# **Participatory Design**



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#### Abstract

Participatory design is the involvement of people in the creation and management of their built and natural environments. Its strengths are that it cuts across traditional professional boundaries and cultures. The activity of participatory design is based on the principle that the built and natural environments work better if citizens are active and involved in its creation and management instead of being treated as passive consumers. The main purposes of participation are to involve citizens in planning and design decision-making processes and, as a result increase their trust and confidence in organizations, making it more likely that they will work within established systems when seeking solutions to problems; to provide citizens with a voice in planning, design and decision-making in order to improve plans, decisions, service delivery, and overall quality of the environment; and to promote a sense of community by bringing people together who share common goals. A wide range of techniques is available to designers. Some of these techniques have become a standard method used in participatory processes, such as interactive group decision-making techniques that take place in workshops. At the same time, designers have effectively used field techniques such as questionnaires, interviewing, focus aroups and group mapping to acquire information. In general, many of the techniques facilitate citizen's awareness to environmental situations, and help activate their creative thinking. The techniques can be classified as awareness methods, group interaction methods, and indirect methods.

Keywords: Democracy, Decision-making, Conflict Resolution, Citizen Participation, Evaluation.

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### PARTICIPATORY DESIGN

Participatory design is an attitude about a force for change in the creation and management of environments for people. Its strength lies in being a movement that cuts across traditional professional boundaries and cultures. Its roots lie in the ideals of a participatory democracy where collective decision-making is highly decentralized throughout all sectors of society, so that all individuals learn participatory skills and can effectively participate in various ways in the making of all decisions that affect them. Increasingly complex decision-making processes require a more informed citizenry that has considered the evidence on the issue, discussed potential decision options and arrived at a mutually agreed upon decision (Abelson et al., 2003).

Today participatory design processes are being applied to urban design, planning, geography as well as to the fields of industrial and information technology. Research findings suggest that positive outcomes are associated with solutions being informed by users' tacit knowledge (Spinuzzi, 2005). More recently, another factor has been suggested as being partly responsible for favorable participatory design outcomes, which is described as collective intelligence (Fischer et al., 2005). Atlee (2003) describes collective intelligence (CI) as a shared insight that comes about through the process of group interaction, particularly where the outcome is more insightful and powerful than the sum of individual perspectives. When people align their individual intelligences in shared undertakings, instead of using their intelligence to undermine each other in pursuit of individual status, they are able to generate collective intelligence. Collective intelligence has been suggested as being partly responsible for favorable participatory design outcomes (Fischer et al., 2005).

Public participation builds on classic democratic theory: that those citizens who are affected by decisions should have a say in decisions that affect their lives because they will become better citizens. Participation is effective when, the task is conceptualized in terms of what is to be accomplished when the need is acknowledged to involve citizens. And it is often the physical and environmental projects that citizens see directly affecting their lives. To create a condition in which people can act on their own environmental needs, in which they can make the distinction between the experts technical and aesthetic judgment, requires a change in the consciousness of both people and professionals.

Citizen participation in community decision-making can be traced as far back as Plato's Republic (Plato and Grube, 1992). Plato's concepts of freedom of speech, assembly, and voting, and equal representation have evolved through the years to form the basis upon which the United States was established. Some historians support the notion that Americans have always wanted to be part of decisions affecting their lives. Billington (1974) contends that freedom and the right to make decisions on the early American frontier was the shaping force in grass roots democracy, i.e., people's right to participate. As many frontier villages grew in population it became increasingly difficult for every citizen to actively participate in all community decisions. To fill the void in the decision making process, people began to delegate their involvement to a representative, which grew into the system of selecting officials by public elections, and the increase of volunteer associations and organizations (de Tocqueville 1959). Although public participation can be approached and defined in many different ways, this discussion is concerned with participation aimed at issues involving community decision-making.

Colfer et al. (1999) argue for the importance of local people in involvement, decision-making, and sustainable management. The debate about balancing local with national interests, particularly in the case of public lands, is a discussion about power and is in many situations the central theme in sustainability. Although social norms vary in different cultures, a participatory approach helps people understand the complex interweaving of environmental factors, and provide insights into situations so familiar that their characteristics are not perceived. The form of participation is important, because it requires careful consideration of communication behaviors throughout the process to bring about knowledge sharing and learning by all participants (White, Nair and Ashcroft, 1994).

Community participation is commonly associated with the idea of involving local people in social development. The most important influences come from the Third World community development movement of the 1950s and 1960s, western social work, and community radicalism (Midgley, 1986). The plans of many developing countries emphasized cooperative and communitarian forms of social and economic organization, stressing the values of self-help and selfsufficiency (Worsley, 1967), advocating that the poor and the oppressed should be mobilized to promote social and economic progress. Current community participation theory suggests that politicians and bureaucrats have exploited ordinary people and that they have been excluded from the community development process. Its leading proponents are found in international agencies such as the United Nations, the World Health Organization and UNICEF. The emergence of community participation theory as an approach to social development is an outgrowth of the United Nations' popular participation program that required the creation of opportunities for all people to be politically involved and share in the development process.

### DEMOCRACY AND PARTICIPATION

Many authors describing concepts of participation point to connections between theories of democracy and theories of participation in design and planning (Fagence, 1977). Democratic theory has always stressed citizen participation in public decision-making. With few exceptions, however, democratic theory has traditionally encouraged "low quality citizen action by making a fetish out of only one form of political participation - voting" (Pranger, 196, p. 30). In reality, democracy was perceived as a procedure for electing government leaders.

Despite the insistence on "citizen rule" in the ideology of democracy, large segments of the population in all modern nations are in reality powerless to significantly affect the political decisions, policies, and actions of their societies. The concept of participatory democracy, which emerged in the 1960's, was a rediscovery of traditional democratic philosophy (Olsen, 1982).

The roots of the participatory process can be found in the classical writings of Jean Jacques Rousseau and Robert Stuart Mill. Rousseau's ideal political system is designed to develop responsible individual and social action through the effect of the participatory process. Rousseau believed that participation performs a vital educational effect, teaching people to be informed, interested and involved citizens who have a sense of control over their lives and concern for the broader community (Pateman, 1970).

The essence of democracy itself is now widely taken to be deliberation, as opposed to voting, interest aggregation, constitutional rights, or even self-government. The deliberative turn represents a renewed concern with the authenticity of democracy, which is engaged in by competent citizens (Dryzek, 2000). To increase the effectiveness of our democracy, Atlee (2003) advances

the idea of Citizen Deliberative Councils (CDC), which are small face-to-face aroups of diverse citizens that convene for short periods of time to consider some public concern. Deliberation, states Atlee, is a form of dialogue with the intention of producing decisions, policies, recommendations or collective action. Deliberation involves a careful consideration of an issue, examining the facts, viewpoints and consequences related to it. Unlike an open participatory forum, a CDC is an organized group of people selected such that their collective diversity reflects the diversity of the larger population from which they were drawn. Unlike public hearings, which are often aimed at airing views, citizen deliberative councils are small, usually between ten to fifty people, and generate a specific product such as a recommendation, which would generate further community dialogue. Specific methods using a deliberative approach include citizens' juries, planning cells, deliberative polling, consensus conferences and citizens' panels. Individual methods may differ with respect to participant selection, the number of participants the type of input obtained or the number of meetings. Common to all, however, is the deliberative component where participants are provided with information about the issue being considered, encouraged to discuss and challenge the information and consider each other's views before making a final decision or recommendation for action (Abelson et al., 2003).

Recently, many public figures have made references to democratic participation with words like community and citizenship and endorsed concepts like community building. New organizations such as the International Association for Public Participation and the Civic Practices Network have identified communities and examples of cutting edge practices in community participation. Yet at times participation has been distorted to mean that everything has to be checked with everyone before any decision is made. Juan Diaz Bordenave (1994) describes this as a disease called participationitis. Participation has also come to mean attendance at ongoing public hearings and constant meetings or donating money to a popular campaign.

Mill (2001) argues that participation in national government is only effective if the individual has been prepared for participation at the local level. It is at this level that people learn self-governance. The reemergence of the ideal of a participatory democracy awakened in many people a concern for public issues outside their own immediate lives.

Westergaard (1986) viewed participation as collective efforts of those citizens traditionally excluded from control to increase their ability to manage resources and institutions. Brager, Specht, and Torczyner (1987) defined participation as a means to educate citizens and to increase their competence. It is a vehicle for influencing decisions that affect the lives of citizens and an avenue for transferring political power. The World Bank's Learning Group on Participatory Development (1994) defines participation as a process whereby stakeholders influence and share control over development decisions and resources which affect them.

All the central features and principles of a participatory democracy can be combined into the following definition: In a participatory democracy, collective decision making is highly decentralized throughout all sectors of society, so that all individuals learn participatory skills and can effectively participate in various ways in the making of all decisions that affect them. Particularly crucial in this conception of participatory democracy is the insistence that full democratization of decision-making within all local and private organizations is a necessary prerequisite for political democracy at the national level. Building a participatory democracy also means building an increased sense of community among the population at large. When people have a strong sense of community, they are more likely to respond positively to efforts to solve community problems, and will be willing to contribute their time and resources to meeting community needs (Morris, 1996). The process is a stabilizing rather than a destabilizing force. Increased participation efforts do bring in more people who initially have a lower sense of community than is typical for those who are politically involved. But these efforts also develop the participants' sense of community for as long as they remain involved (Thomson et al., 1994). Planners and architects facilitating a collaborative design process is described as "co-design" by King (1983), with such benefits as creating events that allow for social interaction and developing a sense of community through face-toface interactions, and publicly affirming community values.

Because participatory design (PD) practitioners are so diverse in their perspectives, backgrounds, and areas of concern, there can be no single definition of PD. However, PD practitioners share the view that every participant in a PD project is an expert in what they do, whose voice needs to be heard; that design ideas arise in collaboration with participants from diverse backgrounds; that PD practitioners prefer to spend time with users in their environment rather than ''test'' them in laboratories. Participatory design professionals share the position that group participation in decision-making is the most obvious. They stress the importance of individual and group empowerment. Participation is not only for the purposes of achieving agreement. It is also to engage people in meaningful and purposive adaptation and change to their daily environment.

Similarly, the unique qualities of places where planning and development occur can play a critical role in the process as well (Manzo, 2006). Citizens' attachment to places in their community can help to inspire action because people are motivated to protect and improve places that are meaningful to them. Sense of community has been linked to place attachment at the individual and community scale. Rivlin's (1987) study of a Brooklyn neighbourhood found that attachment to the neighbourhood served as a precondition for the development of a sense of community among neighbours. Both sense of community and place attachment are linked to participation, consequently sense of community has become a key planning goal (Morris, 1996; Perkins, Brown and Taylor, 1996). Other studies in participation conducted during the past decade have referred to such benefits as citizen empowerment, increasing social capital and promoting a sense of community (Guy, 2002).

Advocates of participatory action research (PAR) distinguish between research for the people and research by the people, where participatory methods have had parallel developments in such fields as public health, resource management, adult education, rural development, and anthropology. Research is seen not only as a process of creating knowledge, but simultaneously, as education and development of consciousness, and of mobilization for action. Action research can be described as a family of research methodologies, which pursue change and understanding at the same time. It is thus an emergent process, which takes shape as understanding increases.

The effectiveness of community organizations, social relationships and mutual trust is referred to as social capital. It is a measure of the social networks in a community with such indicators as civic education, community leadership, volunteerism, community pride, government performance, and capacity for cooperation (Bens, 1994). Therefore, social capital, along with place attachment can be perceived of as community assets that can be created

through community participation (Kretzmann and McKnight, 1993). A community organizing approach described as Asset Based Community Development (ABCD) sees citizens as assets and as co-creators of their community. Citizens discover, map and mobilize the assets that are within the people in the community, as well as informal associations and formal organizations. Active community participation is key to building an empowered community. Empowerment is where people, organizations and communities have control over their affairs (Rapoport, 1987). Communities seeking to empower themselves can build active citizen participation by welcoming it, creating valuable roles for each person to play, actively reaching out to build inclusive participation, and creating and supporting meaningful volunteer opportunities. Studies of empowerment demonstrate that such power is achieved on the strength of interpersonal relationships among those working towards a common goal (Perkins, 1995). Shiffman states that, "community development is not simply rebuilding...it is... about social and economic justice" (PICCED, 2000). Speer and Hughey (1995) claim that shared values and strong emotional ties are more effective bonding mechanisms than reactions to community issues alone.

#### **DIFFERENT PERSPECTIVES**

In an alliance called Computer Professionals for Social Responsibility (CPSR) participatory design is described as an approach to the assessment, design, and development of technological and organizational systems that place a premium on the active involvement of workplace practitioners in design and decision making processes. CPSR advocates co-designing new opportunities for exercising creativity; increasing worker control over work content, measurement and reporting; and helping workers communicate and organize across hierarchical lines within the organization and with peers elsewhere. They recognize that workers are a prime source of innovation, that design ideas arise in collaboration with participants from diverse backgrounds, and that technology is but one option in addressing emergent problems (Sanoff, 2007).

The Participatory Geographies Working Group (PyGyWG) reflects a surge of interest in the study and application of participatory research methods such that geographic research should have benefits for those affected by the social, economic and environmental issues, which are at its heart. A range of participatory principles underpins participatory geographies, such as a focus on empowerment and collective action where participatory work should be proactively inclusive with practitioners actively attempting to include and seek out people who are often ignored or do not take part in community development or research processes. Participatory geographers, therefore, often seek to work in bottom-up ways with the goal of actively engaging and benefiting groups outside academia so that traditional barriers between 'expert researcher' and 'researched community' are broken down (PyGyWg, 2006).

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Particularly crucial in the conception of participatory design is the idea of democratization of decision-making within all local and private organizations as a necessary prerequisite for political democracy at the national level. Colfer et al. (1999) argue for the importance of local people in involvement, decision-making, and sustainable management. The debate about balancing local with national interests, particularly in the case of public lands, is a discussion about power and is in many situations the central theme in sustainability.

### SOCIAL SUSTAINABILITY

In recent years, participation in interactive governance and public involvement in the planning of development projects have been regarded as fundamental elements of social sustainability and the delivery of sustainable development policies (Colantonio, 2007). As Rydin and Pennington (2000) note, the desirability of public involvement is part of a tradition, which seeks to make the planning processes transparent and to expand the scope of public involvement in the policy delivery process. The overarching concepts at the core of social sustainability include basic needs and social wellbeing, social capital, equity and social and cultural dynamism (Bramley et al., 2006). Korten (1990) describes development as a process by which the members of a society increase their personal and institutional capacities to manage resources to produce sustainable and equitable improvements in their quality of life.

The importance of participation for the social sustainability of communities and places is that participation allows for communities to express their needs and aspirations, which subsequently impacts the policy-making processes (Healey, 1999). Participation also focuses on the democratic right to be involved in the public policy process. A more democratic participation can raise awareness of the cultural and social qualities of localities at the policy-making stage and avoid conflicts that may emerge in policy implementation later (Rydin and Pennington, 2000).

As the level of participation increases, the capacity for learning also rises for all stakeholders and participants including researchers, experts, and policy makers. This shift in emphasis from gathering data to increasing learning has been a trend in international participatory development theory and practice over the last twenty years (Seitz, 2001).

## **EVALUATION**

The aim of any evaluation is to identify where change has and has not occurred, in order to make future work more effective. A good evaluation assesses what has been achieved against what was intended and explains why this happened in order to derive some lessons for future work (Graessle and Kingsley, 1986). Learning is at the core of any evaluation. For community participation projects, evaluation is a learning process for everyone involved. It is an interactive and egalitarian process, which must value all contributions and develop a sense of empowerment (Laurie, 1994).

Evaluation is not just a measure of change but can be a tool for change, and the methods must fit with the purposes, which is about creating change through participation, working with people, rather than doing things for or to them. A guiding principle therefore is to ensure that the methods used do not undermine the work that has occurred. Evaluation, in its simplest form, is a continual process of reviewing what has occurred and looking for ways to improve it (Laurie, 1994). The most comprehensive attempt to develop an evaluation framework is based on a theory of public participation, which identifies two key principles: fairness and competence, against which participation processes can be judged (Webler, 1995). The fairness goal requires the equal distribution of opportunities to act meaningfully in all aspects of the participation process including agenda setting, establishing procedural rules, selecting the information and expertise to inform the process and assessing the validity of claims.

The competence goal deals more with the content of the process. A competent process ensures that appropriate knowledge and understanding of the issue is achieved through access to information and the interpretation of the information. Competence also requires that appropriate procedures be used to select the knowledge that will be considered in the process (Abelson et al., 2003).

#### CONCLUSION

The purposes of participation have been more modestly defined to include information exchange, resolving conflicts, and to supplement planning and design. Participation reduces the feeling of anonymity and communicates to the user a greater degree of concern on the part of the management or administration. With it, residents are actively involved in the development process; there will be a better-maintained physical environment, greater public spirit, more user satisfaction and significant financial savings.

An important point in the participatory process is individual learning through increased awareness of a problem. In order to maximize learning the process should be clear, communicable and open. It should encourage dialogue, debate and collaboration. Thus, participation may be seen as direct public involvement in decision-making processes where people share in social decisions that determine the quality and direction of their lives. This requires the provision of effective communication media in order to provide suitable grounds for user participation in designing.

Good planning for community participation requires careful analysis. While it is critical to examine goals and objectives in planning for participation, there are various techniques that are available, each of which performs different functions. In the last several decades, there have been numerous efforts to accumulate knowledge about various participation techniques, as well as the function that these techniques perform. Citizen surveys, review boards, advisory boards, task forces, neighbourhood and community meetings, public hearings, public information programs, interactive cable TV, have all been used with varying degrees of success, depending on the effectiveness of the participation plan. Since community participation is a complex concept, it requires considerable thought to prepare an effective participation program (Sanoff, 2001).

Our collective journey to find a way to live harmoniously with each other and within our social, economic, and ecological environments is a quest for sustainability. Community participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers (Sanoff, 2000). Many people view sustainability as that ideal goal or state towards which we strive (Brown and Peterson, 1994) and consequently, the idea of sustainability as a process has become commonplace. Although there are many themes and perspectives regarding sustainability it is not absolute and is dependent on social values. One perspective is social sustainability, which focuses on the need for changes in institutions and current social values. Social sustainability encompasses human rights, labour rights, and corporate governance. Similar to environmental sustainability, social sustainability is the idea that future generations should have the same or greater access to social resources as the current generation. Social resources include ideas as broad as other cultures and basic human rights. Social sustainability is in essence about a shift from focusing more or less exclusively on the needs of the individual, community or country, to the needs that will meet the best interests of the whole. Therefore, a major activity of a democratic community is developing the attitudes, skills, process and institutions needed for people to engage creatively with their diversity (Atlee, 2003). Consequently, new tools are needed to address the environmental challenges of the present and future.

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