). Possible reasons of the failure include: 1) a too stressed "regulatory approach" to the processes of transformation for habitats, 2) a limited involvement of stakeholders, 3) a lack of integration between PEBA and other planning actions and, not lastly, 4) the lack of a 'vision' for the accessible city and for an operative culture of accessibility in general [2].

2.2. The development of the concept of accessibility: from PEBA to Plans for Accessibility

The Accessibility Plan represents a conceptual and methodological evolution of the PEBA, providing a plan for interventions aimed at raising the accessibility degree of places, goods and services, by a series of coherent and scheduled actions; the plan can be developed at municipal level or, especially in the case of small communities with lack of human or/and financial resources, at inter-municipality level.

Mainly, an Accessibility Plan is ruled by the following principles: 1) the purpose of the Public Administration to "create value" also expanding the freedom of movement and well-being of citizens, promoting integration and social cohesion and removing any kind of obstacles that can inhibit or limit them; 2) the accessibility of the environment seen as a tool for enhancing the individual and a collective resource, broadening the possibilities for everyone to give a direct and personal contribution to the growth of the community he belongs to; 3) the accessibility of the environment which calls for consistent policies at different scales in a mainstreaming process and for involvement and cooperation among all the stakeholders in the given context.

The Accessibility Plan should be characterized by flexibility – that means by the power to fit the tools to spatial features and to integrate and interact with other spatial

planning tools – and it should also consider, in a strategic view, the best exploitation of the available resources and the time scheduling of measures according to the given priorities [14].

The Accessibility Plan's methodology consists of operational steps designed to identify, plan, design, and monitor interventions for its implementation. These stages can be summarized as follows:

1. Definition of a knowledge framework (analysis of the needs and expectations of the users and survey of the environmental context);
2. Planning of interventions, according to the priorities and in compliance with the available as well as expected resources;
3. Design of interventions, basing on a broader criterion of functional upgrading to increase the accessibility degree, which can be achieved not only by eliminating "present" architectural barriers but also by means of integration of spaces / facilities / services ("quality indicators"), "absent";
4. Cross monitoring actions, aimed to manage the complexity of the decision-making process through the analysis of the effects associated with the implementation of the habitat retrofitting / rehabilitation.

In order to make these phases able to produce feasible and effective results, which can be considered consistent and durable, it is necessary that the municipalities set up a technical-administrative body aimed at treating and coordinating any phase of the plan, as well as for monitoring the consequences of the developed policies and actions, according to a mainstreaming strategy. This structure, which has the character of an operational tool, is the "Accessibility Lab".

3. "Accessibility Lab" as operative tool

According to the cultural approach of the Accessibility Plan, the Accessibility Lab does not refers to and, therefore, should not be seen as a specific physical place where a fixed core of people is expected to develop a set task, but it should be rather intended as an extremely flexible approach and working method to address problems in the most effective way, from time to time. The Accessibility Lab goes beyond the experience of the offices/departments for eliminating the architectural barriers which, while working within the marginal culture of "architectural barriers", mainly play the role of technical-regulation assessments bodies.

One of the main feature of the Accessibility Lab is the cross-sectorial approach and therefore its structure can be seen working according to a "variable geometry" as an expression of its interdisciplinary and cross-functional way to operate.

The configuration that the Accessibility Lab should take varies according to the task that it faces: from a "project workshop", to a technical inter-sectorial board, to a stakeholders board or an Accessibility Bureau. Depending however on the local context in which it operates, the Accessibility Lab cannot underestimate the involvement of human and financial resources and services belonging to the municipal administration and therefore it should be acknowledged by the City Council with an official act; moreover, a Regulation for its operability should be defined and a Coordinator officially appointed.

The Regulation sets out the roles, tasks and methods for selecting participants involved according to the actions developed in the different stages of implementation, whether they are internal or external to the administration staff. Among other things,

the Regulation rules the forms of involvement in decision-making process for public and private bodies, first of all the citizens and their representatives, and sets out how to get requests and proposals coming from them, as well as the time schedule, terms and methods of drafting, adopting and approving of the Plan and the procedures for communication of taken actions.

The Coordinator is a key figure for the proper operation and harmonization of the activities developed from Accessibility Lab, first of all for managing the relationships among the municipal administration and other public bodies. He/She must be characterized by managerial skills and expertise in the field of accessibility and also have an aptitude for finding economic resources and managing effective use of them. It is up to him/her the definition of an operational program, starting from the state of art in the field of accessibility in the given context where the Plan is going to operate. He/She sets the strategic objectives, methodology, timing and resources for the implementation of the Accessibility Plan and points out human resources to be assigned to the Accessibility Lab to foster the goals' achievement.

The complexity of the proposed structure, which partly reorganizes activities provided by law and partly implemented from different municipal offices, basically aims at a different and more extensive and comprehensive strategic vision of the problems, and it is based on a strong political will to change and to pursue social inclusion through concrete actions. To achieve these goals, a great effort is required and some public administrations in Italy are attempting to do it. The following case study show the will to change – but also the critical issues that the process necessarily implies, which overcoming requires a constant, strong commitment.

4. Case study

The following two case study show the paths that some public administrations have undertaken to put in practice operational tools inspired by the concepts and methodology of Accessibility Plans. The authors of this article have been directly involved in the projects, being coordinators of working groups which tested on field tools and process flows required to set out and operate with an Accessibility Lab. They tried to make every necessary corrective to the assumed patterns, according to what the experience showed too difficult to implement or to manage.

4.1. The Tuscany Region - Province of Pistoia case study

In 2007 the Province of Pistoia, Tuscany Region, was appointed as the managing body for the project LIBERACCESSO aimed to set out operational guidelines for the implementation of Accessibility Plans, (a cross disciplinary project coordinated by the University of Florence – Department of Architecture, that directly involved the Cities of Pistoia, Pescia, Monsummano Terme, San Marcello Pistoiese, Quarrata and Agliana). Following that, the Province of Pistoia signed a Memorandum of Understanding with the Municipalities to regulate the testing of contents and methodologies of the Accessibility Plans.

These initiatives were based on two premises: 1) the experience developed by the Province in the field of accessibility since 2005 when the Provincial "Monitoring

Centre on Overcoming Physical and Sensory Barriers" was established [2]; 2) the beginning of processing PEBA by many municipalities in the province, thus focusing the priority lines of action for overcoming the architectural barriers themselves.

The envisaged measures in the Memorandum of Understanding, signed in February of 2010, focused essentially on the steps of the Accessibility Plan aimed at preparation of procedures and the collection of information useful to develop the following phases of design, implementation and monitoring in the considered contexts of the retrofitting and upgrading designed solution. Therefore, the Protocol established the commitment of each signatory authority for the setting out of a permanent technical board for the implementation of the process and a board with political functions for managing activities developed under the Protocol.

The most relevant actions of the trial invested directly the responsibility of the involved administrations who have undertaken specific commitments; for the Province, they included, among others, the issue of ensuring the necessary technical and facilities support for the six municipalities involved; the surveying of opinion by Monitoring Centre about the process of consultation, in relation to the modalities of identification of people with disabilities to be involved in various municipalities; the providing of training for technical staff and for the economic and financial service staff involved in the drafting of the plans.

Similarly, the municipalities have committed to implement the phases of the Accessibility Plan for the understanding of the current situation and the collecting of the required information for the design and implementation of the retrofitting / recovery solutions, as well to establish the technical structure (Accessibility Lab) involving the most representative associations for the protection of people with disabilities working in the area, as also required by the Regional Law 47/1991.

To date, among municipalities that started operational testing, the City of Quarrata, in September 2010 defined and approved the Regulation of the Accessibility Lab (available at http://www.pianiaccessibilita.it) while the City of Prato, in the wake of what has been done by the Province of Pistoia, presented its new Accessibility Plan on the occasion of the International Day of Persons with Disabilities, 3 December 2010. Moreover, other Tuscany municipalities – like Siena, for instance – are working on tools inspired by the concepts and methodology of Accessibility Plans[3].

4.2. The Friuli Venezia Giulia Region - Province of Trieste case study

LabAc is a project coordinated by the Province of Trieste for implementing the triennial program 2011-2013 founded by Regional Law 41/1996 and aimed to develop innovative organization models for actions and services targeted for people with disabilities; the project has been integrated into the so called Zone Plans on Disability Area which apply to the whole Province territory (that is 6 Municipalities). The project is the upgrading of a previous one named "Change your mind of *possible*: autonomous living", which gives continuity to the triennial program "Back Home Soon".

[2] The "Monitoring Centre on Overcoming Physical and Sensory Barriers" (Osservatorio per il superamento delle barriere architettoniche e sensoriali) (a pilot action of the Region of Tuscany) is a place of mutual communication among the different stakeholders involved in the efforts to overcome the architectural and sensory barriers, even including the provision of best practices and allowing the shifting of individual experiences in public assets.

[3] Province of Pistoia has recently won the award EDEN (European Destinations of Excellence) of the European Union for accessible and sustainable tourism.

While the former project was dealing with the proper design of the house spaces daily used, the LabAc project shifts the focus from autonomy within the household environment to the achievement of autonomy in the private/public border spaces. LabAc is thus conceived as an "experimental ground" aimed at allowing accessibility to the everyday environment as a fundamental value to achieve a high quality of life for all people, so involved into its transformation and making up. The goal of the new process is to improve of accessibility of public space, to raise the public awareness on the issues of autonomy and the spread of a shared culture of social inclusion by promoting participation among all the stakeholders. The target of the project is "wide users", taking into consideration needs and requirements of all, trying to overcome the concept of "standard user". To date, four municipalities: Trieste, Sgonico, Muggia and Duino-Aurisina have joined the project, by resolution of their own City Council.

The working method developed in the project was based on steps within which different actions are carried out. The first step was the pointing out of the "target area" on which to develop the work, mainly critical sites with great problems of accessibility and maintenance. The case study areas have been identified according to local municipal offices requirements; the selected sites were of two different type: 1) areas where renovation/regeneration works were planned, and 2) areas where reports and suggestions by citizens highlighted a situation of strong decay and following solicitations for reclaiming them.

The flow of the developed process can be summarized as follows:

Step 1 – Data recording on site and arrangement in a database: the aim was to set out the framework of needs from the population, with particular reference to "vulnerable user" (disabled people, children, the elderly, etc.), and the knowledge of characteristic features of the places. This analysis, which can be defined "accessibility diagnostic" enabled the detection of problems, their causes and priorities in order to define goals strategies for planning interventions.

Step 2 – Planning phase: aimed at identifying the objectives to be achieved, the involved actors and the main actions under their responsibility, and the available resources. This phase also framed the intervention strategies and tools for the *ex-ante* evaluation of the actions' quality.

Step 3 – Design phase: focused on identifying design and technological solutions for equipment, space and services, according to given guidelines.

Step 4 – Monitoring phase, and *ex-post* evaluation and control: aimed to check that the interventions actually fulfill the requirements with the expected, lasting and satisfying quality level.

Started in spring of 2012 with preliminary meetings aimed at pointing out the target areas and groups of stakeholders to involve in each municipality, Step 1 with surveys was carried out during the first months of 2013. These experiences have been particularly significant, either because of the active participation of stakeholders (end users, Public Transportation Company staff, technical officials dealing with roads works, urban planning, social services, social cooperatives) and also because they allowed the testing of survey forms, suitably made up to allow all the participants to perform the accessibility diagnostic. During October 2013 a meeting with all stakeholders and the involved partners was held, during which the drafting of Design Guidelines for interventions was discussed; guidelines are conceived not as a fixed set of typological solutions but rather as a body of suggestions based on a check list of critical issues and "best practices" to which designers can refer to develop the most

suitable design solution. Although fulfilling the law requirements, guidelines follow advices given by the end users, with specific reference to people with disabilities (at last, persons with reduced mobility, blind).

Guidelines have been finalized on December 2013 and a next project, at the present under assessment for funding by the regional government, is aimed to employ them into the design of undergoing public works in two of the Municipalities previously involved, where also the setting out of the Accessibility Labs is nearing completion.

5. Final notes

The given case studies showed some limitations and criticism, the most significant of which are highlighted below.

The role of Education and Awareness: the projects showed the lack of due training for involved technicians, who hardly ever argued the explanation of adopted design solution standing on in the detected paths and spaces, and which particularly affected people with disabilities. Moreover, the projects showed the need of raising awareness of all stakeholders to allow them a full involvement into the decision making process. Last but not least, the project highlighted the need to create a network between public bodies and institutions doing research and training on accessibility, in view of a life-long learning process. Moreover, it is crucial to build a common language which can be shared and understood by all, to avoid "functionally accessible discrimination" [17] or ungrammatical usage of phrases (as, for example, "disabled access").

Representativeness in the participation process: during the project development, the need arose to ensure the representativeness of all categories of users and at the same time to get from participatory process the required information for recognition of the observed, concrete problems and the following implementation of effective solutions. The participation process, in fact, involves risks and presents critical issues especially related: a) to the complex detection mechanism of the needs coming from different users (with or without impairments), b) to the ways and forms of participation into implementing of the decision-making process. The developed experiences show that it is important to refer and therefore to involve, first of all, the associations of persons with disabilities which better know the widest case records of needs and demands for different levels of specific impairment. It is important, at the same time, to open the 'accessibility diagnostic' step to the largest group of users, paying attention at the same time to the opportunity to manage more than one survey session for detecting environmental criticalities, developed by means of forms which are often time consuming and call for supporting people (especially those with heavy impairments).

Risks in the participation process: the quality of the information obtained from users may be weakened by the difficulty of formalizing the needs, the stereotypes taken as a reference, and the inability to incorporate "new solutions for existing problems" [15]. People outside or marginal to the productive processes (children, elderly people, people with disability, etc.) not only have greater difficulty in participating and influencing the decision–making processes, but their needs are linked to their particular situations which are often ignored, undervalued or not recognized by designers. Assessing the authenticity of the needs, their typing (to avoid 'custom' solutions for one group of people not being appropriate for others), their stability over time, their compatibility and coherence (to avoid them conflicting with other types of

information), their manageability (to avoid them inappropriately making the project more complex) is an exercise with a large margin of error [16].
Last but not least, it has been remarked by the public officers involved into the projects that participation processes, although recommendable, are often avoided or strictly limited due to the lack of resources - since surveying the users' requirements calls for 'time' and implies 'costs' in terms of budgets and human resources which normally are not estimated.

Accessibility visioning: the project stressed the requirement to overcome the idea of breaking down barriers, bridging the gap between the "lawful accessibility" and the "real accessibility" not only through a process of "elimination" or "replacement" of the barriers (in the widest sense) covered by the laws, but also through an "additive" process, which consists in implementing those "environmental facilitators" that the habitat is lacking. The environmental facilitators (which take the role of "quality indicators") concern with the provision of those spatial, functional and semantic opportunities to users, usually not required by law, but deemed necessary in order to implement the accessibility level of places, goods and services [2]. To imagine a barrier free, communicative, healthy environment meeting the increasing demand of a positive life and well-being for all.

References

[1] United Nations, *Convention on the Rights of Persons with Disabilities*, 2006.
[2] A. Laurìa (Ed), *I Piani per l'Accessibilità. Una sfida per promuovere l'autonomia dei cittadini e valorizzare i luoghi dell'abitare*, Gangemi Editore, Roma, 2012.
[3] L-P. Grosbois, P. Sautet, I. Joseph, *Habiter une ville accessible. Des usage à la conception*, Ministère de l'équipement, des transports et du logement, Paris, 2002.
[4] European Commission, *Equal opportunities for people with disabilities: a European action plan (2004-2010)*, 2003.
[5] A. Laurìa, *I Piani per l'Accessibilità per i luoghi di interesse culturale e paesaggistico*. In A. Patera, C. Rosati, M. Toccafondi (Eds), *Museo accessibile. Esperienze in Toscana*, Regione Toscana, Firenze, 2010.
[6] A. Laurìa, *Florence Accessibility Lab*. Available on http://www.dida.unifi.it/vp-136-fal.html
[7] See N. Sakkas, J. Pérez, Elaborating metrics for the accessibility of buildings, *Computers, Environment and Urban Systems* **40**, **5** (2006), 661-685.
[8] H. J. Gans, *People and Plans. Essay on Urban Problems and Solutions*, Basic Books, New York, 1968.
[9] Y. Friedman, *L'architecture de survie. Une philosophie de la pauvreté*, Edition de l'éclat, Paris, 2006.
[10] S. R. Arnstein, A Ladder of Citizen Participation, *Journal of the American Institute of Planners* **4** (1969), 216-224.
[11] H. Sanoff, *Community Participation Methods in Design and Planning*, John Wiley & Sons, New York 2000.
[12] K. R. Popper, K. Lorenz, *Die Zukunft ist offen. Das Altenberger Gespräch*, Wiener Popper-Symposiums, R. Piper & Co, München, 1985.
[13] S. Spadoni, *Sulla diffusione dei PEBA in Toscana*. In A. Laurìa (Ed), *I Piani per l'Accessibilità. Una sfida per promuovere l'autonomia dei cittadini e valorizzare i luoghi dell'abitare*, Gangemi Editore, Roma, 2012.
[14] M. Galligani, *Economicità dei Piani per l'Accessibilità: un costo per essere liberi*. Available on http://www.pianiaccessibilita.it
[15] A. Gasparini, La progettazione ambientale tra partecipazione e ricerca sociale: progettare perché, con chi e come, *Sociologia urbana e rurale* **20** (1986), 3-26.
[16] A. Laurìa, *Human requirement-based design in the cultural dimension of living*. In R. Bolici, M. Gambaro, A. Tartaglia (Eds), *Research among innovation, creativity and design*, Florence University Press, Firenze, 2012.
[17] A.Accolla, *Design for All. Il Progetto per l'individuo reale*. Franco Angeli, Milano, 2009.