ARCHITECTURE, ARCHITECTS AND HOUSING

THE ISSUE

The issue of housing has been conceived as a problem only when referring to the housing of masses in either under-developed or developing countries. This is because the housing of the privileged has never posed any difficulties as the solutions are readily available through conventional strategies. In the case of the issue of housing for the privileged they have adequate or more than adequate land and monetary resources and access to the professional resources to design their houses and the builders to construct them. So the triangular relationship of client, architect and builder is very easily adopted. Profession of architecture has all the answers in the building of houses for the elite and they are quite at home when confronted with this issue.

The socalled housing problem of the poor or the middle income has been discussed at various forums the world over, by the professionals over and over again in the last few decades. But except for a few isolated examples in several countries which also may not be replicable or applicable to other situations, there have been no clear directions taken by the profession of architecture to find acceptable solutions to this problem.

In this endeavour the local counterparts of the profession of Architecture is no exception. They have no coherent strategies or tangible solutions but inconsistent theories attempting to point out what should not have been done. What is always emphasised is the mess that has been created by others who are architects or non-architects.

Perhaps, it is time that we stop blaming each other for the ill-effects or the attempts (whether sincere or not) made in the recent past to find solution to the issue of mass housing. We must try to find out new directions to bring forth amicable solutions to this issue considering not only the aspect of deteriorating urban fabric or the uncontrolled/urban sprawl but also the more relevant human dimension.

Since we do not have any local models, policies or strategies which could be adopted to bring about a remarkable positive change in the directions it may be useful to look closely into some of the more prominent attempts made globally in the recent past in order to understand the underlying principles and the similarities and disparities in each situation. In this paper we are attempting just that as comprehensively as possible.

THE PAST

In most of the developing countries the social housing was considered to be an obligation by the state since the 1960s. Even before, at the inception this took the form of worker housing in urban centres especially in countries which were under the colonial rulers. Even the ambitious housing programmes of the recent past were extensions of the social housing strategies of the past through which standard type houses were built in increasing numbers. For example the Hundred Thousand Houses Programme (HTHP) of Sri Lanka advocated the use of type plans either through direct construction component or the self-help component. Up to late 1970s the developing countries were encouraged by the developed countries to follow this strategy where housing was considered as another consumer item only.

But since 1970s the politicians of the developing world were persuaded by the professionals (mainly non-architects) in the developed world and the international lending institution to follow a path of 'Minimal intervention and Maximal Support by the state' which the politicians were too eager to grab. Surely the politicians were certain of reaching more number of families with this new strategy. They paid no heed to the deterioration of urban fabric through unplanned subdivision of land or urban sprawl which eventually disturbed the social integrity and the priorities of the rural people.

Since it is quite obvious and widely accepted now that there is no need to formalize the housing process of the rural sector, let us concentrate only on the issue of urban housing in this paper. Housing is in fact not a problem in the rural areas where traditions are alive.

Recent Attempts by Architects

In order to establish the directions for a successful housing strategy for the less privileged urban families we will study several attempts made by architects in other countries, especially in the less privileged areas.

Attempts made by architects towards finding solutions to this problem could be categorized into 3 types.

1. Solutions through innovative designs by architects.
2. Major decisions in design & construction taken by the future occupants of the houses while Architects play the role of a catalyst.
3. Architect and the future inhabitants play equally important roles in the design and construction process.

1.0 INNOVATIVE DESIGNS

1.1 PREVI Project in Lima, Peru

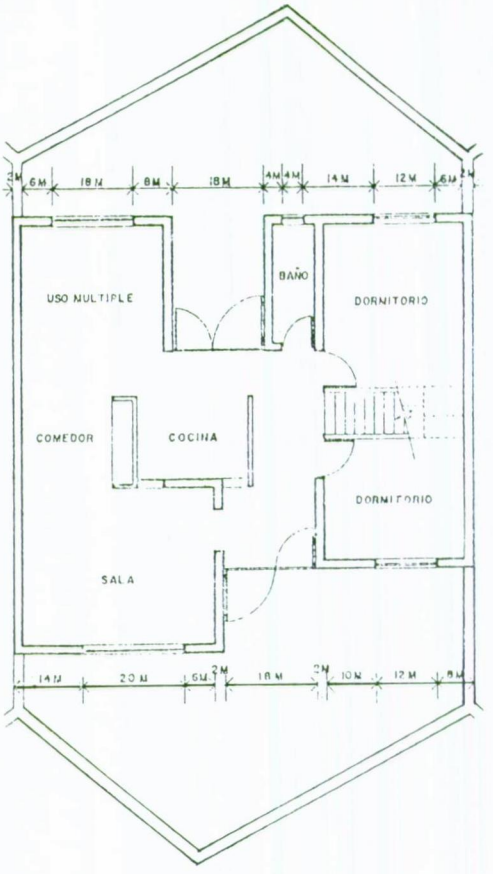
In early 70s some governments in the developing world were receptive to the ideas of the professionals in the field of housing and they still believed that the architects were in the best position to plan out the settlements for the masses. Out of the several approaches of the states it is quite interesting to study the example from Peru.

This was in the form of an international competition called PREVI (Project Experimental De Vivienda) and it was intended to select several internationally known architects to plan out a settlement of 1500 families and to use the house plans and ideas thus generated in the other mass housing projects in Lima Peru.

The architects selected to do this exercise included Christoper Alexander, Aldo Van Eyck, James Sterling, Maki, Kurokawa & Kikutaki. Out of the 1500 houses that were to be built originally, only 502 houses were constructed in 23 different design schemes by foreign and Peruvian architects. (This perhaps demonstrates the inevitable outcome of architects' involvement in housing the poor.)

Land was set aside for 2000 more houses later which were to be based on the best ideas and technologies adopted in the first built.

Although there were attempts by Chrisopher Alexander to use innovative materials and technologies in his houses ultimately it was decided to use various forms of concrete blocks to construct houses designed by all the architects. There were sincere efforts made to incorporate the values of the Peruvian ways of use by trying to maintain the accepted relationship of public and private areas. (Refer Plate 1).



Plan 2

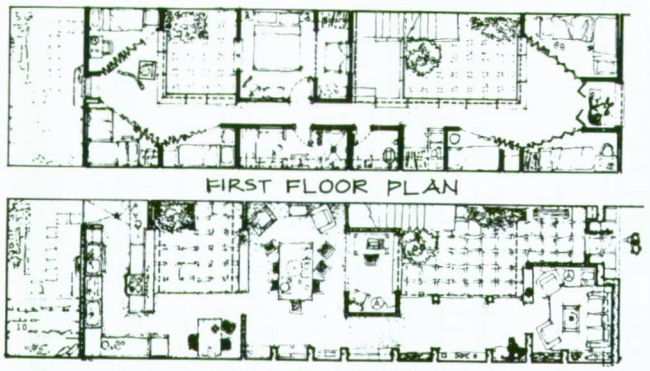


Plate 1

Aldo Van Eyck maintained that what the dwellers want now could change in the future. The compounds had hexagonal plans and they were arranged around a common courtyard contrary to the row-houses of Christopher Alexander. This shape discouraged the outward additions to a certain extent. (Plate 1 & Plan 2).

Out of the different schemes Maki's one has allowed for future additions to a greater extent and about 60% of the houses have undergone major changes and it is said that even he would not be able to recognise his design now.

Even Alexander's houses were no exception when considering the changes made by the occupants later. At least 25% of them have been changed by the occupants.

The houses were occupied in 1976 and Dorit Fromm who visited the scheme a decade later has found that

Plate 2: Creating informal streets within and outside the compounds.

Plate 3: Promoting variety of house forms within a unifying theme.

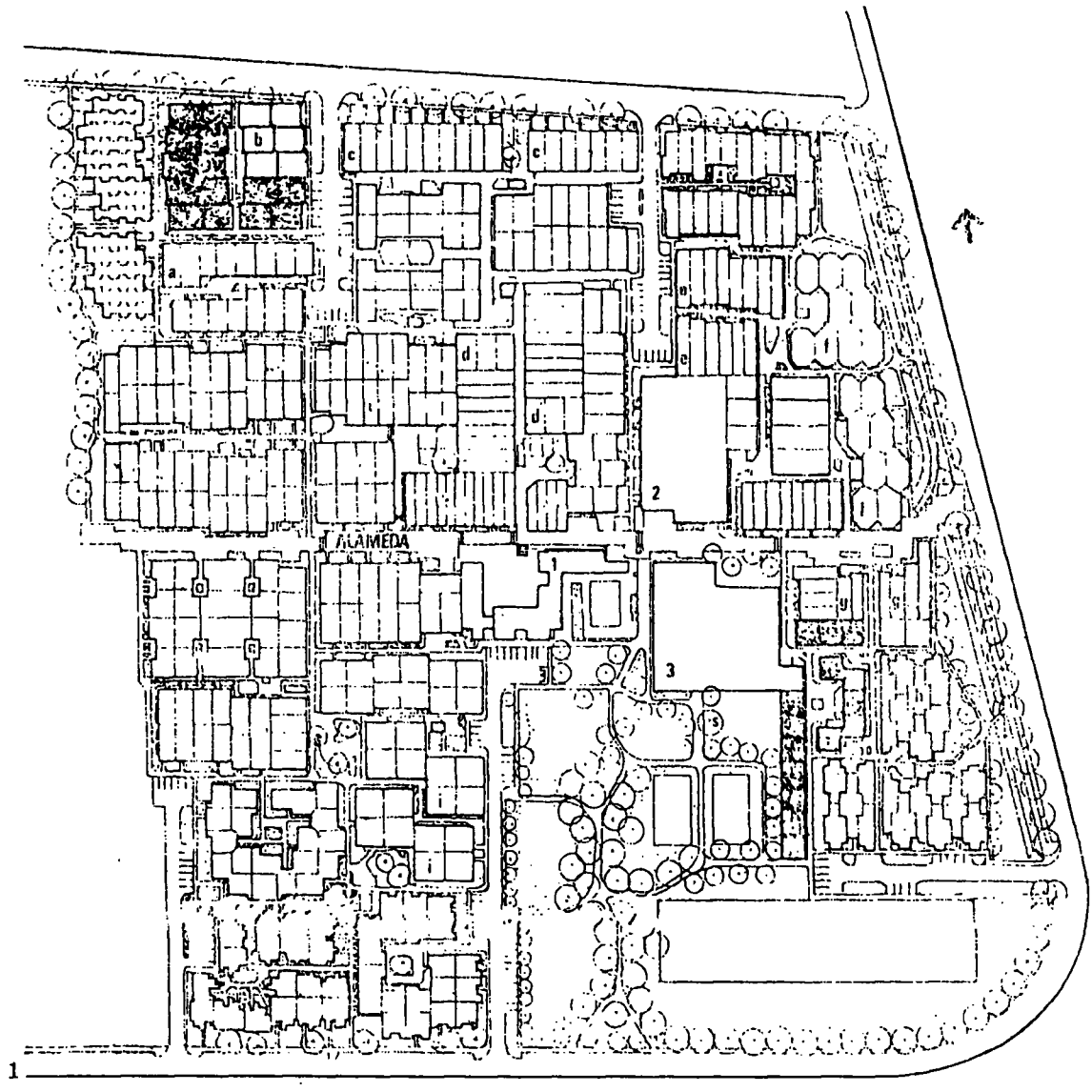
Plate 4

Plates 2, 3 & 4 scheme by Christopher Alexander.

Key
1, shops
2, kindergarten
3, school
a, Denmark (Knut Svensson)
b, Colombia
c, Japan (Maki, Kurokawa & Kikutaki)
d, Switzerland (Atelier 5)
e, USA (Christopher Alexander)
f, Holland (Aldo van Eyck)
g, Poland
h, France
i, Britain (James Stirling)

Most of the rest of the housing is by various Peruvian architects

Price in soles per m² (July 1974)
Denmark: 1087
Finland: 1106/1707
Swiss: 1197
India: 1198
Poland: 1200
USA: 1272
Britain: 1367
Japan: 1421
France: 1521
Holland: 1743
Colombia: 1693/1734



SITE PLAN
'PREVI' PROJECT – LIMA PERU

Lima was eventually built as a number of small groups of houses by several architects. Lima allowed for putting together architecture of different architects within the same site/layouts in someway reflecting the reality outside in the real world. The overall theme has been retained with possibilities for individual definitions. The outcome however is being debated.

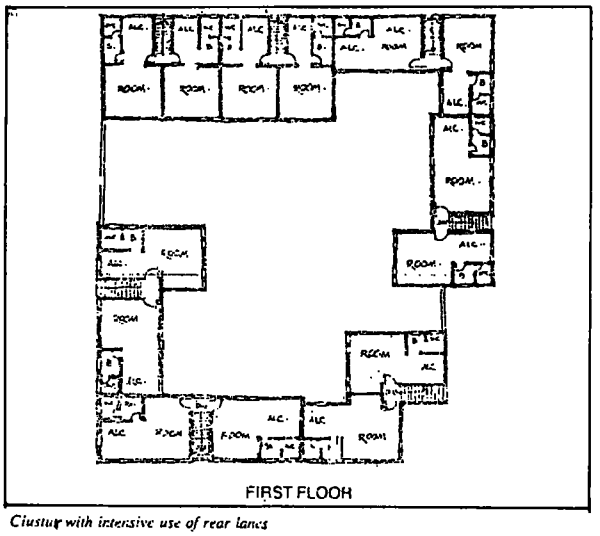
many of the architects would hardly recognize their designs which have been greatly added to and adapted by the inhabitants. She says "All over the PREVI project, most home owners did not choose their houses for appearance or style, but for location, size and price. Residents bought the house that they could afford; then altered to suit themselves."

This project is a clear example which strengthens the concept that design and construction of houses for the masses should not be product-oriented but process-oriented.

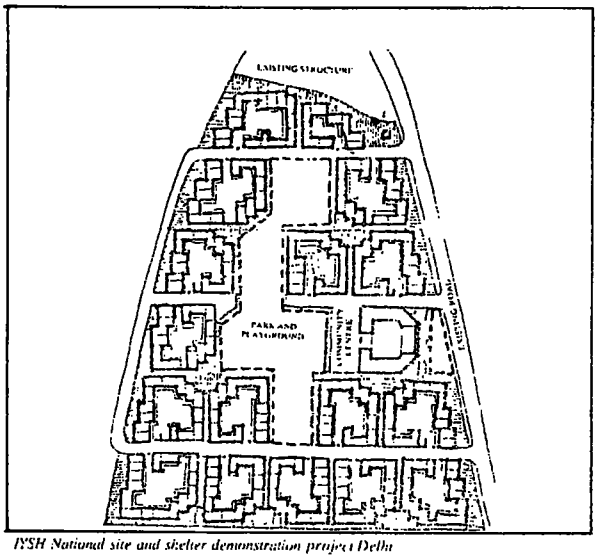
1.2 NATIONAL SITE & SHELTER DEMONSTRATION PROJECT IN MADHIPUR, WEST DELHI, INDIA

This is a state-sponsored housing project which was aiming at finding a replicable solution to large-scale housing projects which would be socially, culturally and aesthetically acceptable and affordable to the low income earners.

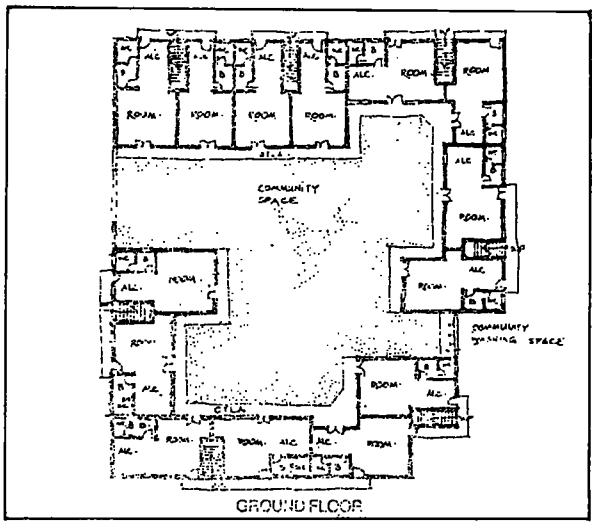
The exercise was to be carried out through a team of Governmental & Non-Governmental organizations, the school of Architecture, the Architectural consultants and

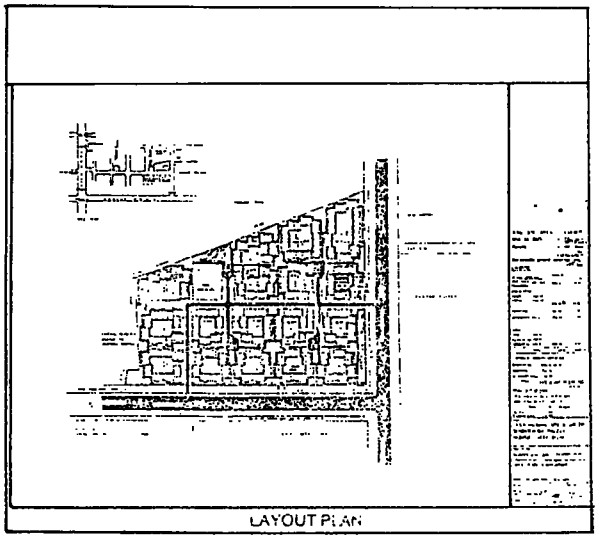


Ciustur with intensive use of rear lanes



IVSH National site and shelter demonstration project Delhi





SITE OF SHELTON DEMONSTRATION PROJECT
Madhipur, West Delhi, India

the users. The organizations involved were Housing & Urban Development Corporation (HUDCO), the Architects of the Slum Department, All India Women's Conference, Central Building Research Organization and the Management and Construction Departments of the School of Architecture, Delhi.

Although much emphasis was given to the use of innovative technology, economical use of materials, correct construction supervision and project Management methods, the architectural design was given its due importance at the design of individual housing units and the housing clusters and the construction of same to form the settlement.

Architects at HUDCO and the other senior architectural consultants played a very vital role in designing the several types of housing units in keeping with the ways of life, the affordability and the cultural and social practices of the future occupants. Prior to implementation, the designs were forwarded to the community so that the members could make their suggestions for necessary alterations to suit their needs.

In planning this project, several basic criterias which were the findings of Vastushilpa Foundation of Ahmedabad, India were treated as important. They are:

I. Narrow long plots may be appropriate for new housing but for cluster housing square or broad frontage plots may be more efficient; such plots also permit better ventilation and planning.

II. Instead of an open space in each plot it would be better to allow 100% buildable area with open public space both in the front and back. The back space should be a lane about 2 metres wide.

III. The cluster should enclose a defined semi-private area for community use of the families living within the cluster.

2.0 MAJOR DECISIONS IN DESIGN AND CONSTRUCTION TAKEN BY THE FUTURE OCCUPANTS

2.1 Most of the state-sponsored mass housing programmes of the developing countries in the recent past adopted this method with varying degrees of interference by the governments. Sri Lanka was too enthusiastic and optimistic about the success of this programme. In fact in the rural areas the only role the state had to play was to give ownership of land to the landless poor and provide them with very meagre housing loans. Although the National Housing Development Authority which was the planning and implementation agency of this programme organized to provide technical advice to the rural house builders, in most cases this was really not necessary since the rural folk had the knowledge of building with the locally available materials.

In the case of the state-sponsored housing programmes for the urban poor in Sri Lanka the situation was more complex because the land was scarce, land values were high, provision of basic services networks were costly and the community does not possess an urban building tradition.

Here the intervention of the state through its officials in the spheres of Planning and Engineering was more. Most of the decisions on the land subdivision were taken by the politicians & planners. The planning of the networks of services were done by the engineers.

Due to the enhanced values of land, the allottees were tempted to sell them in the open market to the middle income earners and squat in another state-owned vacant land.

Hence most of the final owners of these land lots were able to plan their own homes with the help of masons they have attempted to build the maximum floor space within the 2 to 3 P land lots.

When we compare with the unhygienic conditions of the shanties in the urban centres of Sri Lanka we could accept that this process has helped to create cleaner settlements. But without paying any attention to the urban area as a whole the land has been permanently subdivided into very small lots. This would not allow for any further extensions because when the family grows in size over the time, the market forces would ultimately chase away these families into the suburbs.

One of the major setbacks in this programme is the deterioration of the urban fabric both physically and visually.

3.0 PARTICIPATORY DESIGN & CONSTRUCTION APPROACH

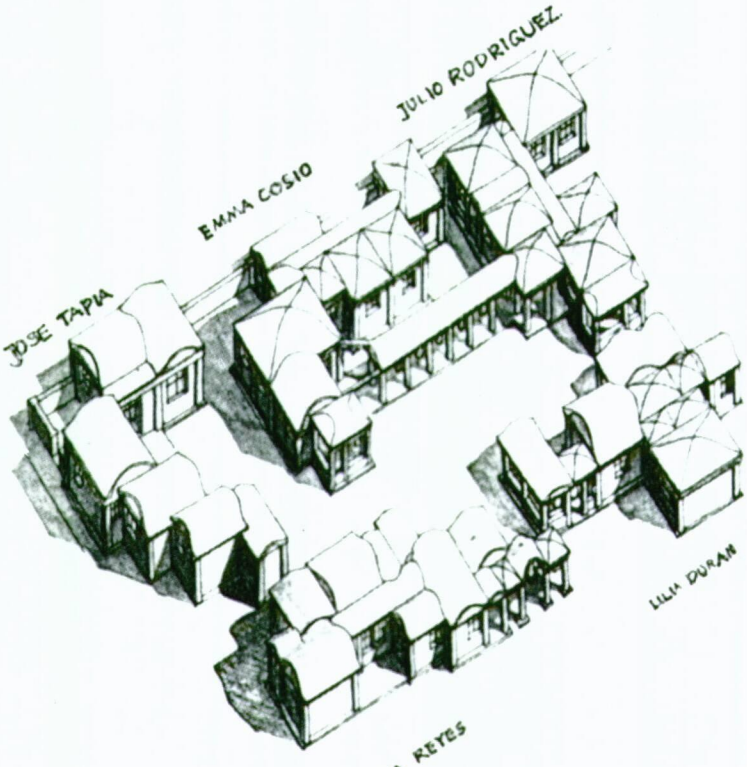
3.1 The Mexicali Project

Mexicali is located North West Mexico directly across the United States border from California. The people are relatively poor and in 1975 when Christopher Alexander was invited to do a housing project there was a shortage in housing of acceptable standard.

The Centre for Environmental Studies in which Christopher Alexander was the director wanted to develop a building system that was inexpensive and uniquely suited to the area. It was also necessary for the houses thus built to withstand earthquakes and heat.

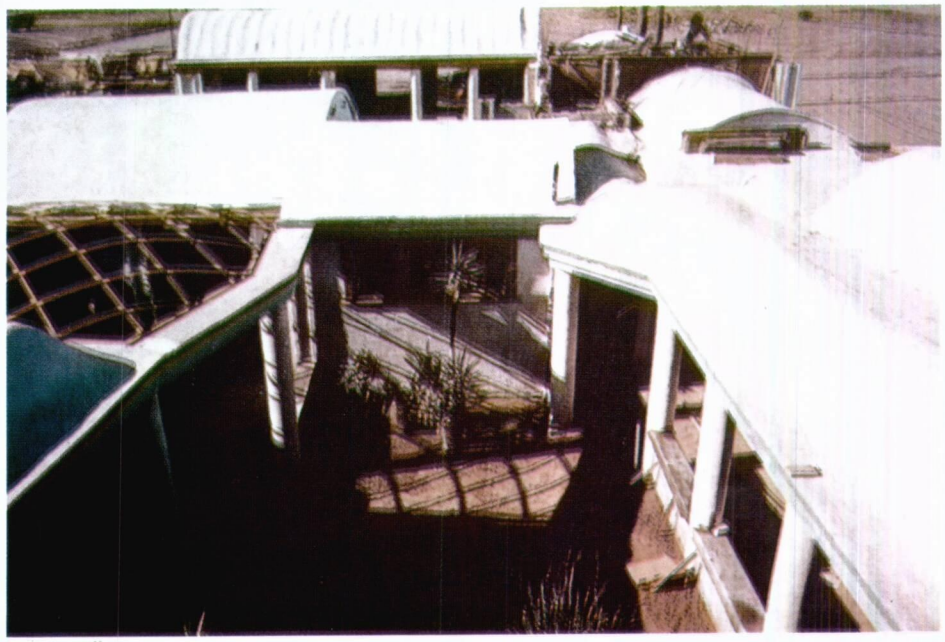
At the same time they wanted to incorporate the 'pattern language of Christopher Alexander' into the design and pay much attention to the production system. Christopher Alexander tried to use a production system earlier in the PREVI project in Peru, with no success.

He wanted to play the role of an architect builder who would guide the families to build their own houses which he expected would give much freedom in the design process.



Layout

Children playing on vaulted roofs.



Builders yard in 1976 which was very attractive then but abandoned later since it could not function well.

MEXICALI PROJECT

A new construction system basically comprising of soil cement blocks with vertical and horizontal locking system was adopted. Walls were to be rigidly connected to the foundation & roof with concrete perimeter beams and each room was to be separately roofed by vaults or domes. Details were worked out at site to solve the problems which came up during construction.

No plans were drawn at the outset and the buildings were directly set out on ground with the help of the future occupants. A decision was taken to construct 5 clusters of 5 to 6 houses in each. And it was expected that this process would be repeated by the other inhabitants of the place, guided by the pattern language. Taking the growing interaction among the builder families as a positive factor, the houses were planned around a central courtyard in a cluster. The first cluster which was constructed had five houses and the families who owned them laid out the houses on ground with the guidance of Alexander and his team. The team comprised of students of the University of Baja, California.

The serviced land was inexpensive and the centre could get enough land to construct 30 houses free of cost and funds from a donor organization to initiate construction.

Although it was intended to construct 5 clusters the programme was confined to only one. The houses had vaulted roofs and round columns. The families were able to put up the 5 houses in the cluster in 8 months time with the help of students.

The government who invited Alexander to do the housing project lost interest in this project and no more houses were built using this production system. Although this project was supposed to pave way for finding solutions to mass housing in Mexico and to create a new community and production system it did not materialise.

When observed in 1985 the surrounding area has developed into a well-established neighbourhood with all the basic facilities and the construction methods adopted by the people without the help of architects have used adobe and concrete blocks as the basic material.

Need for Positive Involvement

If we study the above three types of approaches currently used in finding solutions to the mass housing issue we can identify some important positive and negative aspects of them.

The most important aspect is that there is a positive involvement by the architect in all these approaches instead of keeping away from the whole issue of mass housing.

Then we can see that there is a marked difference between the outcome of the product-oriented approach with innovative designs by architects in isolation when compared with the results of the participatory approaches where the involvement of the role of architect is not very dominant but spreads over a longer period of time.

A view of the project in 1985.

It is certain that the process-oriented participatory approach will always bring solutions that are open-ended where the flexibility and the "add on as you earn" quality are considered to be very important. The solutions are socially, culturally and climatically acceptable to the given situation and although there are close similarities in the approaches taken in different geographical situations, the outcome of the exercise is very unique to the given situation.

Hence if we architects want to play a prominent role in finding solutions to the housing problem of the less privileged masses in Sri Lanka we have to find the root causes to this issue. The conditions adversely affecting mass housing are generally common to most of the developing countries.

Some of them are:

1. Land prices soaring sky-high
2. Increasing cost of building materials
3. Unavailability of Architectural services at affordable prices
4. High cost of skilled labour
5. Rigid controls by planning authorities
6. High costs of basic services like water, electricity

When we consider the high costs of living and the very meagre incomes, the majority of the people receive, it only becomes a dream for them to own a house of their own in the urban centres. Attempts made by the state to provide them with ready-made houses in the form of walk-up apartments at low rentals have also become a heavy burden on the state since these projects are highly subsidized and also the maintenance costs have become colossal.

Large housing estates built by the state in the suburbs for the middle income families although successful up to a certain extent on the user point of view mainly due to the possibility to modify and extend to some extent, they are not at all economically viable when we consider the heavy subsidies involved and also the high maintenance costs.

Although there is a marked increase in the number of property developers going into building apartments they are basically meant for the upper income categories. At the same time, most of the property developers who are operating close to the small towns in the Colombo district are engaged in exploiting the middle income people by providing them with substandard inferior quality type houses which would not last long due to the use of inferior quality materials in the construction of housing units and the services networks. Further by this exercise the urban sprawl is aggravated and the agricultural lands too have been eaten into.

When compared some of the relocation flats designed and constructed by the state in the urban areas in the recent past are successful in economical aspect since the state does not have to lose in the deal due to the enhanced value of cleared lands gained by the state through this exercise. But only a very limited number of families who were living in slums or shanties in the urban areas for a considerable period of time would be benefited by this. All the same this would help to control the cities from becoming dead by chasing away the low income people to obtain more room for the commercial activities.

As we now see the approaches taken by the state and the private sector over the past few decades to find solutions to housing problem of the masses in the urban areas have not produced very successful results. At the same time there are lessons to be learnt from the other developing and developed countries where the architects have been successful in arriving at acceptable solutions to the mass housing problem. But we are aware that those examples may not bring equally good results if applied in the same way in the local context.

So it is the challenge to the profession to get deeply involved in the issue of mass housing in order to find the correct directions to find solution to the problem. We hope that the challenge will be taken.

Acknowledgements

Photographs and illustrations on the PREVI Project and the Mexicali Project were taken from 'The Architectural Review' of August 1985.

Archt. Jayantha Domingo

"My house cannot be someone else's work of Art" (because it is mine)
Irvin Attman
in Homes and Homelessness