

DIFFERENTIATION OF BUILDING WITH THE COMMUNITY CONCEPT FROM EXISTING MODELS, AND ITS IMPLEMENTATION IN PROJECTS IN AFRICA

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Abstract: Building with the community, which is starting to construction with training of labors to construct their vernacular in larger scale, became a trend in 80s and 90s in Africa in order to not only to construct building but also to develop society and it drew apart a different path from existing models. This research examines the rationale of this architectural trend by focusing on mostly projects which won Aga Khan Architectural Award (AKAA) like Halawa House by Abdel Wahed El-Wakil, Yaama Mosque by El Hadji Falke Barmou and Gando Primary School Francis Diebedo Kere and socio-economic and cultural backgrounds of their locations. The preliminary results of the research show that this technic gave chance to society both to survive in such a bad condition by gaining necessary skills and to implement these skills in other buildings forms like schools and hospitals which have a great importance for the development of the society with low-cost solutions. The conclusion can also be drawn that how the way of implementing architecture helps communities in the form of sociological, psychological and economical aspects.

Keywords: Building with the community, Traditional African Architecture, Aga Khan Award for Architecture, Diebedo Francis Kere, local materials

Introduction

For centuries, communities had played an important role in terms of shaping their environment by inventing new techniques or implementing the old ones. This role of communities has been forgotten for a while. With the emergence of co-design concept communities started to find part by their ideas in creating or rearranging the environment. In Africa, this implementation moved one step further by involvement of community to every stage of building life cycle because of the distinctive features of Africa. Many architects have tried this method for providing necessary artificial environment. Furthermore, building with community makes great contribution of well-being of community and its economy. It also provides competitive advantages to architect to gain prestige via awarding by prestigious foundations. In this paper, firstly differentiation of building with the community from existing models will be indicated. After that, implementation on some buildings will mention. Lastly, its benefits and effects on winning prestigious awards will be explained.

Differentiation of Building with The Community Concept (Commin-Arch) from Existing Models

Designing for users

Traditional method of design is about disintegration of professionals who focus only their professions. In this type, design team takes all responsibility of design and makes all design decisions considering the needs and expectations of end-users. Ideas of end-users cannot take part in the design process. After the completion of design, other professions like stakeholders and construction teams practice their duties and building become ready for end-users. Considering only the needs and expectations of end-users give rise to some problems especially in public buildings. Inferences of design team is more likely to fail to correspond changing needs and expectations of societies. This possibility leads to think different about the role of end-users in design process. Direct relations of users to design can prevent some problems which traditional method fails to prevent. These processes make way for designing with users also called as co-design or participatory design.

Designing with users

Participatory design is a methodology which aims to bring together all participants of building life cycle such as employees, partners, customers, citizens and end-users in design process. Origin of participatory design arise from advanced technological developments. Especially in public building design contribution of users are substantial

resource for designer (Kanga, Choob, & Watters, 2015). Instead of relying on the personal creativity of designers to puzzle out design problems in an identified context, the collective generativity of stakeholder is a main source of a participatory design process. In other words, it develops thoughts and imaginings by the collective ability of stakeholders. It can be revealed by designers that the tacit needs of users which are the needs that are indicated but not virtually pointed out by examining what users create with generative toolkits (Joon & Kun, 2008).



Figure 1. Meeting with users (Amstel, 2012)



Figure 2. Co-design activities (AIGA Chicago, 2011)

Building with the community (Commin-arch)

Commin-arch, which is starting to construction with training of labors to construct their vernacular in larger scale, became a trend in 80s and 90s in Africa in order to not only to construct building but also to develop society. Community can find part almost during every stage of building life cycle. Training of labors is not the only thing about commin-arch. Usage of local materials and traditional construction techniques make contribution to these type of buildings. Commin-arch differs greatly from participatory design and traditional method in terms of participation of the community which is only contribution of idea in co-design.

There are numerous reasons such as poverty and high unemployment rate why this concept has developed in Africa. This technic gave chance to society both to survive in such a bad condition by gaining necessary skills and to implement these skills in other buildings forms like schools and hospitals which have a great importance for the development of the society with low-cost solutions.

Three Buildings in Africa with Constructed with Commin-Arch Halawa House by Abdel Wahed El-Wakil

Halawa House was built in Tahoua, Niger according to traditional Islamic or Egyptian prototypes by involving the courtyard and its fountain. The house has a loggia, a wind catch, alcoves, masonry benches and a belvedere. Most of the labor except for the master mason, plasterer and carpenter, who were skilled craftsmen, was local unskilled Bedouins that trained before construction. Selection of materials and construction techniques reflect sociocultural structure of community.

All materials used in construction is local, and there are no imported materials used in. The basic wall structures are of undressed local limestone and cement mortar. Burnt red bricks and mud mortar are used for all arches, vaults and domes and for the claustra work. All renderings, inside and out, consist of three coats of traditional sand-lime-cement plaster which is called as Alexandrine plastering. Other finishing materials are; sandstone paving from

Muqattam, near Cairo, for courtyard, stairs and backyard, Egyptian marble, from Aswan, for living areas, locally made tiles in other rooms, and zân wood joinery for doors and windows including mashrabiyya which is the Arabic term given to a type of projecting oriel window enclosed with carved wood latticework located on the second storey of a building or higher, often lined with stained glass. The project was awarded by Aga Khan Trust for Culture in 1978-1980 cycle.



Figure 3. View from the secondary court to the domed living room and loggia (AKTC)



Figure 4. Using mud brick construction techniques, a mason builds an inclined barrel vault (AKTC)

Yaama Mosque by El Hadji Falke Barmou

Yaama Mosque is Friday Mosque nearby Tahoua, Niger. Idea of building Friday Mosque came from the elderly people of community. They assigned the role of building to Mr. Falke Barmou who is a local architect-mason. The major characteristics of the mosque were defined by also village elders, mainly by giving an indication of the dimensions and by discussing models which were or were not to be used as example. After several discussions mud brick structure with local characteristics but in larger scale was agreed on. Mud brick structures require cyclical maintenance, alterations and repairs. For the Yaama Mosque this activity was from the beginning an act of religious devotion in which the entire community participates, and so it continues to be. Everyone contributes to the caretaking of the mosque in proportion to his or her ability to do so. Some make mud bricks; others carry them to the building site. Women carry water for brick and mortar production while others cut and gather wood. Structural materials are the sun-dried brick and wood. The wood is of all possible kinds because of being scarce. Mortar for renderings is made of mud into various agricultural and/or animal waste products are mixed for various purposes. The project was awarded by Aga Khan Trust for culture in 1984-1986 cycle.



Figure 5. Yaama Mosque and its surroundings (AKTC)



Figure 6. Front Façade of Yaama Mosque (AKTC)

Primary School by Diebedo Francis Kere

As a native of Burkina Faso, childhood of Francis Kere had many challenges and few resources. His primary school was 40 kilometers away from hometown in another village with poor lighting and ventilation. This experiences inspired him to become an architect and build primary school in his village with adequate psychical conditions. To do so, he established a foundation which named as Schulbausteine fuer Gando, Bricks for Gando, in university to collect funds to start the construction of his primary school. cost, climate, resource availability, and construction feasibility were main parameters for the design of Primary School. In this project, these parameters were not only negated but also embraced. Building with the clay is traditional construction technique for housing in Gando. For maximizing results with the minimal resources available and for being known by community, a clay/mud hybrid construction was primarily used. Natural ventilation was provided by pulling away the roof from learning space of interior and by using dry stacked brick ceiling. In turn, the ecological footprint of the school is vastly reduced by alleviating the need for air-conditioning (Archdaily, 2016).

Although Francis Kere is an architect of the project, the success of it can associated to the close involvement of the local villagers. Every members of community made contribution according to their skills and capability. Traditionally, members of a whole village community work together to build and repair homes in rural Burkina Faso. In keeping with this cultural practice, low-tech and sustainable techniques were developed and improved so that the Gando villagers could participate in the process. Children gathered stones for the school foundation and women brought water for the brick manufacturing. In this way, traditional building techniques were utilized alongside modern engineering methods in order to produce the best quality building solution while simplifying construction and maintenance for the workers. The Primary School was completed in 2001 and received the Aga Khan Award for Architecture in 2004. More importantly, however, the Primary School became a landmark of community pride and collectivity. As the collective knowledge of construction began to spread and inspire Gando, new cultural and educational projects have since been introduced to further support sustainable development in the village (Archdaily, 2016).



Figure 7. Exterior view of Primary School, Photographer, Özgür Basak Alkan



Figure 8. Workers assembling roof trusses, Photographer, Özgür Basak Alkan

Conclusion

Commin-arch give community the benefits of gaining necessary skills to survive such a bad condition, and chance to build necessary infrastructures and educational, and cultural structures with low-budget, and chance to continue their vernacular in advanced ways. In terms of construction process, it provides acceleration by building with the labor knowing implementation of traditional techniques, usage of local materials, and surrounding environment, and available labor-force for all day long, and coalescence of labors. In the field of economy low-budget solution compared to skilled labor costs and reducing or eliminating transportation cost and spent time for it by using local materials can be gained.

Based on the research above, it seems building with the community in Africa helps community by enhancing the way of their life. Also, it has clearly distinguishable advantages in terms of construction process and economy. Furthermore, by the benefits of commin-arch concept architects can earn reputation and become famous.

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