

Participatory Design; A New Approach to Regenerate the Public Space

**¹Shahab Mirzaean Mahabadi, ²Hossein Zabihi, ³Hamid Majedi*

¹ Ph.D., Department of Art and Architecture, Tehran Science and Research Branch, Islamic Azad University, Tehran, Iran.

² Associate Professor, Department of Art and Architecture, Tehran Science and Research Branch, Islamic Azad University, Tehran, Iran.

³ Associate Professor, Tehran Science and Research Branch, Islamic Azad University, Tehran, Iran.

Received 08.22.2013; Accepted 01.22.2014

ABSTRACT: The following study aims to present an innovative approach for Design. Participatory Design is the model of direct involvement of different social groups in the design from functional tools to environments, social institutions and businesses. Diverse collection of practices has been developed to support this direct involvement by Participatory Design. People are invited to participate during different phases of an innovative and creative process; from initial exploration to problem definition and defining the problem and creating ideas for solutions. During development, they help evaluate proposed solutions. Participatory Design answers questions about users and their tasks and goals, then help users to make decisions. Participatory Design is characterized as a maturing area of research and as an evolving practice among designer. Architecture as a professional design are social constructs and the way for humans to consider the physical world in which they exist, and as social constructs, both reflect and shape the culture in which they arise. The authors go through the definitions of Participatory Design in order to achieve a new approach in design. Various values which are inherent in the social fabrics are illustrated by emphasizing on cultural identity and activity. To illustrate the concept of this approach, landscape design of bazaar in mahallat as a case study is considered. This research will attempt to identify and analyze the local participation, and goes some way to providing practical solutions to tackle the local problems, utilizing an effective application of the principles of sustainable development on both environmental and architectural aspects.

Keywords: *Participatory design, Democratization, Public space, Regeneration*

INTRODUCTION

The contemporary Participatory Design (P.D.) traced back to the political and civil rights movements the 1960s and 1970s. Designers and design researchers participated in these activities some also responded by investigating how they might relate to their own practices.

Scandinavia as part of what later became known as the workplace democracy movement was pioneered in what we now call the P.D. "In several Scandinavian countries, during the 1960s and 1970s, it was rooted in work with trade unions; its ancestry also includes Action research and socio technical design."

Actually P.D. is a Scandinavian approach, presented by academics and practitioners who were concerned about the

impact of becoming technologies on the health and rights of workers. P.D. emphasizes democracy and user involvement in the design process.

Computer Professionals for Social Responsibility organization defined participatory design as "an approach to the assessment, design, and development of technological and organizational systems that places a premium on the active involvement of workplace practitioners (usually potential or current users of the system) in design and decision-making processes."

"P.D. is now considered as a critical requirement for successful design, on the premise that the resulting product will be more usable by all users"(Goldenberg,1995). "These days, user participation within information and communication technology design is widely accepted and practiced through the use of iterative design techniques such as mock-ups and

*Corresponding Author Email: shahabmm.led@gmail.com

prototyping” (Robertson&Simonsen, 2012). During all stages of process design, the user’s involvement is the most important key to P.D. This process help people to represent their own activities to others; “various forms of mock-ups, prototypes and enactment of current and future activities used to coordinate the design process; and iterative prototyping so that participants can interrogate developing designs and ground their design conversations in the desired outcomes of the design process and the context in which these will be used.” (Robertson & Simonsen, 2012)

A participatory approach is used to investigate the nature of design discussion during the early stages of design. It is shown that the ideology of inclusive design is similar to the ideology of P.D. The ability of language-use to reveal user preference is explored through the analysis of architect–user conversations.” Investigating architect and user interaction revealed that tacit knowledge can be made explicit and the difficulty of generalizing user-needs from user statements”(Luck, 2003). (Fig.1)

The widespread use of participatory design has meant that different approaches and conceptualizations exist in this field today (Iversen et al., 2012). Participatory design deals with the problem of enabling users to participate in the design process and with the task of generating ideas by means of generative toolkits and workshops. (Baek & Lee, 2008)

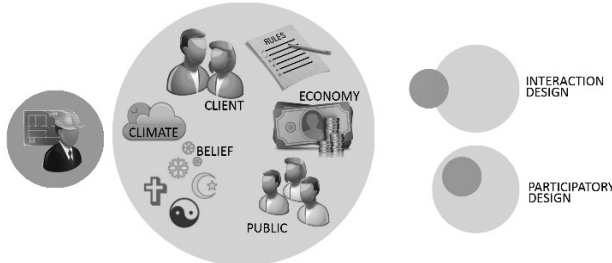


Fig. 1: Participatory design

MATERIALS AND METHODS

This research aims at investigating Design method in the Contemporary architecture. This method is based on public participation to design. In this method the role of designer blur and the user becomes a critical component of the design process.

Achieving sustainability in architecture design and construction is emphasized, especially in recent decade. The P.D. seeks the method to achieve sustainability through the public design process.

The redesign of landscape of bazaar in Mahallat was studied as the case study. The project is a contemporary attempt to create a public space based on P.D. this project was highly commended in global cityscape awards 2011 in Islamic architecture as well as shortlisted in Middle East awards for sustainable project of

the year. Also this project won the first prize of Memar awards in 2012.

Democratization

Britannica defined the term of Democracy literally, rule by the people. The term is derived from the Greek *dēmokratīā*, which was coined from *dēmos* (“people”) and *kratos* (“rule”). Space can be used as a tool but the only guarantee of democratic space is democratic behavior. Space is secondary.

Democratic design is an approach that strives to establish the theoretical grounding for a new ethical discourse informing decision-making in the built environment, and develop a new form of practice. It raises important questions about how environment should be produced and how this might become a reality.

Considering the democratic process and emancipatory is basic demand for P.D. Active participation needs to define to make a systematic design based on P.D.

Three reasons for user participation in design are normally given, e.g., (Bjørn-Andersen & Hedberg, 1977):

”Improving the knowledge upon which systems are built; Enabling people to develop realistic expectations, and reducing resistance to change;

Increasing democracy by giving the people the right to participate in decisions that are likely to affect their environment.”

The first two reasons are rather practical, and they can be found in several system development approaches. The third reason is culturally and politically biased.

Bjerknes and Bratteteig summarize the fundamental conflict by comparing "the political system developer to the ethical system developer." They describe the political system developer as "an emancipator" who would give weak parties knowledge they can use to increase their power and one who works to strengthen established institutions such as trade unions. Bjerknes and Bratteteig describe the "ethical system developer" as one takes no conscious effort to support political efforts, but operates according to his own ethical codex.” We will consider if the loss of the political objectives in a P.D. approach severely inhibits that approaches ability to achieve that which P.D. aims for - the equal opportunity for workers to influence what system is used and how that system is designed.” (Bjerknes & Bratteteig, 1995)

“The Collective Resource approach is based on the assumption that there is a connection between a democratic process and a democratic result. The democratic result should be a workplace—and a working life—in which everybody has a voice and in which all voices are heard and have an impact. A democratic process is a process in which everybody has a voice and in which all voices are heard and have an impact ”(Bjerknes & Bratteteig, 1995).

Design for Experiencing

User’s environmental experience as a clue can be source of

inspiration to designers. Designers can learn from people about their memories, their current experiences as well as their ideal experiences. "Each route to experience reveals a different story. Listening to what people say, what they are able to express" (Sanders, 2002). "But knowing what people say/think, do and use is not enough" (Sanders, 2002). (Fig.2)

Discovering the people experience reveals their perception. It may lead to image of future environment. Designer and planner can use different methods and tools to access their experience and imagination. Traditional design research approaches were focused on observational studies. (What people say and think.) However, in contemporary design approach, designer and planner focused on what people make. In this approach, studying the vernacular architecture from the past to new environment which is created by people can lead designer to understand what people really want.

"When all three perspective (what people say, what people think, what people make) are explored simultaneously, one can more easily understand and establish empathy with the people who use products and information systems" (Sanders, 2002).

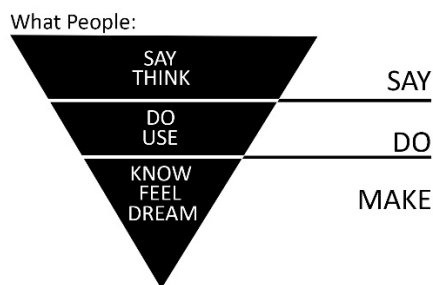


Fig.2: what people say, do & make(source: Sanders, 2002, 4; represented by authors)

Participatory Design Evaluation

To achieve a better result and predict the effect of P.D., designer needs a criteria to evaluate the design goals. This criteria may refer to standards or other rules. ISO as an international organization for Standardization based on customers' satisfaction can provide the criteria.

All approaches follow the ISO standard design for interactive systems (ISO 9241-210, 2010) The ISO standard describes 6 key principles that will ensure a design is based on user participation.

The design is based upon an explicit understanding of users, tasks and environments.

Users are involved throughout design and development.

The design is driven and refined by user-centered evaluation.

The process is iterative.

The design addresses the whole user experience.

The design team includes multidisciplinary skills and perspectives.

Participatory Design Consideration

Defining a flexible framework to consider the social contexts can lead process design based on participation. Participation should occur in every aspect of design. Methods for P.D include techniques for involving future users, people who use and experiment the environment, in all parts of the development process:

Determining design objectives on social (not only technical) bases;

Analysis of the current situation and co-construction of problem formulation; conceptualization of design, designing and evaluating possible design solutions;

Implementing changes including training people for new practices;

Evaluation, maintenance and ongoing improvements;

Iterative design.

"The process allowed cross-discipline participation from planners, architects and industrial designers, which focused on collaboration and the sharing of ideas and stories, as opposed to rigid and singular design outcomes" (Kuiper, 2007).

RESULTS AND DISCUSSION

Regeneration Plan

When a designer arrives at a decision to regenerate a city or a zone (environment), the future landscape will be determined in the regeneration plan. From a system point of view, an imperfect or inconsistent landscape leads to developing a regeneration plan and the result of execution of a regeneration plan is in fact the future landscape. (Fig.3)

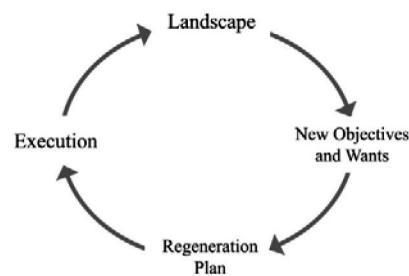


Fig.3: relationship between landscape and regeneration plan

In order to organize a landscape, the needs and objectives should be seen in the regeneration plan. Regeneration is an indispensable part of the urban planning; there are a variety of reasons for which the present landscape does not satisfy the needs of the society. As a result, the decision upon regeneration is made. An important characteristic of the regeneration plans is that they are unique and a regeneration plan for one zone does not work for another zone. Different motives and factors affect the regeneration plan of a particular zone.

The city of Mahallat is an old city in which places with different cultural, economical, environmental and social

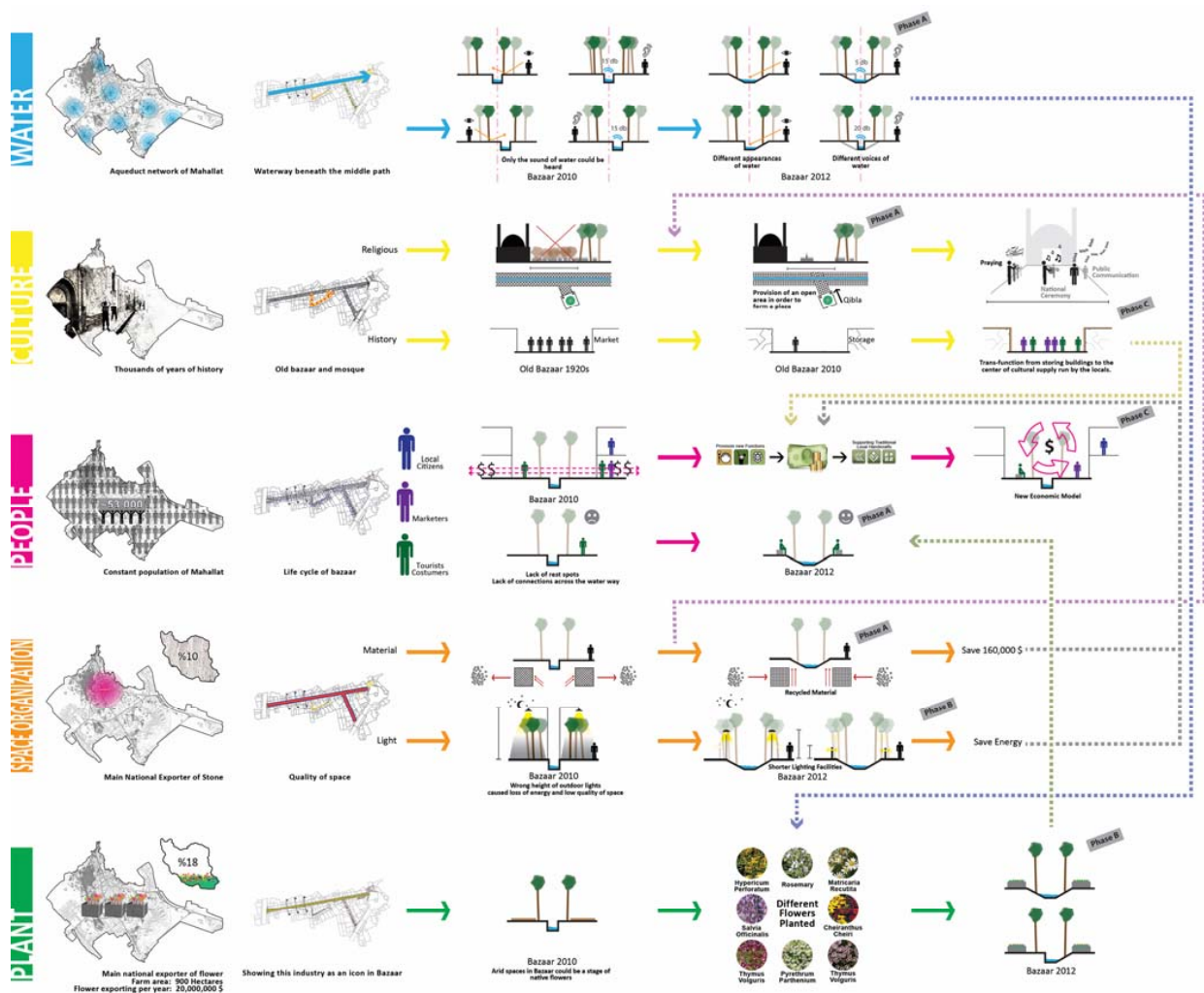


Fig.4: Strategy and framework to regeneration

values exist together. However, because of its old context and the vulnerability of materials in various parts of the city, a regeneration plan is sooner or later needed. bazaar as the main core of the city is proposed to regenerate by designer. in the proposed design method, the goal is to find a regeneration plan for bazaar which is optimizes the resulting landscape due to evaluation criteria described before.

Project Description

Bazaar is the economical heart, and main core of development of the city. Mahallat market also enjoys a unique natural property: A roof of blue the sky with a border of tree branches as well as a waterway beneath the middle path. However, due to negligence of planners to the water element, only the sound of water can be heard in the bazaar.

The major path of the market is 260 meters in length and minimum of 8 meters in width which increases up to 10 meters

in some points. This pedestrian walkway links two main arteries of the city. Two other paths, each of 80 meters length, also join the main path.

One of these corridors is the old bazaar and has a historical value. The bazaar's area is of 4000 square meters altogether. The main idea is to shape the waterway, providing various visual qualities in combination with the green spaces through the site.

Since Mahallat is the chief flower exporter of Iran, focus on plants is one of prime design purposes of Mahallat bazaar. This is achieved by shaping the green spaces inside the bazaar resulting in stopping spots. Rehabilitation of the old bazaar which nowadays mostly includes storing buildings for other commercial parts of the market is other purpose of the design. This is realized by distinguishing the flooring of the old bazaar's path as well as allocating trade of handicrafts, and local-cultural productions to this part of the bazaar.

P.D is the direct involvement of people in the shaping of future environment. Thus central for designers within this field are the staging of a design process involving participation of people. Organizing collaboration between people having various Competencies and interests is challenging and therefore designers need frameworks.

To design bazaar in Mahallat based on P.D., six factors were considered. These factors create a framework which evaluate and examine the method to achieve the best result are listed below:

1) Innovation and transferability (progress), 2) Ethical standards and social equity (people), 3) Environmental quality and resource efficiency (planet), 4) Material, 5) Economic performance and compatibility (prosperity), 6) Contextual and aesthetic impact (proficiency) are factors. (Fig.4)

Innovation and Transfer Ability-Progress

“While some areas of design pay at least service to people’s participation, the question of how participation is being negotiated and defined (and by whom) is fundamental to distinguishing P.D. from the more common approaches.”(Robertson & Simonsen, 2012)

Listening to what people say and what they want is the first and the most important stage of P.D. at the first step, designer called bazaar delegates to consult about shortage of bazaar. Some critical approach which should be considered in design, were determined during discussion with delegates.

Then the shortages categorized. These categories made the design strategies which focused on three principles that distinguish design approaches To participatory design:

Deep commitments to democracy and democratization;
Discussions of values in design and imagined futures;

How conflict and contradictions are regarded as resources in design.

“P.D. projects are always driven by ongoing and systematic reflection on how to involve users as full partners in design and how this involvement can unfold throughout the design process“ (Robertson & Simonsen, 2012) Design processes that involve user participation concern issues of representation in the early stages of design, when users’ needs and expectations are being expressed.

Integration of natural and economical chains results in a dynamic framework. Natural cycle consists of making benefit of presence of water for aesthetical features as well as irrigating agricultural and floral areas.

In addition, paying attention to bazaar settlers as another living part of the bazaar has resulted in a special type of social management. Such a social management is achieved by encouraging people to take part in cultural-economical activities intended for the rehabilitated old bazaar. Marketers as the wealthy class of population, with historical power in Iran’s political changes, can also be considered as a support for achievement of this goal.

Designer strive to learn about the practices and contexts of those

who will use design, while end-users and other participants in the process strive to learn about possible options.” Mutual learning throughout the process provides all participants with increased knowledge and understandings: Potential users about what is being designed; designers about people and their practices; and all participants about the design process, its outcomes and how both can influence the ways we live and the choices we can make.”(Robertson & Simonsen, 2012)

Ethical Standard and Social Equity-People

Design should be understood as a social activity; it is the community that defines a given domain of design and environmental intervention and what it means to accomplish it successfully. One of the most difficult factor in P.D. is to ensure that people continue long enough through the development of new environment to fully explore the mutual learning and to both reflect on and otherwise evaluate the process and its outcomes.

Considering the current problems in environment from simplest to the most complicated and overcoming the problems can guaranty that people continue long enough through the development of new environment.

Understanding new environment will be used, as active participants in the design project means that the process are more likely to be accepted and sustained.

Shortages of the existing bazaar are as following:

Lack of facilitating connections across the water way. At present, bazaar residents have used blocks over the water way to satisfy their pedestrian needs.

Lack of rest spots for buyers specifically the elderly.

Negligence to settlers of the old bazaar which has resulted in lowering visual quality of their living place.

Accessibility of walkways for vehicles which is a threat for pedestrians and can destroy the flooring.

Negligence to religious places for people who are mostly religious.

Such deficiencies are considered to be solved in the design:

Provision of linking paths over water path beneath which filters and water treatment systems are located.

Provision of resting spots, public fountains, public telephones, and alms box-related to the religious spirit of the city.

Trans-function of historical part of the bazaar from storing buildings to the center of handicrafts and cultural supply run by the locals.

Prohibition of motor-vehicle traffic through the bazaar, except for emergencies, and provision of motor-vehicle access from the back end.

Provision of an open area with the same design as bazaar in front of the mosque in order to form a plaza to the mosque. (Fig.5)

Environmental Quality and Resource Efficiency-Planet

Shortages of the existing bazaar are as following:



Fig.5: Provision of an open area in front of the mosque in order to form a plaza to the mosque as the delegate's request

Negligence to the green spaces and planting patterns.

Lack of a proper irrigation system. At present, irrigation is done manually by making water barriers.

Negligence to line of sight. Existence of tall boxwoods which has obstructed the sight line.

Negligence to the floral diversity of Mahallat, as a principal flower exporter of Iran.

Such deficiencies are considered to be solved in the design:

Incorporation of a landscape design which considers the waterway as well as development of a variety of plants in order to variegate and brighten the ambience. (Fig.6)

Development of inclined flower beds, provision of sound irrigation for trees, and proper design of water passages between flower beds. (Fig.6)

Omission of boxwoods (which are not local plants and grow in most parts of Iran), substituting local plants of shorter height.

Use of various flowers at the least cost –due to the potentials of the region- supported by marketers.

Materials

“Exploring practices that involve the use of actual technologies offers P.D. practitioners valuable opportunities to understand the fundamental ways in which these, too, rely on the material and social circumstances at hand.” (Robertson & Simonsen, 2012) Using local materials and technologies in designing new environment can build trust in participating groups.

Enjoying from great Travertine mines, Mahallat is the biggest provider of this stone in Iran. Because of this local opportunity, which results in abundance as well as cost-effectiveness of Travertine, this material is proposed for the main flooring, inclined flower beds, cubic seats, curbs and canals. To reduce cost the existing white travertine flooring is polished and



Fig.6: Bazaar in 2012

preserved. The choice of white color is proposed to brighten the bazaar's space, in contrast to trees' shadow on the bazaar.

Economic Performance and Comp Ability-Prosperity

Business dictionary define economic performance as an assessment for an organization of its success in areas related to its assets, liabilities and overall market strength.

The P.D. allows joint ownership of the development process through Participation can also modify previously economical chain and the users can benefit from new economical chain." According to the fundamental principles in P.D., each participant receives inducements from the collaboration in return for which he makes contributions to the "coalition", contributing in this manner to a successful design."(Vimarlund & Timpka, 1998)

An important discussion is the fact that participant will continue his participation. Consequently, as soon as the satisfaction begins to increase, his contributions also increase. Shortages of the existing bazaar are as following:

- Shortages in urban scale;
- Negligence to settlers in terms of their role in trade chain;
- Negligence to vendors as low-income sellers;
- Negligence to bazaar-relevant traditional jobs such as guards, servants, porters, etc;
- Shortages beyond the urban scale.
- Lack of proper surface water management including the quality of outgoing water;
- Lack of a program for night time activities in order to raise the bazaar's income;
- Negligence to tourist attraction potentials of the bazaar.

Such deficiencies are considered to be solved in the design:

- Regeneration of historical market by settler's participation.

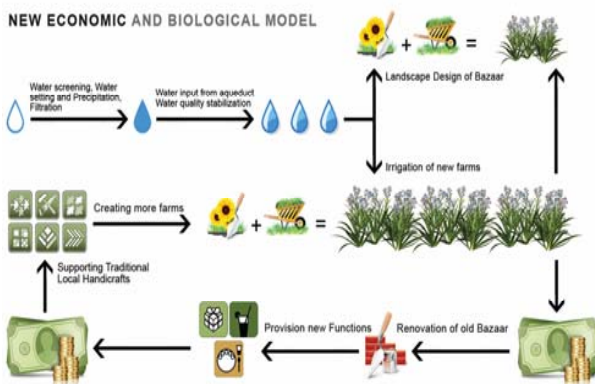


Fig. 7: New Economic and Biological Model Based on P.D.

Establishment of market stalls for vendors in a Brownfield area next to mosque within the main market.

Forbidding vehicular traffic within the bazaar, providing employment for handcart porters (approximately 5 people). The vehicular loading is only possible at the back end of the market which is predicted in urban design.

Provision of filters and sediment ponds in order to provide refined water used for irrigation purposes.

Provision of night activities' areas such as traditional restaurants and teahouses as well as guesthouses, authorized by settlers.

Development and management of national and international tourist attractions and provision of trade of handcrafts and cultural productions. (Fig.7)

Contextual and Aesthetic Impact-Proficiency

Visual attractions of existing Mahallat bazaar has being neglected for years. New buildings have been constructed without a unique local architectural pattern. In landscape design of bazaar, it is firstly tried to arrange such disorders, enabling hidden natural attractions to reappear. Water as a ritual element and the symbol of purity is integrated with plants as symbols of cultivability and happiness in Persian culture to create a unique ambience. (Fig.8)

Shadow, another cultural-architectural element, is lived up under the trees since the bazaar is roofless. Side facades are renovated based on traditional local architectural patterns in order to create a unique landscape in Mahallat city. (Fig.9)

CONCLUSION

The main concern of P.D. is to understand how design processes can be based on participation of the people affected by the decisions. To examine and predict the affects a framework should be considered. The basis of this framework emerges of



Fig. 8: Making benefit of presence of water for aesthetical features as well as irrigating agricultural and floral areas.

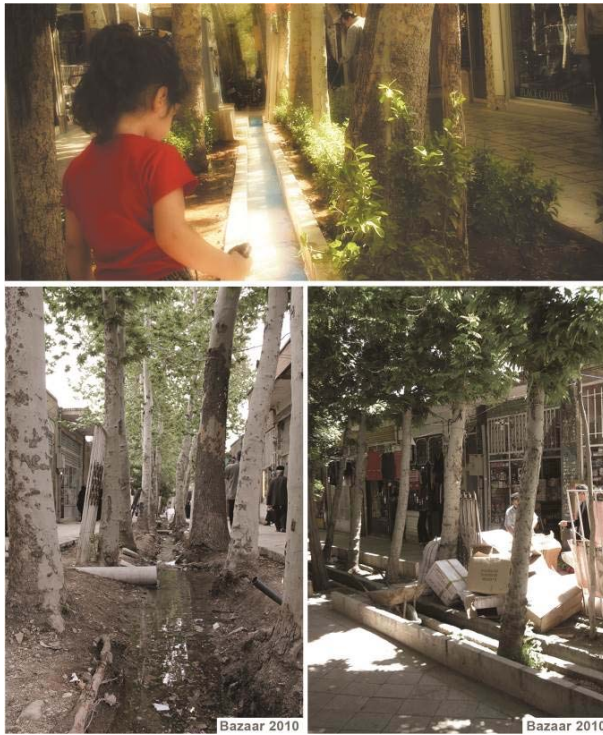


Fig. 9: Up:Bazaar in 2012, Down:Bazaar in 2010

people's need or problem.

Participation provides knowledge that could not be anticipated at design time, but rather can only be produced at use time in the context of solving problems. P.D. process that aims to integrate new information is required for sustainability. From the perspective of the P.D model.

By supporting participation, designers address the fundamental challenges for P.D to invent and design a culture in which all participants in collaborative design processes can express themselves in personally meaningful activities. In the case of bazaar in Mahallat, delegates and other people felt free to express their feeling and talk about their need and problems. People monitored the process of design and construction. Design modified by the people's point of view as possible.

Regeneration of bazaar revive some hidden quality. Social justice, economic wellbeing for local settlers or citizens, respect for nature, reviving local traditions, and respect for

holy places like the mosque and the Saqakhaneh are examples of sustainable design instances. All these resolutions bring spirituality to the society. Considering local residents and utilizing their knowledge and experience is the only sure way to represent the uniqueness of the bazaar. Social and economic cycle of the bazaar but also boost its tourism industry, producing new employment opportunities for the settlers.

ACKNOWLEDGMENT

This paper is based on the first author's Ph.D. thesis in the Science and Research Tehran branch of Islamic Azad University, Tehran, Iran, which was supervised by Dr. Hossein Zabihi and advised by Dr. Hamid Majedi.

The landscape design of bazaar was designed by Shahab Mirzaean Mahabadi and Neginshahr consultant engineers was project manager as well as urban designer of Mahallat.

REFERENCES

- Baek, J. S., & Lee, K. P. (2008). A participatory design approach to information architecture design for children. *Co-Design*, 4(3), 173-191.
- Bjerknes, G. & Bratteteig, T. (1995). User Participation and Democracy. A Discussion of Scandinavian Research on System Development. *Scandinavian Journal of Information Systems*, 7 (1), 73-98.
- Bjørn-Andersen, N. & Hedberg, B. (1977). Designing information systems in an organizational perspective. *Studies in the Management Science: Prescriptive Models of Organizations*, 5, 125-142.
- Goldenberg, A. (1995). *Participatory Design*. Retrieved June 15, 2013, from <http://www.dcs.ed.ac.uk/home/ag/proposal/node7.html>.
- Iversen, O. S., Halskov, K., & Leong, T. W. (2012). Values-led participatory design. *CoDesign*, 8(2-3), 87-103.
- Kuiper, G. (2007). Participatory planning and design in the downtown eastside: reflections on Global Studio Vancouver. *Australian Planner*, 44(2), 52-53.
- Luck, R. (2003). Dialogue in participatory design. *Design Studies*, 24(6), 523-535.
- Robertson, T., & Simonsen, J. (2012). *Participatory Design*. Routledge international handbook of participatory design, 1.
- Sanders, E. B. N. (2002). *From user-centered to participatory design approaches*. Design and the social sciences: Making connections, 1-8
- Vimarlund, V., & Timpka, T. (1998). *Participatory Design in Economic Terms: A Theoretical Discussion*. In PDC (11-17).