



Community Centre Report

Buildings Team for the Cape Town 2009
Interactive Qualifying Project

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Community Centre Report

The following pages are a compilation of the research that our team has done regarding additional community spaces for Monwabisi Park. The report details the building process from what services could be offered to how community members could be later employed at the new community centre.

Goals for Community Centres

The ultimate goal of this report is to develop a plan that gives the community useful community spaces that offer some specific services such as a guest house, youth centre, soup kitchen and health clinic. In compiling the opinions of community members and key stakeholders, this report aims to lay the foundation for sustainable, functional structures that serve the community's needs.



Background

In coming up with a planning and building report for community centres, many different parties were involved. Robert Taylor, Mike Tremeer and ecoBEAM were involved when discussing the building styles and types. Buyiswa Tonono and the Indlovu Project as well as Di Womersely and The Shaster Foundation were involved in discussions regarding what services should be offered in community centres and where they should be located.



Existing Conditions

In most of Monwabisi Park, there is no formal place designed specifically for people to meet, children to play and guests to stay. The members of the community are a tight-knit group of people who routinely come together for a variety of reasons. A few of these activities can be done in places like churches and the current shacks, but a new community centre for any of the sections of Monwabisi Park would be a great stride for redevelopment efforts. A community centre is being built in Section C and is known as the Indlovu Project. It features a crèche, soup kitchen, guest house, health clinic and much more. Because of its success, it was recently proposed that similar community centres be built in the rest of Monwabisi Park. The Section C community centre will serve as a prototype for the other community centres. It is the ultimate goal that these buildings will bring people together, encourage community involvement and promote a safe and positive atmosphere (Garcia *et al.*, 2008).

Plan Implementation

Technologies in Building

There are a variety of different building types and methods of construction. Determining a construction method should be one of the first decisions made before moving forward with preliminary designs. Following the principles of sustainability, it is important to choose a construction method that compliments the needs of the people as well as the surrounding environment.

Wood framing, also known as light frame construction, is the most popular construction method in North America, Australia, and other countries around the world for many reasons. Wood frame buildings are typically built on concrete foundations. The foundation is laid and then the wood structural frame is built on the foundation. Interior and exterior wall coverings are later attached to this structural frame.



Because wood frame buildings use relatively minimal structural materials, one can enclose a large space with minimal cost while still allowing for different ranges in style. This would not be an ideal building system to use in Monwabisi Park because wood framed buildings are prone to fires, of which the park has many. Also, with this building system there needs to be a firm foundation on which to erect the structure. This is needed to guarantee that the building is sound. In the community, the shacks and other building structures simply lie on sand. Where poor soil exists, like in Monwabisi Park, extra measures are taken to erect a sound foundation and building. Concrete foundations are used in places where engineers can analyze the footing. The need for this type of analysis increases the difficulty and price of construction. In addition, the skills needed for this type of construction consist of carpentry and other construction skills. Hiring men with these trade skills would increase the project cost exponentially. This building system is not recommended for Monwabisi Park for these reasons (Council, 2001).

Another building system is concrete buildings. This building system is a feasible option for Monwabisi Park. For the most part, the exterior of the building is built entirely from concrete. Because concrete is a heat sink, concrete buildings have an even temperature during the day and night. Temperatures within the building will feel cool during the summer and warm during the winter. This is a beneficial property in this community because Monwabisi Park faces many cold fronts, torrential rain fall and heat waves that can occur all within the same week. The fluctuation in temperature and weather is a critical problem that needs to be addressed. This is a useful aspect of



concrete because many of the shacks and other structures in Monwabisi Park currently experience heating and ventilation issues. Furthermore, concrete is a rigid material and allows for more stability than a wood frame structure. If properly reinforced, concrete structures can withstand earthquakes. This makes it an ideal choice for high force wind areas. All in all, the total construction cost is only slightly above that of wood frame building. Because of the higher building cost and the need for skilled labour, this

building system was not found to be the best system for Monwabisi Park (Cement, 2009).

A third building style is steel framing. The benefit of using steel is its durability and resistance to change. Steel does not shrink, split, or warp. Since quality is consistent and the beams are usually made to size, there is minimal scrap material relative to wood structures. Steel is resistant to rot, mold, and insect infestation. For these reasons, steel frame structures have a relatively low maintenance cost. Steel is considered a “green” material because it uses twenty five percent recycled materials and is one hundred percent recyclable. As with anything, there are a few downfalls to using steel. First, not all builders are familiar with constructing metal structures, have knowledge in the latest standards and have knowledge of the latest computer software. Special tools are needed in the construction of steel buildings as well as special designs that properly brace the steel. The greatest disadvantage with steel structures is that they are a great conductor of heat meaning that they gain heat very quickly and lose it just as fast. For these reasons, steel is not an ideal building material to be used in Monwabisi Park. Two other reasons that steel is not ideal are that the cost of steel is much greater than the cost of other building materials as well as the man-power and materials that it would take to build and insulate a building with steel framework. Even though steel is a strong material and could withstand the high speed winds of Monwabisi Park, it would not be ideal to implement (A Builder’s Guide to Steel Frame Construction, 2007).



ecoBEAM

The building solution that has been found to be the best for Monwabisi Park is the ecoBEAM Technologies. EcoBEAM Technologies was created by Mike Tremeer as a low-cost sustainable building solution, which is being implemented in the redevelopment of Monwabisi Park. EcoBEAMs are constructed using two pieces of timber connected with a metal lattice framework in between. According to the ecoBEAM website, a building framed with ecoBEAMs is able to use two thirds of the lumber a typical building would use. The technology is an environmentally friendly and cost effective alternative to other, more conventional, building materials (EcoBEAM, 2009).

This building system of sand bag buildings mostly composes of sand bags and ecoBEAM units. EcoBEAM Technologies is a great tool to use in building construction in Monwabisi Park because it uses materials readily available to the community such as sand. EcoBEAM units are simply 2 beams connected by a continuous piece of metal in a zig-zag configuration. These beams act as studs between sand filled polyester bags dry stacked to form a wall system. The wall is completed by filling it with sand bags and then plastering it with cement or cladding boards externally and internally. The building system begins with the construction of the foundation. The uprights of the building are built by “modified timber frame construction.” This consists of vertical ecoBEAMs approximately one meter apart to form the studs for the bags to fit around and be packed neatly in between. The external and internal walls can be clad with plaster or planks. Windows and door are framed by conventional timber frames and roof construction may be made out of beams and rafters or trusses that support sheeting or tiles (EcoBEAM, 2009). Further detail on how to construct a building with the EcoBEAM Building system can be found in further detail in the ecoBEAM Building Manual ([Link to PDF](#)).



EcoBEAM Technologies provide more than just building materials for a community. Job opportunities have been locally created based on the need for manual labour to create the beams. There currently are recommendations to get a fully operational ecoBEAM factory within Monwabisi Park (Garcia et al., 2008). Jobs can also be created through the production of ecoBAGs in the community. The 2008 WPI Economy Team from the Cape Town Project Centre created a sewing factory to manufacture these sandbags (Garcia et al., 2008). In Monwabisi Park, and similar informal settlements, the sandbags can provide insulation needed to keep buildings cool during the summer and warm during the winter (EcoBEAM, 2009).

EcoBEAM Technologies have created an eco-friendly way of building structures. There are many advantages and benefits to the EcoBEAM technique of creating a building. Some of the advantages of EcoBEAM are that it is environmentally friendly. The carbon footprint left by the building is much less than traditional building. There are minimum building wastes or losses on site of construction that decreases pollution. This technology is also very environmental friendly because it does an excellent job of insulating the building. Residents of Monwabisi Park will be able to stay cool in the summer and warm in the winter. The According to ecoBEAM, ecoBEAM buildings have up to seventy percent superior thermal properties that allow the heating of the building to be very efficient. Additionally, ecoBEAM Technologies allows for much lower building cost than conventional buildings. This makes it a preferred system to use in Monwabisi. On average this

technology reduces cost from twenty to thirty percent. In South Africa alone, the building cost is lowered to at least thirty percent compared to traditional building methods. This building system is an economically friendly way in creating buildings. The construction of the building is simple and requires little skilled labor. One person in the community could be trained in this construction system fairly easily and quickly. With this building system there is a very rapid construction rate allowing the building or building to be ready within days. The ease in building construction allows job opportunities in Monwabisi Park. This is essential in creating a sustainable community. Ease of transport, construction and low transportation cost makes the EcoBEAM system ideal all situations for Monwabisi Park (ecoBEAM, 2009).

A key attribute of the ecoBEAM system is that the community members of Monwabisi Park can be self-sufficient in providing most of the labour necessary for building construction. With help from an ecoBEAM professional, the community can erect their own house. EcoBEAM construction requires no on site electricity and few materials other than the beams and sandbags. Presently within Monwabisi Park, the structures are prone to fires from unsafe fuel sources and an unofficial, informal electrical grid. While these problems should certainly be addressed, the ecoBEAM system is fire resistant. Monwabisi Park, therefore, has much to gain from the implementation of the ecoBEAM system. EcoBEAM Technologies hopes to create job opportunities in Monwabisi Park, offer skill training, encourage ownership and entrepreneurship and lastly help the environment by creating an eco friendly building system. The future community centres in Monwabisi Park will benefit from this building system greatly because it instils and reinforce many of the values such as sustainability, community involvement and opportunity that the community centre tries to bring to a community. (ecoBEAM, 2009).

Designs

There are a few main services that are beneficial for community centres to offer.

- Crèche
- Youth Centre
- Health Clinic
- Community Meeting Room
- Soup Kitchen
- Guest House

A crèche is good to have because provides young children a safe place to stay while their parents are away during the daytime. Here the children can play, develop skills and make friendships that they wouldn't otherwise have an opportunity for. Youth centres are also an important consideration for older children. They provide a positive environment for children to hang out at after school. It's a good way to keep older children from spending a lot of time at shabeens or getting involved in alcohol and drugs. A health clinic gives sick people, such as TB patients, a place to get care (i.e. medicine and a good meal). There is a lack of good health care in informal settlements. Meeting rooms and general community space are extremely important to have so community members have a place to meet and socialize as well as a place to hold funerals. Soup kitchens are also very important for sick, disabled and unemployed people who cannot otherwise get a good meal. Another service is guest houses. A guest house provides a source of income for the community centre and gives volunteers a place to stay.

Instead of putting all of the same services in every location, some services can be spread out. The team recommends that community halls and youth centres be built in every section of the settlement and that health centres only in Section A and Section C will sufficiently serve this demographic.

Logistics

Relocation of Residents

The density of Monwabisi Park will require residents to move in order to create space for new buildings and services. Unfortunately, the space created from relocated residents will not provide new housing. This forces a close examination of the reasons for a community centre. It must be asked whether or not a community centre is worth displacing people from their homes. The purpose of the community centre is to promote a sense of group ownership as well as provide much needed services to the community as a whole. Group ownership should cause a sense of shared responsibility for the new communal spaces created as well as the homes that are eventually built. If the community members feel that they own the buildings they occupy there will be a greater probability of upkeep. The following lists possible answers to the relocation problem of residents.

- **Living with family / friends for the time necessary to build:** An option that is worth exploring for a small family or single person is living with family or friends. This is another way of having a vacant shack without having to provide housing to the displaced residents. The disadvantage with this option is that it may only be viable for small families that know people capable of accommodating them. **It would be the cheapest and easiest solution, however, especially if housing can be built fairly quickly.**
- **Buying the resident's shack:** The Indlovu Project has already purchased shacks for the purpose of developing the land. This is a viable option, but may cause strain in a community overrun by poverty. The price for a shack and plot is R7000. In a place like Monwabisi Park this amount of money may force a person to make a rash decision before fully understanding all of its implications.
- **Temporary transition housing:** The initial stages of redevelopment will require people to lose their shacks before there is new housing to accommodate the residents in. The community centre will not be providing new housing so the construction will not result in a place of accommodation for the displaced residents. Therefore, spaces must be found for displaced people to be located. One option is to build temporary accommodations along an undeveloped edge of Monwabisi Park. The process of building temporary housing could serve as a model for how the community members and redevelopment planners can work together. This option would be necessary for the community centre construction because it will not result in new housing. The problem with this proposed solution is the cost. In order to make this a viable option the temporary housing must be located in a place that can be used for several different redevelopment seeds. There also must be a proposed purpose for the temporary housing once the redevelopment no longer has a use for the building. Some possibilities are community spaces, guest house or rental dorms along with other possibilities.
- **Construction time when the shack is vacant:** The community centre is a service to the community and should not create such a burden that the process seems unnecessary. For this reason as few people as necessary should be displaced

from their homes. Many residents of Monwabisi Park are originally from the Eastern Cape and return to their homes during the summer holiday (Poswa & Levy, 2006). During this time of vacancy building can occur without the need of displacing residents from their homes. Unfortunately, because of the labour needed for the ecoBEAM building system this option may not be viable. It will depend on the number of people left in the settlement during the summer holiday that are willing to help with the construction. As the construction is for a community centre the people of the community must be able to help in order to feel that it is their own.

- **Use vacant shacks for temporary accommodations of displaced residents:** At any given time in Monwabisi Park, there are some number of vacant shacks that might be used to accommodate residents located in a redevelopment area. This option allows people to stay in a stand-alone house without the need of building a new structure. There is a possibility that some residents of Monwabisi Park would offer shacks for a small rental fee. This would provide more options for residents to move temporarily from the area of redevelopment. The Indlovu Project may be using this option in order to create space for new housing behind the community centre in Section C. The problem with this option is that it depends on too many factors to be reliable. But, when the proper circumstances are in place this option can be very valuable.

Community Involvement

In order for the process of redevelopment to be sustainable community members must be active. The ecoBEAM Technologies building system allows, and actually encourages, the use of community members for construction. Because of the economic conditions of Monwabisi Park outside construction workers and contractors add expense and reduce economic and skill development benefits within the community. The theory behind community involvement is that residents can empower themselves and the community by being involved in the redevelopment. The city of Cape Town has implemented housing projects that promoted community involvement to great success. The People's Housing Project (PHP) strives to allow people to build their own houses with the aid of some technical expertise and is a strong supporter of community run housing. PHP removed the mechanized delivery system of previous redevelopment efforts, and rather focuses on community run housing delivery (Zonke, 2006).

Past redevelopment efforts have failed because of a lack of community involvement. It has been stated that there are five different levels of community involvement. These levels describe the amount of input community members can have with regard to the redevelopment of their community. The levels of contribution are to inform, consult, involve, collaborate and empower (Xali, 2005). Each increasing level allows more collaboration and input from the community. Finding the correct balance is the key because too much community involvement will also leave the redevelopment unsustainable. According to interviews with Mike Tremeer and Robert Taylor of ecoBEAM community opinion can flood a planning session because there will simply be too many ideas.



Community centres have become the centre of the redevelopment seeds. By creating community space that everyone can share each section of Monwabisi Park will have the start of a redevelopment seed. Given the function of community centres (soup kitchen, youth centre, crèche, health clinic and guest house) the residents of all sections can come together to allow the project prosper. The community centre should start the building of communal ties that can then be extended when housing begins. The importance of community involvement cannot be overstated. Although EcoBEAM requires some skilled labour it will not be a viable option if the unskilled labour of community members becomes unavailable. At the very least, community members must show a vested interest in building the structures to better the community.

After Implementation

Management

The team studied the management of the Inlovu Project to gain a preliminary understanding of how community centres run.

Di Womersley is the founder of the Shaster Foundation and director of the Inlovu Project. Since 1993, Di has been involved in community work in informal settlements of South Africa

Sibongile, a current employee of the Shaster Foundation, handles all the finances and administrative tasks that come with running the community centre. Responsibilities may include, but are not limited to, receiving and directing visitors, word processing, faxing and fielding telephone calls. Strong communications skills are necessary in this position. Another responsibility that she has is booking events in the general hall of the community centre.

It has been proposed that when other community centres are built, the Street Committee for that particular section will oversee operations. The Shaster Foundation would have the ability to give advice to these community centres, but does not have any decision making power in this arrangement.

Employment

In order to run a functioning business employees should be hired in a process that is fair and impartial. Due to the severe economic conditions prevalent within a community like Monwabisi Park, people can become jealous or even offended if certain people are receiving job opportunities that they are not. Animosity between sections will be fostered if hiring is seen as favoring one section over another.

To address this issue and to ensure that the hiring process is unbiased, an employment committee has been proposed. This committee would hire new employees for future community centres. To ensure that hiring is unbiased, each section of Monwabisi Park should be represented.

Another aspect of hiring is making certain that the employees are well trained. It has been proposed that the community centre should offer training opportunities to the community so that they can develop needed skills for the community centre to flourish. The opportunity for community members develop skills will help them get involved in the evolution of the community centre. (Womersley, 2009).

Job Descriptions

Community centres create several job opportunities for employees and volunteers. The Indlovu Project is just one of many community centres that could have been studied as a model. In Harare, a neighborhood near Monwabisi Park, there is a recently developed communal area. Community members work shifts in the watch tower and park maintenance is needed as well. Despite our short visit to Harare, the team focused primarily on studying the Indlovu Project Centre as a prototype.

The community centre being constructed in Section C, will have a learning centre, youth centre, soup kitchen and clinic among other services. With each service there is a need for an overseer. With the crèche and youth centre, trained Montessori teachers have been hired. This job includes watching, teaching and playing with the children. The safety and the care of the children are in the hands of these teachers. The clinic will provide primary health care to the community. Nurse Glen Vondo, the general nurse for the clinic, is trained in basic medical procedures, first aid and administration of drugs. Medical volunteers are also welcome to give consultation to patients. The soup kitchen has employees and volunteers that cook and serve food to the community. It is helpful if these people are skilled at cooking for large numbers of people and know some basic nutrition. The centre will hire someone for tourism and hospitality. This person will be responsible for the guest house, volunteers and other tourism. Bringing tourists into the community of Monwabisi Park could potentially increase revenue. This staff member will be hospitable and have good people skills. Another job that is needed to ensure that the community centre is kept running is a general caretaker. This person is responsible for the maintenance of the building. This is important to extend the life of the building as well as the project efforts as a whole (Womersley, 2009).

The team has provided an outline of services and the job opportunities offered at the Indlovu Centre so it can be analyzed when other community centres are planned. The Indlovu Project Centre provides a foundation for future plans to work from.

Finance

One option for financing is through private donations. Donations can be used to fund supplies that are needed and salaries that are paid to employees. This is how the Shaster Foundation is funding the Indlovu Project Centre.

Another option is for the city to provide financial aid. Hopefully, this is how community centres in other sections of the settlement will be financed.

To offset some of the costs to run a community centre, one can charge minimal fees to the community. For example, if a community member wanted to use the community hall for a wedding, the person would have to pay a small fee to rent space for the event. This will subsidize some of the cost to maintain the centre. This fee will be kept low enough so that facilities would still be accessible for many members of the community.

These are viable options that are being considered when financing community centres (Womersley, 2009).

Resources

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