

SUSTAINABLE COMMUNITY DESIGN – BENNY FARM / MONTREAL AS A SAMPLE

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1. Introduction

Since the middle of the 1980's the concept of sustainability has become a guiding principle for human settlements at all levels of governance. Global, national, regional, local and even community levels are the basic horizontally organized social environments where the application of the principle of sustainability is not only an opportunity but also a requirement for a better future. There is no doubt that preconditions of implementing this rule may change from one country to another and over time. Needs and opportunities of each nation may be different and may require handling in different ways. Under these conditions, the very rule of the universality of sustainable development may become questionable. Because such policy preferences have to be conceived necessarily as culture-specific phenomena. This does not mean that nations do not have much to share. As in the case of sustainability and affordability in housing, experiments of other countries, their successes, and even their mistakes can be used as extremely useful didactic materials. That is the reason why, The United Nations has recently adopted a policy to submit to the world public opinion "best practices" in housing, urban development and environmental protection in order to provide an opportunity to the nations to share their experiences in relevant fields. Benny Farm is one of these examples. It shows us even how low income families can be brought together in order to enjoy the opportunities provided by the collective living.

The design decisions that are made without regard to the environment, are potentially devastating, and can not be corrected by technical fixes offered later by design consultants. Therefore, a design approach should be maintained for creating the buildings that have to be responsive to environmental forces by investigating problems in different contexts and at different scales – those of culture, climate, site, building cluster, building, building zone, and building component. This approach helps the architect avoid the dilemma of designing the elegant element that responds beautifully and efficiently yet neglects inefficiencies at another scale. Design in this sense requires reestablishing some connections that began coming loose in the 17th century and severed by industrialization. The initial connection to be reestablished is that between people and nature; and next is that between art and science. Design is also the place where society and technology meet.

Design in this larger sense is clearly not the work of a single individual but, an interdisciplinary team effort – architects, landscape architects, planners, scientists, artists, engineers, social scientists, as well as those affected.

This work looks at the effects of community participation on housing design decisions together with the environmental precautions and tries to explain these items on a realized Project named as Benny-Farm in Montreal, Canada.

2. Sustainability

The public acceptance for the term “sustainability” came when the World Commission on Environment and Development (WCED) based its proposals mostly on sustainable development. The WCED defined sustainable development as “Humanity has the ability to make development sustainable-to ensure that it meets the needs of the present without compromising the ability of the future generations to meet its own needs” (World Commission: 1987:8).

It might be said that this means living on the interest yielded by the natural systems rather than on the capital. The ecological understanding developed over the last few decades makes it clear that, the needs of humans in an environment can only be met where the needs of other species are also met. This requires maintaining the integrity of nature’s life-support processes (Lyle, 1994:3,4).

In addition to seeking a compromise between the natural environment and the pursuit of economic growth, the parameters of sustainable development include structural, social and cultural dimensions. In other words, sustainable development does not simply mean a call for protection of the environment. It calls for an overall economic development that provides fairness and opportunity for people, without further destroying the world’s finite natural resources and carrying capacity.

For achieving a sustainable environment in this sense, fundamental changes are required in social structures, institutions and individual behavior (Maclaren, W. Virginia). The UN Center for Human Settlements defines sustainable development as: “sustainable development means improving the quality of life for all. It cannot be achieved in a world where more than one billion people live in absolute poverty. It is unacceptable and even inhuman to talk about long term problems of survival for such a large proportion of humanity.”

This suggests that sufficient investment must be made in education and improvement in the quality of life and in the built environment so as not to create a social debt for future generations. There is still an absolute increase in world’s population. A growing share of the world’s population will live in urban areas, global urbanization will continue. This rapid urbanization will continue to bring humanity great many economic, social, cultural and environmental problems.

From a macro-economic point of view, eradication of poverty, is the precondition of finding a definite solution to the housing problems of low-income people in developing countries. Within this framework, many of the Millennium Development Goals present promising opportunities to reduce global poverty and improve the quality of life for the extensive poorer geographical parts of the world. Goal 7 in the document called the Millennium Development Goals aims to improve the living conditions of 100 million slum dwellers by 2020. Current estimates suggest that, at present, there are nearly one billion people living in slum conditions (Payne, 2005:137 and the UN, 2003).

The main objectives deriving development policy for the coming decades have been defined in detail by the heads of State and Government in Johannesburg in 2003 which not only aim to seek to reduce by fifty percent by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation, but also to realize a significant improvement in the lives of at least 100 million slum dwellers.

For sustainable urban environments, appropriate policies and instruments should be developed, designed and implemented, which must meet certain criteria that are ecologically and economically sustainable. Providing shelter for low income people is one of the important goals of the economy.

3. The Issue of Housing

The issue of housing has close relations with deep human and cultural values. The minimum standards for housing, building and planning which specify what should be built, and, very often, they go a long way to determining *how* the subdivision, dwelling, or equipment should be built as well. Almost all official codes, in the wealthiest and poorest countries alike, require that a building plot be fully equipped with modern utilities, and even with paved streets and sidewalks, before it may be sold. But, an important item is usually neglected: Is that building appropriate for its users needs or not? This can be answered only by analyzing the alternative meanings attached to the word “housing” and identifying the different value systems underlying the problem of standards.

Housing may be regarded as a *commodity* or product, at the same time, it can be described as an *activity* or a process. So, the activity of housing is difficult to conceive without including the houses promoted, built or used. The most important “product” of any human activity is, of course, the satisfaction of needs. There are activities of people which are relevant to personal life; that is, those which can act as vehicles for personal fulfillment, assuming that fulfillment and maturity depend on personal responsibility for making decisions that shape one’s own life. Housing is one such activity which provides the conditions for well-being of people: the cultivation and preparation of food, the clothing of ourselves, the care of our bodies, the procreation and nurture of children, and the sheltering of these activities. Thus, if housing is treated only as a commodity, manufactured and packaged product, it will be insufficient or inefficient. The ideal housing that should be striven for is a model which conceives housing as an activity in which the users – as a matter of economic, social and psychological common sense – are the principal actors.

If there were simple or invariable correspondences between material products and human satisfactions (and frustrations) there would be no issue and the problem of standards would be easily resolved. However, there is a very wide margin of variability between material products and human feelings and behavior.

If local decisions are made by central bodies, those decisions are bound to implement more or less standardized programs and projects for particular social groups in particular places and at particular times. But if local decisions are made by local people, those decisions must be ordered and supported by institutionalized services which must be open to all, in all places and at all times, within the normative framework of those institutions.

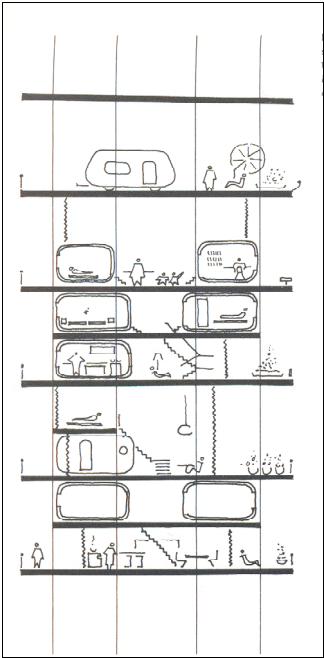


Figure 1. Reconfigurable construction (Bosma, 2000)

When the local or regional decision-making powers are centralized, system is closed or limited to few uses and, very often, to few users. The ability and flexibility of a housing market depends on the openness of the system at all levels of production, in order that the number and variety of producers and compatible and interchangeable products are maximized. In both material and human terms, the more open the system, the greater the potential benefits. The best results are obtained by the user who

is in full control of the design, construction, and management of his own home (Turner, 1972:148-175).

Habraken's ideas lead to architecture that is unfinished, to 'open architecture' or 'reconfigurable construction' whose use and experience is more important than form and appearance (See Figure 1). The focus on the underlying themes in 'the act of living' and the simple interest for facades of clearly demarcated building volumes anticipated contemporary theories on hybrid structures (Bouman, 1996:11-21).

Another important contributor to this kind of design, 'open architecture' is Herman Herzberger who also made this architecture well known, recognized and accepted. It can be noted that the basic idea of open architecture is: Rather than trying to provide complete buildings and urban settings to people, one provides only an open and incomplete architecture, which then could and would be finished and personalized by people (Neis, 2002:152). Besides these different kind of design approaches to mass housing, the cost is another important factor that has to be taken into consideration.

The easiest and most logical way to reduce housing costs is to make houses smaller. In reducing size, construction, heating and cooling, and general maintenance costs also go down (Friedman, 2005:75). Although higher density left interiors relatively unchanged, many builders and designers believe that average square footages must diminish in future housing. Demographic and settlement patterns dictate a more detailed look at interior layouts, with maximum appeal and function achieved through appropriate room sizes, internal relationships, and design that permits flexible use. Homebuyers in general are looking for comfortable, relaxed spaces for living. The desire to use the home as a means of expressing social status is common but the demand for the incorporation of style and individuality into smaller and more affordable homes is of major significance in today's housing market. The importance of eating and bathing has increased in societies and has heightened emphasis on the design of the kitchen and bath elements even in small homes. Contemporary households value and express the need for both spaces that can bring together and spaces that can isolate household members (Wentling, 1990:8,9).

4. Benny-Farm / Montreal as a Sample

The fact Canada has played a pioneering role in the preservation of nature and environmental protection as well as in rationalizing the planning processes for urban development and human settlements during the last three decades shows that both developing and developed countries have much to learn from its experiences.

Benny Farm is one of these examples. It shows us even how low income families can be brought together in order to enjoy the opportunities provided by the collective living. This project grew from its geographical, urban and historical context. The redevelopment of the Benny Farm site springs from the decline of its previous generation, and is also inspired by it. Benny Farm was developed in the 1940s to house the returning WWII veterans. This community shared a strong common experience and they identified with and appropriated the space of Benny Farm. As a result of this and of its distinctive planning, Benny Farm formed an urban enclave, a place and a community conscious of itself, distinct from the rest of the Notre-Dame-de-Grâce neighborhood where it is located. This shared vision of Benny Farm as more than a piece of real estate, as a collective asset devoted to a public mission, has been historically borne by these veterans.

As the veterans aged, moved on or passed away, the site fell into decline. For a while, the authorities in charge of the site planned complete demolition, to sell the land for private development. As a result, buildings gradually became vacant, maintenance was neglected, and demolition began to be seen as the only reasonable option.

The local community recognized the potential in the site and for more than a decade fought to preserve it. The opportunity latent in decline and failure – renovation - is an important element in a global and long-range concept of sustainability, and is central to the generation of this project.

In July 2002, Canada Lands set in motion a participatory process to draw up its redevelopment plan and in August 2002, a process comprising the following steps was put forward:

1. Drafting of principles and objectives by the Task Force
2. Preparation of design alternatives

3. Public presentation and public feedback
4. Preparation of the redevelopment plan
5. Community consultation on the plan
6. Discussions with municipal authorities
7. Validation by the Task Force

The Task Force was made up of ten individuals representing the various points of view that were being voiced in the community. It also included Canadian Land Cooperation's Vice-President for Real Estate, Eastern Region and an observer appointed by the City of Montréal. The group's mandate was to reach a consensus on guidelines for the redevelopment program. Green Energy Benny Farm project is developed by L'Oeuf. It is an unprecedented integration of buildings, infrastructure and landscape design in a community-driven housing development.

The design alternatives were unveiled at a public presentation. Nearly 400 people attended the public presentation. The presentation was followed by an Open House at Benny Farm during which members of the public could view the plans and speak with the architects and CLC representatives. The plans were then put on display for ten days at four public locations in the district as well as on the project Web site. A form was provided at each location and on the Web site so that the public could provide comments on each of the proposals. Nearly 300 forms were filled in and sent to CLC. After quantitative and qualitative analysis, a summary of the comments was presented to the Task Force.

Task Force held a number of meetings to study the design alternatives and public feedback. In addition, an independent firm assessed the cost of each of the proposals to make sure they were financially viable. Analysis of the strengths and disadvantages of each design helped guide the Task Force in formulating a set of recommendations regarding redevelopment of the site (<http://www.bennyfarm.org>). The Task Force adopted a set of principles that would guide its decisions at every stage of the process for preparing the plan:

1. **Integrated community:** Build, on the Benny Farm site, a community that blends harmoniously with the site's immediate environment and the neighborhood as a whole.
2. **Social balance:** Achieve a level of social diversity that reflects the community by ensuring a proper balance with respect to the site and its immediate environment.
3. **Inclusive community:** Consider the needs of those segments of the local population that have difficulty finding adequate housing or services which are essential to their quality of life.
4. **Adequate housing diversity:** Ensure that the needs and social diversity of the target populations translate into housing diversity and adequate tenure.
5. **Services that meet residents' needs:** Provide appropriate facilities and services to ensure the health, well-being and quality of life of NDG residents and those who will be living on the site.
6. **Building quality:** Ensure quality buildings that meet current construction standards are adapted to intended uses, provide adequate comfort and quality of life for those for whom they are intended and contribute positively to the value of the overall urban layout.
7. **Qualities of the urban environment:** Create a high-quality urban environment that makes optimum use of space with well-defined public and private areas, accessible public spaces, buildings that respect the size, density and architectural character of the surroundings and a significant amount of green space.
8. **The site's symbolic value:** Preserve the heritage and symbolic value of the Benny Farm site for neighborhood residents and Montrealers alike.
9. **The impact of redevelopment on the neighborhood:** Provide measures to alleviate the impact of increased activity on the site, notably in terms of traffic, parking, security and tranquility.
10. **Project feasibility:** Ensure all projects are economically sound, technically feasible, sustainable and completed within a reasonable timeframe.

The Task Force first confirmed that Benny Farm would continue to be used predominantly for residential purposes; housing targeted at low to middle income groups would take up at least three quarters of the site (<http://www.bennyfarm.org>).

Recognized as a financially viable and aesthetically sensitive contribution to sustainable neighborhood planning, Green Energy Benny Farm received Gold at the North American Holcim Awards for Sustainable Construction in 2005 and won bronze at the international 2006 Global Holcim Awards in Bangkok, Thailand.

Benny Farm project has a convincing scheme for utilizing integrated design to produce low-cost sustainable buildings, demonstrating a skillful integration of energy saving measures, water treatment procedures, as well as provisions for waste management. The work displays an ambitious social vision that exceeds the scale of individual interventions, aiming to effectively integrate stakeholders in the decision-making processes that decide the fate of the built environment.

Over the years, many people have contributed—in their own way and with great passion—to shape the project being put forward today; they include veterans, residents, members of community organizations and interest groups, politicians, representatives of municipal service departments, and professionals from various fields.

A wide variety of types and sizes of housing are proposed. Approximately 200 rental units in community projects will be allocated to segments of the population with the greatest needs: seniors, young families, single-parent families, and individuals with limited mobility. Remaining rental units are destined to a more varied clientele. Finally, approximately 200 home-ownership units will target young middle-income families. More than a third of the dwellings will be designed to accommodate people with limited mobility (<http://www.bennyfarm.org>).

The success of Benny Farm Project is related directly to the participation of its existent residents to the design process and the mutual dialog between the residents, technical professions and central and local governors which represents a good example for the approach of community design.

5. Conclusion

Both consciously and unconsciously, the design of housing is the ideal reflection of the values and aspirations of a culture. In addition, climate, geography and topography play a crucially important role in the design of sustainable housing. In general, the approach to the housing issue has to be taken into consideration in a broadest sense.

A main lesson to be taken from Canadian experience and the experiences of other countries may be giving to the consumers to have a say in the design and construction processes. Thus, they may have the opportunity to reflect their own tastes, values and preferences into the process. This is also a requirement of the principle of democratic participation. Such practices may help improving not only the quality of the environment but also the democratic culture of the people.

A second issue has something to do with the management of urban land. In view of the fact that the world is undergoing a tremendous change towards globalization and privatization, it is no longer likely to insist on the public ownership of land in urban centers. Rather, government and local authorities must make it sure that urban land must be used with maximum care for the public interest while meeting the needs of the private concerns to undertake sustainable and affordable housing. This requires not public ownership, but public regulation of the urban land, excluding land speculation definitely.

Community design can strengthen community ties, empower marginalized individuals and be a driving force behind renewed local economic development. As can be seen in the above example, across Canada, an increasing number of volunteer-based community organizations are taking direct action to restore degraded urban habitats and transform them into dynamic, ecologic and useful spaces. It must be emphasized in this connection, that the concern of the architect is a necessary precondition of improving the quality of environmental conditions but not enough to ensure sustainability. What is more needed is to get the whole range of stakeholders to participation the process of designing and building respectful to natural values.

The considerations of environment and sustainability have to be introduced into architectural education as well. The underlying premise is that education is a key factor of creating awareness and demand for sustainable buildings, and enhancing the ability of our future design professionals to deliver them.

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