

RECICLAGEM do

GRANDE HOTEL

BEIRA MOZAMBIQUE

PAPER

AN OPEN BUILDING DESIGN INTERVENTION FOR
SOCIO-ECONOMIC EMPOWERMENT IN MOZAMBIQUE

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Published at the XV Union International des
Architectes congrès 'Architecture Otherwhere'
in Durban South Africa



 **TU Delft**



Poor economies find themselves in an almost no-win situation: They would benefit from improving the economic situations of the very poor by making them self-supporting and economically productive. However, the very poor are occupied by daily survival and thus cannot afford themselves to improve. This paper describes the status quo of a dilapidated hotel in Beira, a so-called vertical slum that is squatted by one thousand inhabitants trapped in self-sustaining poverty. It builds on the assumption that if a technical intervention creates conditions with clear lines of control, defensible space and basic conditions for trade and productivity the downward spiral can be reversed towards improvement. The concept of Open Building gives guidelines for a built environment that works based on a clear division of control. Then a proposal to improve the hotel is presented, based on Open Building levels of intervention: the urban fabric reconfiguring the base building and adding modular units that can house small businesses around collecting, recycling and selling materials. In the final analysis a scenario is painted as proof that interventions that create controllable space could be the first step towards improvement and could work as a template for similar cases.

KEYWORDS

vertical slum, colonial heritage, recycling, Open Building, self-empowerment

INTRODUCTION

Poor economies find themselves in an almost no-win situation: They would benefit from improving the economic situations of the very poor by making them self-supporting and economically productive. However the very poor are occupied by daily survival and thus cannot afford themselves to improve. Many African countries have outgrown their colonial past and are now quickly improving their economies by supplying other countries with their resources. This creates instability both between and within countries. It is likely to widen the gap between the many very poor and the few very rich, thus possibly creating social friction, unrest and unsafe environment to live in. If the very poor could improve their living conditions by themselves it could keep the strain of society, benefiting the country and economy as a whole. This paper describes how some basic improvements on a dilapidated hotel in Beira could plant the seeds for a bottom-up improvement of local living conditions. First the scene is set, by describing the Grande Hotel building in Beira, Mozambique. Then the concept of Open Building is explained as a strategy to analyse the status quo and to plan basic interventions needed to create conditions for a gradually self-sustaining and self-improving neighbourhood. A proposal to make it work is presented and in the final analysis generic conclusions are drawn from this case study in order to be applicable elsewhere.



Figure 1: Current situation of the Grande Hotel, exterior (Stoops, 2011) and interior (Prieto, 2011).

THE SCENE: BEIRA AND THE GRANDE HOTEL

The Grande Hotel is a dilapidated building occupied by the very poor of Beira. It is a place of anarchy and survival. In order to get a clear understanding of the interventions to be proposed it helps to understand the historical and functional context of the building.

A VERY SHORT HISTORY OF BEIRA

Mozambique is a sub-Saharan country located at the east coast of Africa, with a coastal line of over 2500 kilometres. From the European perspective it was discovered by Vasco da Gama in 1492 and later claimed by the Portuguese as a colony until 1975. At the southern tip of Mozambique the harbour town and capital Maputo was established, now with a population of over 1 million people. In the centre Beira, 400,000 inhabitants developed into the second largest city and main port serving Africa as it hinterland to ship its natural resources overseas. After the Portuguese withdrew the city, native Mozambicans who hoped to improve their living standards settled in the city. Today, multinational commerce starts to settle in the city. The friction between these two worlds is visible in how the poor live. That, in short, is the scene of the Grande Hotel in Beira.

THE GRANDE HOTEL DA BEIRA: THEN

In 1953 Arthur Brandão, a good friend of the Portuguese regime of Salazar and director of the Companhia de Moçambique that once colonised the interior of Beira, commissioned architect Fransico de Castro to build the Grande Hotel (Fig. 1). It was intended to become the main showpiece of success of the 'Estado-Novo' in that time. It was meant to be a 5-star accommodation for business partners, influential persons and wealthy tourists from Rhodesia, South Africa and the Portuguese colonial empire. The hotel consisted of the finest, most luxurious and modern materials of that time. The total construction costs over-ran the budget 300% but it was money well spent, according to the ideals of the client. The hotel was only in full operation for a period of eight years. With 116 rooms and a floor surface of 21,000 m² it was never profitable by the most optimistic estimations. Until the independence of Mozambique the swimming pool was open for the inhabitants of the neighbourhood and the building was used for conferences only twice. Some argue that the reason for its failure was that it could not obtain a casino license (Rolletta, 2006; Lança, 2010; Anno, 2011) but the regime believed that it was immoral to have places for gambling in their colonies (Newitt, 2004). Nevertheless, it has served many purposes.

After the Portuguese Carnation Revolution, 1974, Mozambique became an independent state with common growing pains. The

communist FRELIMO party (Frente de Libertação de Moçambique) came to power and used the Grande Hotel as a base to establish the communist state in the region. In the Mozambican Civil War (1977 – 1992) the hotel became a military base. In 1981 the city became part of a neutral zone that was controlled by the Zimbabwean Defence Force to secure the Zimbabwean export at the Beira Corridor. The safety and the aid supply attracted refugees from the interior (Newitt, 2004). The Grande Hotel was transformed into a refugee camp and the soldiers were relocated to the battlefield. Since 1992 Mozambique has experienced stability and peace. Today, the harbour of Beira is rehabilitated and is experiencing a booming economy due to the transit of minerals to Asia.

THE GRANDE HOTEL DA BEIRA: NOW

Today the Grande Hotel accommodates approximately 1,000 inhabitants (Ivo, 2008) and acts as an informal neighbourhood on its own with some street vendor stalls and internal squares. Large families of up to nine persons populate the hotel rooms and in-built shelters. They pay no rent and they cannot claim right of ownership. The space and architecture of the building does not at all cater for the spatial needs of the current population, it does not offer conditions to support a communal feel for the self-protecting and mistrusting inhabitants. There is no structure of control. Although the local municipal secretary of the neighbourhood – who also lives in the Grande Hotel – is seen as the unofficial supervisor, he does not have power such as municipal secretaries in more affluent communities in Mozambique. The only common rule of the Grande Hotel is to respect each other; then the Grande Hotel is open to those who are in need of shelter.

Neither building nor public space are maintained. Garbage is dumped all over the place and it never gets cleaned-up. The roofs leak and the window frames have no glass. The elevator-less elevator shafts are now openly accessible holes that are dangerous after dark for the young and old. The garden gives room to the first Olympic size swimming pool of Mozambique. Today it contains highly polluted water and is used for fishing for consumption, washing and as a public lavatory like so many other places such as the former hotel restaurant, the beach and the park in front of the Grande Hotel. According to the local Red Cross there is a high risk of cholera, diarrhoea, malaria, and scabies hazards (Vasco, I. 2012, interview, 12 March). The HIV/AIDS epidemic is making the situation worse.

Most of the Grande Hotel inhabitants work in the informal economic sector. The nickname of 'whato muno' (not from here) (Stoops, 2011) excludes them from participation in the social and economic community of Beira. The formal economy is growing by the booming transit at the harbour and puts the informal economy under pressure. It makes it even harder for the Grande Hotel inhabitants to make ends meet for a basic living. The building was gradually stripped from all materials that could be sold for some food, such as plumbing,

cabing and parquet floor. Thus poverty made the Grande Hotel even harder to live in. 'Whato muno' also underlines the bad reputation of the Grande Hotel inhabitants in Beira. The Grande Hotel is a place where crime thrives and where the police do not have any authority.

This is a grim picture. Nevertheless, the Grande Hotel is a fascinating building as a provider of shelter for a dynamic society one cannot escape from and that has already delivered its third generation of inhabitants. The architecture and their users over time reflect the struggling history of Mozambique.

The local municipality would like to intervene, but they are not the legal owner nor are they responsible for the Grande Hotel. The Grande Hotel is one of the few properties in Mozambique that are not state-owned. Officially it still belongs to the in Portugal based Gruppo Entroposto S.A., which is the continuation of the Companhia de Moçambique. It was written-off as war damage. There are no local funds to refurbish the building and poor collaboration of the local parties with the national government blocks the way to national funds (Makgetla, 2010). No private investor is willing to participate in this risky project. In this light it is understandable that the municipality would like to relocate the current inhabitants to slums on the outskirts of the city and demolish the Grande Hotel for to clear the plot for redevelopment as a place for commercial and touristic activities. This however rather moves than solves the problem of the negative impact of the very poor on a developing economy.

Would it not be better to develop a low budget intervention that creates conditions for a self sustaining society that builds rather than consumes, that has an interest in defending and maintaining rather than in cannibalizing its shelter? The concept of Open Building indicates a direction.

CONCEPT OF OPEN BUILDING

The origins of the concept of Open Building is best captured by one of John Habraken's finest quotes: 'We should not try to forecast what will happen, but try to make provisions for the unforeseen' (Habraken, 1961). In order to accommodate unknown future change, he suggested to introduce different levels of decision making in the building process: tissue, support and infill, respectively referring to the urban fabric, containing base buildings with their fit-outs.

The raison d'être of Open Building can also be expressed in terms of care, responsibility and technology. People, who care about the environment they live in, will make it a better and safer place. Therefore the built environment must encourage people to take responsibility for their own territory. An environment that clearly distinguishes those spaces and parts of a building, for which occupants should take responsibility, will address the users' needs to feel responsible. Therefore a building should be designed and built in such a way that both spaces and parts of the building can be clearly allocated to those parties and individuals that should take responsibility for them. Buildings, which are designed and built with separate systems, can create conditions for responsibility and care. Therefore the subdivision of the building process needs to reflect the lines of decision-making and the definition of responsibilities between the parties. This subdivision can then be translated into specifications for connections between building parts. This in turn creates buildings that can be modified and taken apart again (Cuperus, 1996). It offers the basis for a well-structured building process with well-defined interfaces. It allows us to at least partially transfer the construction process from building to manufacturing. It is the key to reducing waste by coordinating dimensions and positions instead of improvising on site by cutting to size. Applying information instead of energy. This is an important condition to re-use building parts, thus extending the lifetime of building parts, without the waste of dumping and recycling, coinciding with degradation and the use of energy. Open Building is a multi faceted concept, with technical, organizational and financial solutions for a built environment that can adapt to changing needs. It supports user participation, industrialization and restructuring of the building process.

If change is the problem, a layered organization of the building process can provide at least a part of the solution. Positional and dimensional co-ordination of building parts and their interfaces are a tool and a condition for industrialization and probably a leaner construction process (Cuperus, 2001).

A PROPOSAL: A SELF SUSTAINING RECYCLING MARKET

In order to keep the Grande Hotel, it needs to be adapted to a set of functions with an economically sound basis and minimum viability that is likely to sustain itself. Control is the core of the Open Building concept. In this paragraph a recycling market is proposed as a self-sustaining economic activity, the concept of Open Building is used to identify different independent yet coordinated levels of control and construction.

RECYCLING MARKET IN A RECYCLED BUILDING

The Beira Municipality attempts to demolish the Grande Hotel and relocate the inhabitants. This will force the current users to other places, thus replacing the problem. In addition there is no guarantee that there will be a return on the investment to redevelop the site. That is why a low level intervention is suggested that will generate sufficient income to pay for it self. Planning a recycling market in and around the Grande Hotel is a double edged sword: by accommodating an economy based on recycling goods the Grande Hotel itself is subject of recycling. The romantic Art Deco architecture, once sign of colonization will remain, but now taken over by the current inhabitants, giving the building and its style a second chance.

Repair and reuse comes naturally in poor societies. In the western world it has recently been reinvented as Cradle to Cradle (McDonough et al, 2002). Separate collection of waste is common in modern cities and is well organized in civic amenity sites (Fig. 2). This idea is adapted and adopted in this proposal.

On the recycling market the Beirians can sell waste products at a wide range of different workshops. Each workshop is specialised in the transforming or repairing of specific types of materials or goods. The workshop holders gain a profit by selling the end products.

A recycling market in and around the Grande Hotel anticipates on local economic, social and environmental benefits. The current informal economy in the Grande Hotel building serves its own basic survival without any perspective. If conditions are made for a recycling market, the economy to survive should develop into an economy for basic growth. Contrary to an economy to survive and economy of growth is worth to improve; it will attract new business activities that profit from their collaboration. In the Grande Hotel case, which is now an island in the city to avoid, this could result in the greater Grande Hotel area to become embedded in the urban fabric. On the Beira scale it will take environmental pressure of the existing municipal garbage dump.

MASTER PLAN: URBAN FABRIC, SITE AND BUILDING

In order to make the recycling market happen a master plan with a strict separation of different levels of intervention is proposed that allows for a phased time planning (Fig. 3).

Currently, the garden behind the building contains a polluted swimming pool, a church and a mosque. The site itself is big enough to house a recycling market. The first step towards improvement is to clean and reorganize the site and its routing. By cutting a gate into the west wing, block B, of the Grande Hotel on the Avenue Alonse de Paiva the new public entrance will be made north to south towards the garden. The dwellings that will get lost by cutting the gate need to be compensated with dwellings adjacent to the new workshops. In front of the new entrance a bus stop will be located. Rear alleys will

be created to supply the recycling workshops behind the building, thus reconnecting the site to the urban and social fabric of Beira. This intervention sets the conditions for future options, such as a general groceries market, clearance of the swimming pool, public latrines and places of worship for the larger community. Newly built units, to be described in the next paragraph, will accommodate the recycling market. Once the market has become a self-sustaining economic network, the hotel rooms used for dwelling can be upgraded per floor or one unit at the time.

WORKSHOP UNITS

The second step towards improvement is the construction of workshop units, consisting of a load bearing structure of precast concrete columns and beams, on site connected with in-situ poured concrete. This is a locally known, cyclone proof structure. This is a structure with a long life span and can be completed with different configurations of materials for roofing and partitioning with a shorter life span. The combination of fitting out the base buildings, that in turn are positioned in line with the master plan create conditions for a clear distinction of control, life spans and different future functions. Its dimensions are based on a 3.50 metre grid that coincides with the design grid of the Grande Hotel. The materials and building parts to fit out the new workshop units will also fit in the base building of the Grande Hotel.

A typical workshop unit consist of a ground floor with a structure of concrete beams and columns. The facades can be filled-in with different materials, such as bascule type overhead doors with timber louvers that double as canapés while open, and closed sections made of plastered hollow building blocks, filled with non-biodegradable garbage material as a by product of the recycling market. A 5,000 litres water tank collects rainwater for free from the roof is located on the ground floor in the shady south of the unit. Additions differ per workshop unit: a furnace for forging steel or workbenches and tables for other trades such as bicycle white good or telephone recycle and repair.

On top of this concrete structure a structure of timber columns and beams can be built to house the workshop owner and its family as they now live in the Grande Hotel. The first floor consists of a living space around a concrete fireplace that generates smoke to keep mosquitos at a distance. The second floor accommodates sleeping. The building is topped with a double-layered roof of corrugate iron that creates shade, waterproofing and cross ventilation against accumulating heat (Fig. 4).



Figure 2: Concept of a civil amenity site, each container will be a workshop in the recycling market (by author).



- | | | | | | | |
|-----------------------------|--------------------|--------------------|------------|------------------------------|-------------------------|-------------------------------|
| Recycling workshops: | | | | Additional functions: | | Existing Grande Hotel: |
| Batteries | Clothes | Metals | Tools | Taxibus rank | Block A | Block A |
| Bicycles | Disability devices | Paper | Toys | Church | Block B | Block B |
| Books | Fisher boats | Plastics | White ware | Community hall | Block C | Block C |
| Brown ware | Furniture | Shoes + flip-flops | Wood | Lavatory units | Block D | Block D |
| Can | Glass | Stone | | Market hall | Swimming pool | Swimming pool |
| Cars | Grey ware | Tetra pack | | Mosque | Market at main entrance | Market at main entrance |
| Chemicals | Light bulbs | Tires | | | | |

Figure 3: Master plan of the recycling market (by author).

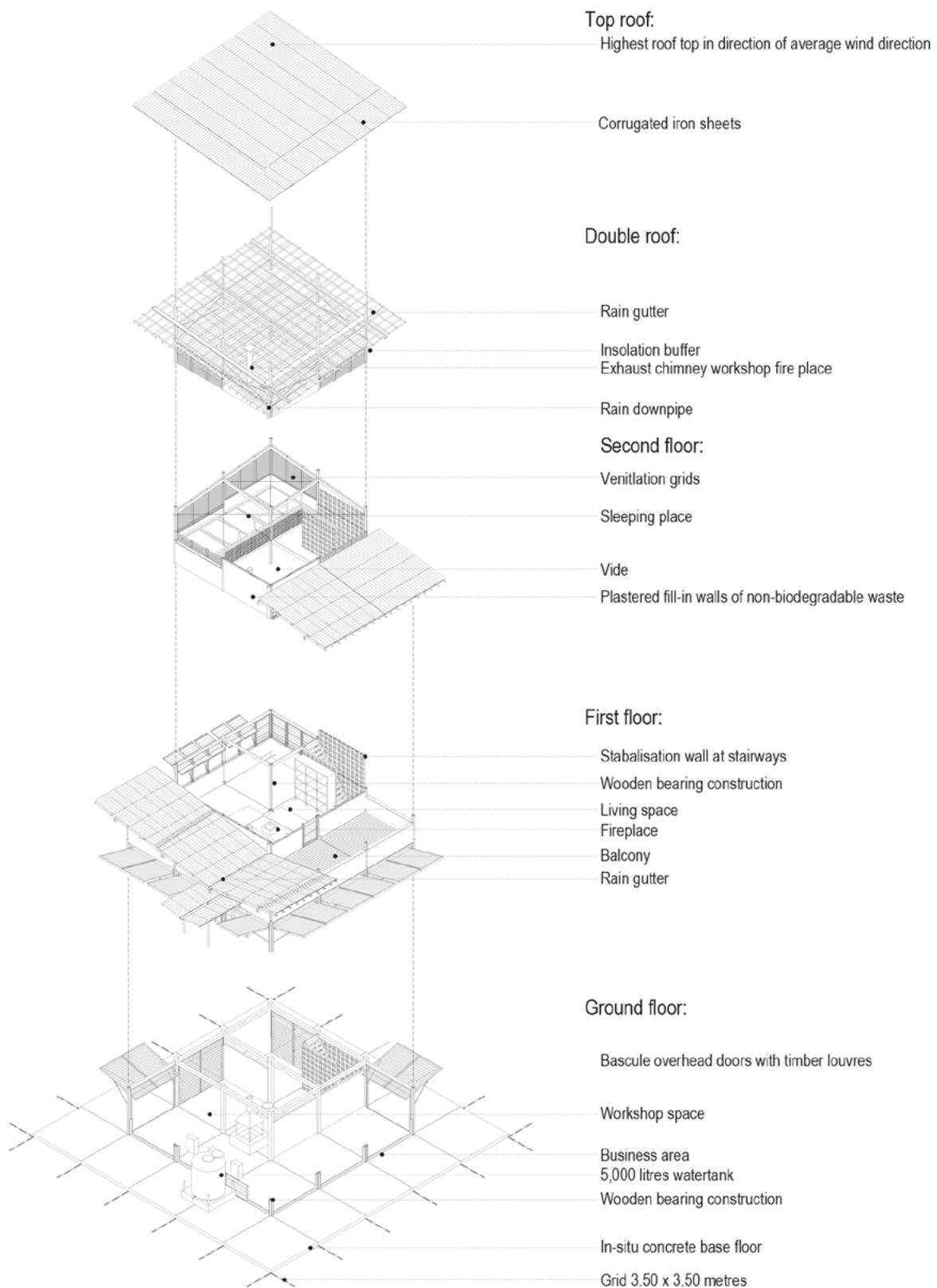


Figure 4: Exploded view of a workshop built by the open construction module (by author).

GENERIC USE OF THE PROPOSED BASE BUILDING STRUCTURE AND ITS FIT-OUTS

The generic structure of precast columns and beams on a 3.50 metres module can also be used to build larger structures such as church and mosque (Fig. 6).

Since the design and dimensioning of the infill elements, such as the timber structures and partitions are based on the Grande Hotel's design module they can be used to fit out the old hotel as well (Fig. 5). Special attention needs to be given to keep the openings for cross ventilation in tact.

ORGANIZATIONAL ASPECTS: STAKEHOLDERS

The above-pictured plans are of spatial and material matter cannot be accomplished without the approval of the stakeholders involved.

The municipality should release the plot for this development and should change the illegal status of its current inhabitants. This of course is a delicate process in order not to create unwanted precedents for other sites in the city. Although our sympathy may go towards a high degree of self-governance by the inhabitants, this needs to be carefully coordinated with possible supporting stakeholders such as NGOs and profiting stakeholders such as the local water supplier, who may not like to lose control over the closed circuit water supply of the compound. The ruling FRELIMO party (Frente de Libertação de Moçambique) as well as the opposing MDM (Movimento Democrático de Moçambique) have their own interests, either electorate or corruption driven. All stakeholders should see the benefit of a self-sustaining community with its own organizational structure. Call it the Grande Hotel Board. If not, this could well be a major hurdle to take.

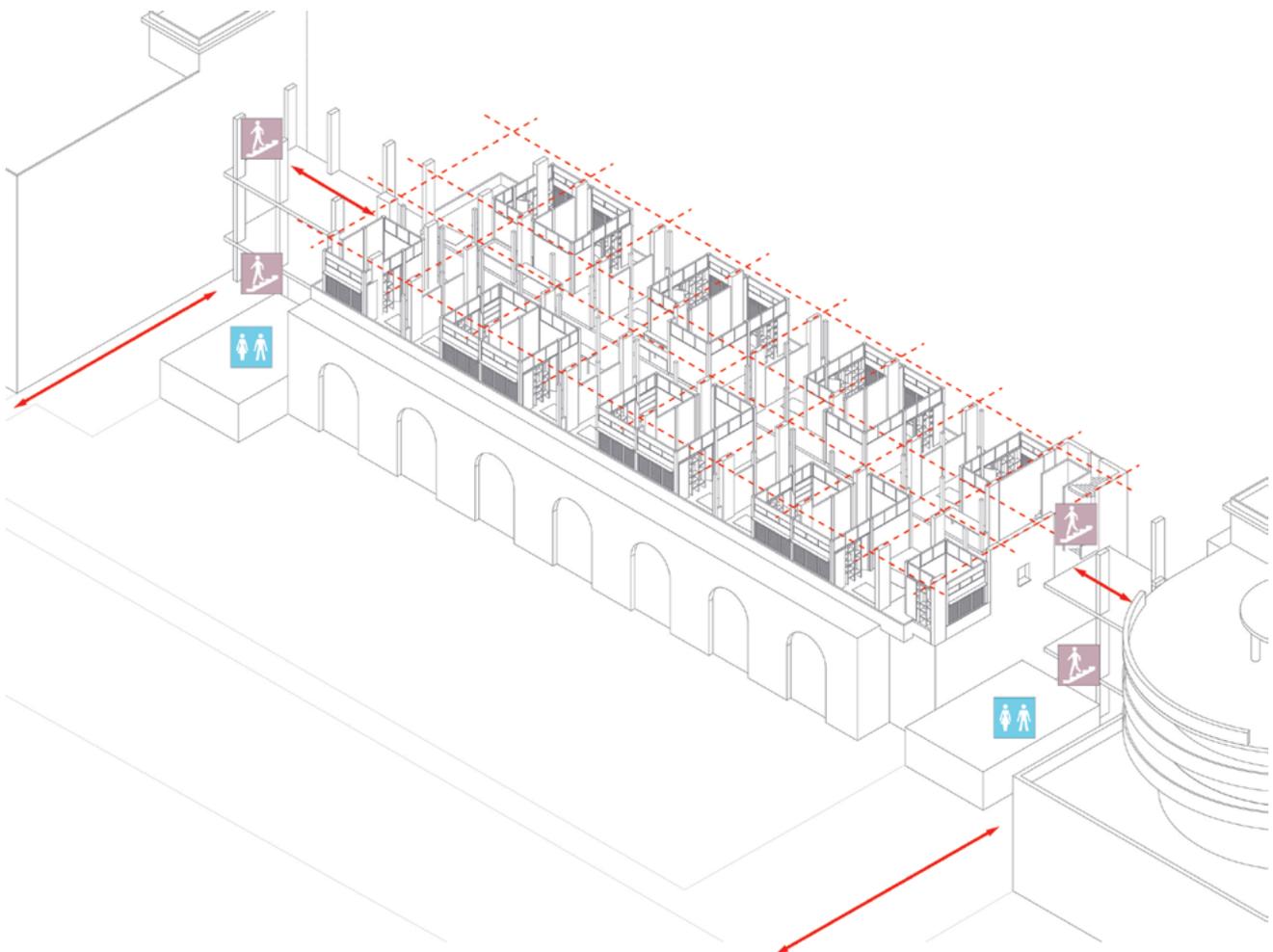


Figure 5: Third floor of block B rearranged by the open construction module (by author).

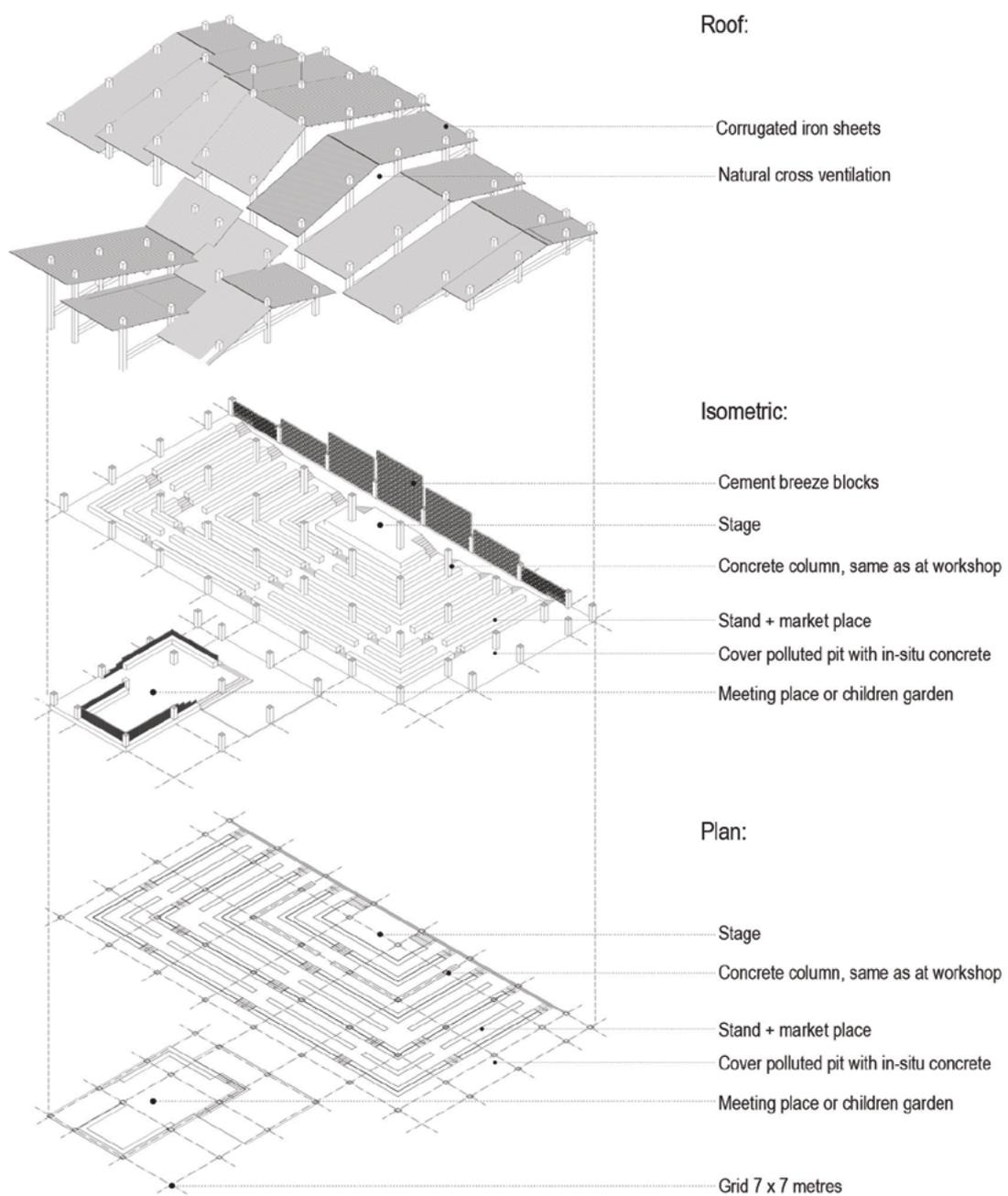


Figure 6: Community hall, market hall and church on top of the existing polluted swimming pool (by author).

CONCLUSION

The Grande Hotel de Beira is a derelict reminder of colonial times. At the same time it can be seen as an icon of the architectural and cultural past of Beira. Restoration may be an affront to the very poor citizens who feel little sympathy for old relations. Adopting the building and handing it over to the community may take away this sensitivity. At the same time it will become a catalyst for new life.

This paper addressed the problem of dilapidated buildings that are taken over by the very poor. Redeveloping such projects is expensive, politically sensitive, outcome-unsure and in addition: replacing the people creates new housing problems elsewhere. A different strategy was suggested that makes the inhabitants responsible for their own environment to live in. The concept of Open Building was used as an inspiration to allocate control by (groups of) dwellers to layers of the built environment: a collective interest to defend and maintain the site and base building, making individual households and tradesmen stakeholders through offering the possibility for economic growth by planning a recycling market. On the higher level of interest the municipality gains by turning an unsafe no-go area into a clean place for trade and urban activity. The suggested workshop unit demonstrates another way to apply Open Building principles: the dimension module was derived from the Grande Hotel building, which in turn makes the infill elements fit to upgrade parts of the building as well.

The refurbishment of the Grande Hotel de Beira is an academic proposal that is not executed and can therefore not be evaluated and we can thus only speculate on its successes. Precedents may give us indications. The concept of Open Building suggests a subdivision of the built environment based on control rather than on construction. For that reason it may not be easy to introduce in political environments that are top-down controlled as it can be seen as an unwanted power shift that empowers the dwellers. As such "Open Building and Politics" is worth an in-depth study.

Although developed for a specific site this project has the potential to become a precedent for similar cases in totally different circumstances. Indeed, what they share is the desire to gradually improve housing and living conditions that will benefit both citizens and society.

ACKNOWLEDGEMENTS

A word of gratitude is in place with regard to Dr. Gerhardes Bruyns for his inspired teaching, the hospitality of the Faculdade

de Arquitectura e Planeamento Físico of the University of Eduardo Mondlane as well as the inhabitants of the Grande Hotel de Beira who shared their secrets how to survive harsh circumstances with a positive attitude towards life.

For more information and drawings on the Reciclagem do Grande Hotel is available in the MSc thesis and the website (Cruiming, 2013).

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